

CURRENT AFFAIRS

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Plot-1441, Opp. IOCL Petrol Pump, CRP Square, Bhubaneswar

Ph : 8093083555, 8984111101

Web : www.vanikias.com | E-mail : vaniksias@gmail.com

facebook  www.facebook.com/vanikias

PART-1



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Polity and Governance

Highlights

- ✳ *Reservation Not a Fundamental Right: Supreme Court*
- ✳ *Inclusion of Reservation Laws in Ninth Schedule*
- ✳ *PM-CARES Not Under RTI*
- ✳ *Vamsadhara River Water Dispute*
- ✳ *Water Dispute Between Telangana and Andhra Pradesh*
- ✳ *PM SVANidhi: Micro Credit Scheme for Street Vendors*
- ✳ *Science Technology and Innovation Policy*
- ✳ *Inner Line Permit and Citizenship Amendment Act*
- ✳ *Draft Unmanned Aircraft System (UAS) Rules 2020*
- ✳ *QS World University Rankings 2021*
- ✳ *India Rankings 2020: NIRF*
- ✳ *Re-establishment of PCIM&H*

Reservation Not a Fundamental Right: Supreme Court

Why in News

Recently, the **Supreme Court** of India has said that **reservation** of seats provided to **certain communities is not a fundamental right**.

Key Points

- ⌚ All political parties from Tamil Nadu had filed a writ petition in the Supreme Court seeking direction to the Centre to **implement 50% Other Backward Class (OBC) reservation** in the **all-India NEET seats** surrendered by the state.
- ⌚ They have accused the Centre of “violating the right of the people to have a fair education” by neither implementing the 50% quota for OBC in Tamil Nadu nor providing 27% reservation for OBC candidates in other states for the All India Quota seats.
- ⌚ However, the Supreme Court pointed that a **writ petition under Article 32** of the Constitution can be filed **only in case of violation of fundamental rights**.
- ⌚ The Court observed that the **Right to Reservation is not a fundamental right**.
- ⌚ Earlier, the Court had ruled that **reservation in promotion is not a fundamental right**.
 - ⊙ The fundamental rights have been classified under the **six categories**- Right to Freedom, Right

to Equality, Right against Exploitation, Right to Freedom of Religion, Cultural and Educational rights and Right to constitutional remedies.

- ⊙ They are **mentioned in Part III (Articles 12 to 35)** of the Indian Constitution.

Constitutional Provisions for Reservation in Education and Jobs

- ⌚ Various provisions in Article 15 and 16 of the Constitution empower the State to make special provisions in education and jobs respectively for the socially and educationally backward section of the society and for the economically weaker section.
- ⌚ Although these provisions are mentioned in Part III (fundamental rights) of the Constitution, their nature is like directives to the state i.e. they are not binding on the state.
- ⌚ **SC/ST Reservation:**
 - ⊙ The state (both Centre and the states) is permitted to make any special provision for the advancement of scheduled castes and scheduled tribes. For example, reservation of seats or fee concessions in public educational institutions and providing reservation in government jobs if they are not adequately represented.
 - ⊙ The quota for SCs is 15% and for STs it is 7.5%
- ⌚ **Other Backward Class (OBC) Reservation:**
 - ⊙ The state (both Centre and the states) is empowered to make provision for the advancement of OBCs regarding their admission to educational institutions and government jobs.

- ⊙ The quota limit for OBCs is 27%. However, various state governments have different quota limits for OBCs in their state. E.g. Tamil Nadu (50% reservation for OBCs).
- ⊙ In the **Indra Sawhney 1992 judgement**, the Supreme Court fixed the upper limit for the combined reservation quota i.e. should not exceed 50% of seats.
- 🕒 **Economically Weaker Section (EWS) Reservation:**
 - ⊙ The **103rd Constitution Amendment Act, 2019**, empowers both Centre and the states to provide 10% reservation to the EWS category of society in government jobs and education institutions.

Writ Jurisdiction

- 🕒 The Supreme Court under **Article 32** and the High courts under **Article 226** of the Constitution can issue the writs of **habeas corpus, mandamus, prohibition, certiorari and quo-warranto**.
- 🕒 The Parliament under Article 32 can also empower any other court to issue these writs. However, no such provision has been made so far.
- 🕒 Difference in writs of Supreme Court and High court.
 - ⊙ The **Supreme Court** can issue writs **only for the enforcement of fundamental rights** whereas a High court can issue writs for the enforcement of **Fundamental Rights and also for an ordinary legal right**.
 - ⊙ The Supreme Court can issue writs throughout the territory of India whereas a **High court can issue writs within its territorial jurisdiction**.
 - ⊙ A remedy under **Article 32** is in itself a **Fundamental Right** and hence, the Supreme Court **may not refuse to exercise its writ jurisdiction**. On the other hand, a **remedy under Article 226** is **discretionary** and hence, a High court may refuse to exercise its writ jurisdiction.
 - ⌘ The Supreme Court is thus constituted as a defender and guarantor of the fundamental rights.

Inclusion of Reservation Laws in Ninth Schedule

Why in News

Recently, a Union Minister emphasised the need to include all **reservation-related laws in the Ninth**

Schedule of Constitution so that they are shielded from **judicial review**.

Key Points

- 🕒 The minister argued that **reservation is not confined** just to Scheduled Castes (SCs) and Scheduled Tribes (STs) and is available to Other Backward Classes (OBCs) and poor sections of the upper castes as well and have been **attached to Fundamental Rights**.
- 🕒 This demand comes after the **Supreme Court's** recent observation that the **Right to Reservation is not a Fundamental Right**.
- 🕒 Earlier, SC ruled that **reservation in the matter of promotions in public posts was not a fundamental right** and that a **state cannot be compelled to offer quota** if it chooses not to.
- 🕒 Apart from that, there have been repeated challenges to the **Scheduled Castes and Tribes (Prevention of Atrocities) Act, 1989** and its amendments.

Ninth Schedule

- 🕒 The Schedule contains a list of central and state laws which cannot be challenged in courts and was added by the **Constitution (First Amendment) Act, 1951**.
 - ⊙ The first Amendment added 13 laws to the Schedule. Subsequent amendments in various years have taken the number of protected laws to 284 currently.
 - 🕒 It was created by the new **Article 31B**, which along with **Article 31A** was brought in by the government to protect **laws related to agrarian reform** and for **abolishing the Zamindari system**.
 - ⊙ While **Article 31A extends protection to 'classes' of laws**, **Article 31B shields specific laws or enactments**.
 - ⊙ While most of the laws protected under the Schedule concern agriculture/land issues, the list includes other subjects.
 - 🕒 Article 31B also has a **retrospective operation** which means that if laws are inserted in the Ninth Schedule after they are declared unconstitutional, they are considered to have been in the Schedule since their commencement, and thus valid.
 - 🕒 **Although Article 31B excludes judicial review**, the apex court has said in the past that even laws under the Ninth Schedule would be **open to scrutiny if they violated Fundamental Rights or the basic structure of the Constitution**.

Way Forward

- ⌚ Although reservation is necessary, it should also be open to judicial scrutiny in order to ensure any abrupt or irrational policy initiative by the Executive or the Legislature.
- ⌚ Any loophole or shortcomings in reservation policy must be addressed by involving various stakeholders. The need of the hour is not to go to extremes of either scrapping or shielding reservation policy, rather a rational framework on this contentious policy must be developed.

PM-CARES Not Under RTI

Why in News

The **Prime Minister's Office (PMO)** has clarified that the **Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund (PM-CARES Fund)** is **not a public authority under the ambit of the Right To Act (RTI), 2005**.

- ⌚ PM-CARES Fund was **set to accept donations and provide relief** during the **Covid-19 pandemic**, and other similar emergencies.
- ⌚ The PMO's response came in the backdrop of the RTI query filed to know the Fund's trust deed and all government orders, notifications and circulars relating to its creation and operation.

PM-CARES Fund

⌚ Description:

- ⊙ PM-CARES was set up as a **public charitable trust** with the trust deed registered on 27th March, 2020.
- ⊙ It can avail donations from the foreign contribution and donations to fund can also avail **100% tax exemption**.
- ⊙ PM-CARES is **different** from the Prime Minister's National Relief Fund (PMNRF).

⌚ Purpose:

- ⊙ It is meant for **supporting relief or assistance** of any kind relating to a public health emergency or any other kind of emergency, calamity or distress, either man-made or natural.
- ⊙ It includes the creation or upgradation of healthcare or pharmaceutical facilities, funding relevant research or any other type of support.

⌚ Composition:

- ⊙ **Prime Minister as chairperson**
- ⊙ Defence Minister, Home Minister, Finance Minister
- ⊙ Three trustees nominated by the Prime Minister "who shall be eminent persons in the field of research, health, science, social work, law, public administration and philanthropy".

Prime Minister's National Relief Fund (PMNRF)

⌚ Description:

- ⊙ PMNRF was instituted in **1948** by then Prime Minister Jawaharlal Nehru, **to assist displaced persons from Pakistan**.
- ⊙ The fund is recognized as a **Trust under the Income Tax Act** and the same is managed by the Prime Minister or multiple delegates for national causes.
- ⊙ The contributions towards PMNRF are notified for **100% deduction** from taxable income under section 80(G) of the **Income Tax Act, 1961**.

⌚ Purpose:

- ⊙ The fund is currently used primarily to **tackle natural calamities** like floods, cyclones and earthquakes.
- ⊙ The fund is also used to help with medical treatment like kidney transplantation, cancer treatment and acid attack.

⌚ Contributions:

- ⊙ The fund consists **entirely of public contributions** and **does not get any budgetary support**. It accepts voluntary contributions from Individuals, Organizations, Trusts, Companies and Institutions etc.
- ⊙ The corpus of the fund is also invested in various forms with scheduled commercial banks and other agencies. Disbursements are made **with the approval of the Prime Minister**.

Key Points

⌚ PM-CARES Not a Public Authority:

- ⊙ It has been stated that the PM-CARES Fund is **not a Public Authority** under the ambit of **Section 2(h) of the RTI Act, 2005**.
- ⊙ However, relevant information in respect of PM-CARES Fund may be seen on the website pmcares.gov.in.

- ⌚ **Ambiguous Nature of PMNRF Under RTI:**
 - ⊙ There is **ambiguity** regarding whether the PMNRF (Prime Minister’s National Relief Fund) is subject to the RTI Act.
 - ⊙ The **Central Information Commission (CIC)** has **directed PMNRF to disclose** information as a **result of the Delhi High Court’s split opinion** on the question of whether PMNRF is a public authority under the Act.
 - ⌘ The split opinion signifies that some Justices from the Delhi High Court Bench held PMNRF as a public authority, whereas some Justices held that PMNRF is not a public authority.
- ⌚ **Audit of PM-CARES and PMNRF:**
 - ⊙ Earlier, the **Comptroller and Auditor General’s (CAG)** office had clarified that it **wouldn’t audit the PM-CARES Fund** as it is ‘a charitable organisation’ and is also based on donations from individuals and organisations.
 - ⊙ The PMNRF too is **not audited by CAG** but it is **audited by an independent auditor outside of the government.**

Section 2 (h) of the RTI Act

- ⌚ Under **section 2(h) of the RTI Act “Public authority”** means any authority or body or institution of self government established or constituted—
 - ⊙ by or under the Constitution;
 - ⊙ by any other law made by Parliament/State Legislature.
 - ⊙ by notification issued or order made by the appropriate Government, and includes any—
 - ⌘ body owned, controlled or substantially financed;
 - ⌘ non-Government organisation substantially financed, directly or indirectly by funds provided by the appropriate Government.
- ⌚ Earlier in 2019, the Supreme Court ruled that the **office of the Chief Justice of India (CJI) is a public authority** under the Right to Information (RTI) Act, 2005.

Vamsadhara River Water Dispute

Why in News

The Chief Ministers of Andhra Pradesh and Odisha

will hold talks to clear out all differences with regard to the **sharing of Vamsadhara river waters.**

- ⌚ Andhra Pradesh wants to build the **Neradi bridge** across the river which will be possible only after Odisha’s consent.

Key Points

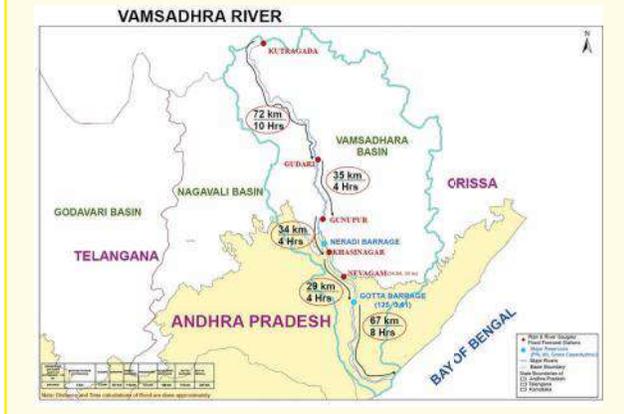
- ⌚ Andhra Pradesh also wants to complete the **inter-linking of its Nagavali river with the Vamsadhara** and expand the **Madduvalasa Reservoir project** soon.
 - ⊙ Madduvalasa Project is a **Medium Irrigation Project** with a reservoir across **Suvarnamukhi** river, a **tributary of Nagavali** river.
- ⌚ **Agriculture is the only assured economic activity** for the people living in the backward region and in the **absence of rapid industrialisation**, there is a need to **concentrate on irrigation projects** to make agriculture a viable activity.
- ⌚ **Background:**
 - ⊙ In **February 2006**, Odisha sent a complaint to the Central Government under **Section 3 of the Inter-State River Water Disputes (ISRWD) Act, 1956** regarding its water disputes with Andhra Pradesh pertaining to **Inter-State River Vamsadhara**. It demanded for the constitution of an **Inter-State Water Disputes Tribunal** for adjudication.
 - ⊙ **Grievances of Orissa:**
 - ⌘ **Adverse effect** of undertaking the **construction of a canal** (called a flood flow canal at Katragada, Andhra Pradesh) taking off from the river Vamsadhara.
 - The flood flow canal would result in **drying up the existing river bed** and consequent shifting of the river **affecting the groundwater table.**
 - ⌘ **Failure of Andhra Pradesh** to implement the terms of the inter-state agreement relating to use, distribution and control of waters of vamsadhara and its valley.

Major Inter-State River Disputes	
River (s)	States
Ravi and Beas	Punjab, Haryana, Rajasthan
Narmada	Madhya Pradesh, Gujarat, Maharashtra, Rajasthan
Krishna	Maharashtra, Andhra Pradesh, Karnataka, Telangana
Vamsadhara	Andhra Pradesh & Odisha
Coouyer	Kerala, Karnataka, Tamil Nadu and Puducherry
Godavari	Maharashtra, Andhra Pradesh, Telangana, Karnataka, Madhya Pradesh, Odisha
Mahanadi	Chhattisgarh, Odisha
Mahadevi	Goa, Maharashtra, Karnataka
Periyar	Tamil Nadu, Kerala

- ⌘ Odisha also raised the issue of **scientific assessment** of available water in Vamsadhara at Katragada and Gotta Barrage, Andhra Pradesh and the basis for sharing the available water.

Vamsadhara River

- ⌚ It is an **east-flowing** river which originates in **Kalahandi district of Odisha**, flows in Odisha, along its boundary with Andhra Pradesh and finally **joins the Bay of Bengal at Kalingapatnam, Andhra Pradesh**.
- ⌚ It is the **main river of north-eastern Andhra** region and the **Boddepalli Rajagopala Rao Project** was constructed on it to meet the irrigation needs of the region.



Water Dispute Between Telangana and Andhra Pradesh

Why in News

Recently, the Union government has decided to **take the stock of water utilisation** from the **Krishna and Godavari rivers** following the filing of complaints against each other by Telangana and Andhra Pradesh governments.

Key Points

- ⌚ **Water Dispute:**
 - ⌚ Telangana and Andhra Pradesh share stretches of the Krishna and the Godavari and own their tributaries.
 - ⌚ Both states **have proposed several new projects without getting clearance** from the river boards, the **Central Water Commission** and the **Apex Council**, as mandated by the Andhra Pradesh Reorganisation Act, 2014.

- ⌘ The Andhra Pradesh Reorganisation Act, 2014 **mandates for constitution of an Apex Council by Central Government** for the supervision of the functioning of the Godavari River Management Board and Krishna River Management Board.

- ⌘ The Apex Council **comprises the Union Water Resources Minister and the Chief Ministers of** Telangana and Andhra Pradesh.

- ⌚ The Andhra Pradesh government's proposal to increase the utilisation of the Krishna water from a section of the river above the **Srisailem Reservoir** led to the Telangana government filing a complaint against Andhra Pradesh.

- ⌘ The Srisailem reservoir is constructed across the **Krishna River in Andhra Pradesh**. It is located in the **Nallamala hills**.

- ⌚ The Andhra Pradesh government retaliated with its own complaints saying that **Palamuru-Rangareddy, Dindi Lift Irrigation Schemes on the Krishna river** and **Kaleshwaram, Tupakulagudem schemes and a few barrages proposed across the Godavari** are all new projects.

⌚ Krishna Water Dispute Tribunal:

- ⌚ **Two tribunals** have been constituted to resolve the **disputes of the Krishna water**.
- ⌚ **Andhra Pradesh has countered the second Krishna Water Dispute Tribunal (KWDT) order** issued by Justice Brijesh Kumar in 2010.

- ⌘ The Brijesh Kumar Tribunal has allocated 81 thousand million cubic feet (tmcft) of surplus water to Maharashtra, 177 tmcft to Karnataka and only 196 tmcft to Andhra Pradesh.

- ⌚ After the creation of Telangana as a separate state in 2014, **Andhra Pradesh is asking to include Telangana as a separate party at the KWDT** and that the allocation of Krishna waters be reworked among four states, instead of three.

- ⌘ It has challenged the order of the Brijesh Kumar Tribunal in the Supreme Court.

⌚ Godavari Water Dispute Tribunal:

- ⌚ The **Godavari Water Dispute Tribunal headed by Justice Bachawat** was constituted by the Government in April, 1969.

- ⌘ The **tribunal was tasked to look after the dispute over Godavari river** between Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Odisha, and Karnataka over the sharing of the Godavari river water.

- ⊗ The Bachawat Tribunal gave its final award in 1980.
- ⊗ Accordingly, each State was free to utilise the flow in Godavari and its tributaries up to a certain level.
- ⊗ Thus, Andhra Pradesh decided to divert 80 tmcft of Godavari water from Polavaram to Krishna river, upstream of Vijayawada, so that it could be shared with Karnataka and Maharashtra.
- ⊙ Once Telangana came into existence in 2014, **the Godavari water and, more specifically, the Polavaram project became the bone of contention** between Telangana and Andhra Pradesh.
 - ⊗ While the project will take care of the irrigation needs of the Godavari districts of Andhra Pradesh, Telangana fears it would submerge many villages in its Khammam district.
 - ⊗ Odisha too has expressed its reservations over the Polavaram dam's design.
- ⌚ **Union Government's Move:**
 - ⊙ It has asked the Krishna and Godavari River Management Boards to **procure the details of the irrigation projects on these rivers**, including from Maharashtra and Karnataka and submit them to the Centre in a month.
 - ⊙ The **main objective** of the exercise appears to be to assess whether surplus water will be available for the new projects in Telangana and Andhra Pradesh, in the light of the disputes.

Inter-State Water Disputes

- ⌚ **Article 262** of the Constitution provides for the adjudication of **inter-state water disputes**.
 - ⊙ Under this, **Parliament may by law provide for the adjudication of any dispute** or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
 - ⊙ Parliament may also provide that neither the Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint.
- ⌚ The Parliament has enacted the two laws, the **River Boards Act (1956)** and the **Inter-State Water Disputes Act (1956)**.
 - ⊙ The River Boards Act provides for the establishment of river boards by the Central government for the regulation and development of inter-state river and river valleys.

- ⊙ A River Board is established on the request of state governments concerned to advise them.
- ⌚ The Inter-State Water Disputes Act empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.

Krishna River

- ⌚ **Source:** It originates near Mahabaleshwar (Satara) in Maharashtra. It is the second biggest river in peninsular India after the Godavari River.
- ⌚ **Drainage:** It runs from four states Maharashtra (303 km), North Karnataka (480 km) and the rest of its 1300 km journey in Telangana and Andhra Pradesh before it empties into the Bay of Bengal.
- ⌚ **Tributaries:** Tungabhadra, Mallaprabha, Koyna, Bhima, Ghataprabha, Yerla, Warna, Dindi, Musi and Dudhganga.

Godavari River

- ⌚ **Source:** Godavari river rises from Trimbakeshwar near Nasik in Maharashtra and flows for a length of about 1465 km before outfalling into the Bay of Bengal.
- ⌚ **Drainage Basin:** The Godavari basin extends over states of Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh and Odisha in addition to smaller parts in Madhya Pradesh, Karnataka and Union territory of Puducherry.
- ⌚ **Tributaries:** Pravara, Purna, Manjra, Penganga, Wardha, Wainganga, Pranhita (combined flow of Wainganga, Penganga, Wardha), Indravati, Maner and the Sabri.

PM SVANidhi: Micro Credit Scheme for Street Vendors

Why in News

The **Ministry of Housing and Urban Affairs (MoHUA)** has launched **Pradhan Mantri Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi)**, for providing **affordable loans to street vendors**.

- ⌚ Earlier, the Scheme was announced as a part of the **Economic Stimulus-II** under the **Atmanirbhar Bharat Abhiyan**.

- ⌚ The scheme would benefit **vendors, hawkers, thelewale and people involved in goods and services related to textiles, apparel, artisan products, barbers shops, laundry services** etc. in different areas.

Key Points

⌚ **Loan facility:**

- ⊙ The vendors can avail a working **capital loan of up to Rs. 10,000**, which is repayable in monthly instalments within a year. The loans would be **without collateral**.
- ⊗ It is for the first time that **Microfinance Institutions, Non-Banking Financial Company, Self Help Groups** have been allowed in a scheme for the urban poor due to their ground level presence and proximity to the urban poor including the street vendors.
- ⊙ There will be **no penalty on early repayment** of loan.
 - ⊗ Early repayment (or resettlement) is a clearance of debt or loan before the scheduled time. Many banks and lenders charge penalties for repaying loans early.
- ⊙ Those **who were vending till 24th March, 2020 can avail the benefits of the scheme**.
 - ⊗ This is for the **first time that street vendors from peri-urban/rural areas** have become beneficiaries of an urban livelihood programme.
- ⊙ The **scheme is valid until March 2022**.

⌚ **Interest subsidy:**

- ⊙ On timely/early repayment of the loan, an interest subsidy of **7% per annum** will be credited to the bank accounts of beneficiaries through direct benefit transfer on a six monthly basis.

⌚ **Escalation of credit limits:**

- ⊙ The scheme provides for the rise of the credit limit on timely/early repayment of loans i.e. if a street vendor repays the installments on time or earlier, he or she can develop his or her credit score that makes him/her **eligible for a higher amount of term loan such as Rs. 20,000**.

⌚ **Encourage digital transactions:**

- ⊙ The scheme incentivises digital transactions by the street vendors through monthly cash back.

⌚ **Focus on capacity building:**

- ⊙ MoHUA in collaboration with State Governments will launch a capacity building and financial literacy programme of all the stakeholders and **Information,**

Education and Communication (IEC) activities throughout the country during the month of **June** and **loaning will commence in the month of July**.

⌚ **Role of Urban Local Bodies (ULBs):**

- ⊙ ULBs will play a pivotal role in the **implementation of the scheme** by ensuring to target the beneficiary and reaching to them in an efficient manner.

⌚ **E-governance:**

- ⊙ In line with the vision of leveraging technology to **ensure effective delivery and transparency**, a digital platform with web portal/ mobile app is being developed to administer the scheme with end-to-end solution.
- ⊙ This platform will integrate the web portal/ mobile app with **UdyamiMitra portal of SIDBI** for credit management and **PAiSA portal of MoHUA** to administer interest subsidy automatically.
- ⊙ It will help in **integrating the vendors into the formal financial system**.

Way Forward

- ⌚ The loans through the scheme would help to **kick-start activity for vendors** who have been left without any income due to the impact of Covid-19 and lockdown.
- ⌚ Despite multiple schemes running for the street vendors, there are various gaps in **implementation, identification, awareness and accessibility of various schemes** which should be plugged in a timely manner.
- ⌚ Benefits like **maternity allowances, accident relief, natural death compensation, education support for children for higher studies, pension** during any crisis should be provided to them.

Science Technology and Innovation Policy

Why in News

Recently, the **Office of the Principal Scientific Adviser** to the Government of India (Office of PSA) and the **Department of Science and Technology (DST)** have jointly initiated the formulation of a new national **Science Technology and Innovation Policy (STIP 2020)**.

Key Points

- ⌚ It will be the **5th STIP of India** and is being formulated at a crucial juncture when India and the world are tackling the **Covid-19**.

- ⊙ It will integrate the lessons of the **pandemic** including the building of an **Atmanirbhar Bharat** by leveraging India's strengths in research and development, design, science and technology workforce and institutions, huge markets, demographic dividend, diversity and data.
- ⌚ The **STIP 2020 formulation process** will be six-months long and has been organised into **4 highly interlinked tracks**:
 - ⊙ **Track I:** It involves an extensive public and expert consultation process through Science Policy Forum, a dedicated platform for soliciting inputs from larger public and expert pools during and after the policy drafting process.
 - ⊙ **Track II:** It comprises experts-driven thematic consultations to feed evidence-informed recommendations into the policy drafting process. 21 focused thematic groups have been constituted for this purpose.
 - ⊙ **Track III:** It involves extensive intra-state and intra-department consultation with Ministries and States.
 - ⊙ **Track IV:** It constitutes an apex level multi-stakeholder consultation.
- ⌚ **Previous Four STIPs:**
 - ⊙ **Scientific Policy Resolution 1958:**
 - ⌘ India's first major science policy can be traced back to the year 1958.
 - ⌘ SPR 1958 laid the foundation of the scientific enterprise and scientific temper in India.
 - ⊙ **Technology Policy Statement 1983:**
 - ⌘ The primary feature of TPS 1983 was technological self-reliance through promotion and development of indigenous technologies.
 - ⌘ Adoption of indigenous technology would reduce vulnerabilities in critical areas and would help maximise the utilisation of local (human and material) resources.
 - ⊙ **Science and Technology Policy 2003:**
 - ⌘ Its aim was to keep up the pace with science and technology, to stay competitive in an increasingly globalised world and to meet the primary goal of equitable and sustainable development.
 - ⌘ It called to invest heavily in the research and development sector with the aim of increasing investment to 2% of the **Gross Domestic Product (GDP)**.

- ⊙ **Science, Technology and Innovation Policy 2013:**
 - ⌘ The decade of 2010 to 2020 was declared as a decade of innovation.
 - ⌘ It was acknowledged that in order to stay globally competitive, it was necessary to make a transition into a knowledge-based economy.
 - ⌘ This policy document was a step in the direction towards building a robust national innovation ecosystem.

Office of the Principal Scientific Adviser

- ⌚ It was set-up in **November 1999 by the Cabinet Secretariat**.
- ⌚ **Objectives:**
 - ⊙ To evolve policies, strategies and missions for the generation of innovations and support systems for multiple applications.
 - ⊙ To generate science and technology tasks in critical infrastructure, economic and social sectors in partnership with Government departments, institutions and industry.
 - ⊙ To function as the Secretariat to the Scientific Advisory Committee to the Cabinet, with the Principal Scientific Adviser to the Government of India as its Chairman.
- ⌚ The **Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC)** is an overarching council that facilitates the PSA's office.

Department of Science and Technology

- ⌚ The foundation of DST was laid on **3rd May 1971** along with the model of National Science Foundation (NSF), USA.
- ⌚ It provides funding and also makes policies and co-ordinates scientific work with other countries.
- ⌚ It empowers scientists and scientific institutions and also works with a highly distributed system permeating stakeholders ranging from school college, PhD, Postdoc students, young scientists, startups and NGOs working in Science and Technology.

Inner Line Permit and Citizenship Amendment Act

Why in News

Recently, the Supreme Court refused to stay the

Adaptation of Laws (Amendment) Order, 2019, issued by the **President** to amend the **Bengal Eastern Frontier Regulation (BEFR), 1873**.

- ⌚ The court said it will have to hear what the government has to say on the matter.

Key Points

- ⌚ The Presidential order was challenged in the Supreme Court by Asom Jatiyatabadi Yuba Chatra Parishad (AJYCP) and All Tai Ahom Students' Union (ATASU).
- ⌚ The petitioners claimed that the Presidential Order moved some of the districts of Assam away from the purview of BEFR just before the grant of assent to **Citizenship (Amendment) Act (CAA), 2019**.
 - ⊙ The districts included Kamrup, Darrang, Nowgong, Sibsagar, Lakhimpur and Cachar.
 - ⊙ BEFR empowers some of the states to bring districts under the inner line area.
- ⌚ Once the districts had come under 'the inner line' area, **the CAA could not be implemented to the extent of granting citizenship to illegal immigrants** in Assam in view of Section 6B (4) of the CAA.
 - ⊙ Section 6B (4) of the CAA restricts the implementation of CAA to the tribal areas as included in the **Sixth Schedule** of the Constitution and the area covered under the **"Inner Line"** notified under the Bengal Eastern Frontier Regulation, 1873".
- ⌚ The **CAA relaxes eligibility criteria for certain categories of migrants** from three countries (Pakistan, Bangladesh and Afghanistan) seeking Indian citizenship and **exempts certain categories of areas**, including those protected by the **Inner Line system**.
- ⌚ The **State government claims that ILP cannot be implemented in Assam since Assam is the gateway to northeast India**.
 - ⊙ Implementation of ILP will **increase the unemployment** level. It will affect the tea sector and oil sector.
- ⌚ According to the petitioner, **BEFR could have been the answer** to tackle **the problems of illegal immigrants** which Assam and its citizens are facing today.

Inner Line Permit

- ⌚ It is a concept based on the **policy of exclusion** drawn by colonial rulers in the form of **Bengal Eastern Frontier Regulation Act (BEFR), 1873**.

- ⌚ The BEFR prohibits an outsider's — **"British subject or foreign citizen"** — entry into the area beyond the Inner Line without a pass and his purchase of land there.
 - ⊙ It protected the commercial interests of the British from the tribal communities.
- ⌚ **BEFR came as a response to the reckless expansion** of British entrepreneurs into new lands which **threatened British political relations with the hill tribes**.
- ⌚ After Independence, the Indian government replaced "British subjects" with "Citizen of India".
- ⌚ The Inner Line separates the tribal-populated hill areas in the Northeast from the plains. To enter and stay for any period in these areas, Indian citizens from other areas need an Inner Line Permit (ILP).
- ⌚ The main aim of the ILP system is to prevent settlement of other Indian nationals in the States where the ILP regime is prevalent, in order to **protect the indigenous/tribal population**.
- ⌚ The Adaptation of Laws (Amendment) Order, 2019 **extended the ILP regime to Manipur** after **Arunachal Pradesh, Nagaland and Mizoram** where the ILP regime is applicable.

Draft Unmanned Aircraft System (UAS) Rules 2020

Why in News

- Recently, the Ministry of Civil Aviation has notified the **draft Unmanned Aircraft System (UAS) Rules, 2020**.
- ⌚ The draft rules have been issued at a time when the use of **drones has increased due to a coronavirus lockdown**, for purposes like surveillance, disinfection and videography.
 - ⌚ Earlier, the government had issued **drone regulations 1.0 and the drone regulations 2.0**. The government has also finalized **National Counter Rogue Drone Guidelines for handling the threats from Unmanned Aircraft Systems**.

Key Points

- ⌚ **Aims:**
 - ⊙ A set of rules notified by the government aims to **regulate** the production, import, trade, ownership, establishment of the drone ports (airports for drones) and operation of unmanned aircraft systems.

Drone

⌚ Drone is a layman terminology for **Unmanned Aircraft (UA)**. There are three subsets of Unmanned Aircraft- **Remotely Piloted Aircraft, Autonomous Aircraft and Model Aircraft**.

⊙ Remotely Piloted Aircraft consists of remote pilot station(s), the required command and control links and any other components, as specified in the type design.

⌚ Remotely piloted aircraft have been divided into **five** categories based on their weight-

- ⊙ **Nano** : Less than or equal to 250 grams.
- ⊙ **Micro** : From 250 grams to 2kg.
- ⊙ **Small** : From 2 kg to 25kg.
- ⊙ **Medium** : From 25kg to 150kg.
- ⊙ **Large** : Greater than 150kg.

⊙ It also seeks to create a **framework for drones use by businesses**.

⌚ **Draft Rules:**

⊙ **Approval by DGCA:**

⌘ An authorised manufacturer or importer of drones can sell its devices **only to an individual or entity approved by** the aviation regulator Directorate General of Civil Aviation (**DGCA**).

⌘ **Only Nano class drones** will be allowed to operate in India **in general** and **only a qualified remote pilot will be permitted to operate heavier drones**.

⌘ The DGCA will have the powers to **inspect a UAS manufacturing or maintenance** facility before granting any authorisation under these rules.

⊙ **Third Party Insurance:**

⌘ No UAS shall operate in India unless there is in existence a **valid third party insurance policy** to cover the liability that may arise on account of a mishap involving such UAS.

⊙ **Carrying Payload:**

⌘ **No UAS** should carry any **payload except** as permitted by the DGCA.

⌘ No person shall **drop or project or permit to be dropped from a UAS in motion any object** except when specified.

⊙ **Ownership:**

⌘ For owning and using a drone, one has to be at **least 18 years old**.

⌘ In the **case of companies**, the requirement is that their **main place of business has to be in India** and the chairman and at least two thirds of directors have to be Indian citizens.

⌘ Also, businesses operating drones have to be **substantially owned and effectively controlled by Indian nationals**.

⌚ **Future Prospects:**

⊙ Currently, the DGCA has **permitted food startups to conduct trials** for drones Beyond the Visual Line of Sight (BVLOS).

⌘ Unlike Visual Line of Sight (VLOS) flights, which are operated within the pilot's line of sight, BVLOS flights are flown beyond the visual range. These are mainly performed for **monitoring large areas**.

⌘ It enables service providers to conduct **complex drone operations** and facilitate drones to fly **without any human interference**.

⊙ DGCA is also expected to issue a **separate set of rules** to enable use of drones for **e-commerce or delivering medical supplies**.

QS World University Rankings 2021

Why in News

Recently, **QS World University Rankings 2021** has shown a decline in the rankings of the **Indian Institutes of Technology (IITs)** and the **Indian Institute of Science (IISc)**.

⌚ Only the newer **IITs in Guwahati and Hyderabad** have shown some **improvement**.

Key Points

⌚ Only three educational institutes from India, the **IIT Bombay (172)**, **IISc Bengaluru (185)** and **IIT Delhi (193)** feature in the **top 200 list**.

⌚ Despite the Centre's flagship **Institutes of Eminence (IoE) scheme** to boost the Indian presence in these global rankings, the **total number of Indian institutions** in the top 1,000 global list has **fallen from 24 to 21**.

⌚ In **private universities**, **BITS Pilani and the Vellore Institute of Technology (VIT)** have **dropped** out of the top 1,000 list, but **OP Jindal Global University** has **climbed** to the 650-700 band in the rankings.

⌚ Out of the six parameters, Indian institutions get **zero scores on the ratio of international faculty and**

QS World University Rankings

- ⌚ **Quacquarelli Symonds (QS)** is a leading **global career and education network** for ambitious professionals looking to further their personal and professional development.
- ⌚ QS develops and successfully **implements methods of comparative data collection and analysis** used to highlight institutions' strengths.
- ⌚ The **'QS World University Rankings'** is an **annual publication of university rankings** which comprises the global overall and subject rankings.
- ⌚ **Six parameters and their weightage for the evaluation:**
 - ⊙ Academic Reputation (40%)
 - ⊙ Employer Reputation (10%)
 - ⊙ Faculty/Student Ratio (20%)
 - ⊙ Citations per faculty (20%)
 - ⊙ International Faculty Ratio (5%)
 - ⊙ International Student Ratio (5%)

students while scoring well on research impact, measured through citations per faculty.

- ⌚ India also **scores poorly on faculty-student ratio** because of counting only full-time faculty whereas American universities include PhD students who are teaching or are research assistants.
- ⌚ Indian academics have focused on that **if a parameter comparing the cost of education to students is introduced,** Indian institutions would be among the world's top 50.
- ⌚ Earlier in 2020, **IITs jointly decided to boycott the World University Rankings** released by the **Times Higher Education (THE)** questioning its methodology and transparency.
- ⌚ One of the reasons for a drop in Indian universities' rank is **lack of sufficient efforts.**
 - ⊙ Other universities across the world are making **increasingly-intense efforts to enhance their educational offerings.**
- ⌚ A **committee** of IIT directors has been formed to see **how Indian institutes can improve the perception about them abroad** and also make efforts to enhance the quality of standards within the country.
- ⌚ **Suggestions:**
 - ⊙ The government should launch a campaign for improving educational institutes, similar to

Incredible India which promotes **tourism in India** and engages with the travellers.

- ⊙ **Success should be based on five pillars:**
 - ⊗ Not-for-profit status.
 - ⊗ Strong commitment to faculty hiring and research.
 - ⊗ Focus on internationalisation.
 - ⊗ Devotion to humanities and social sciences.
 - ⊗ Drive to build a reputation through students and employers.

Institutions of Eminence Scheme

- ⌚ It is a government's scheme to provide the **regulatory architecture for setting up or upgrading** of 20 Institutions (10 from public sector and 10 from the private sector) as world-class teaching and research institutions called 'Institutions of Eminence'.
- ⌚ **Objectives:**
 - ⊙ **Excellence and Innovation:** To provide for higher education leading to excellence and innovations in such branches of knowledge as may be deemed fit at post-graduate, graduate and research degree levels.
 - ⊙ **Specialization:** To engage in areas of specialization to make distinctive contributions to the objectives of the university education system.
 - ⊙ **Global Rating:** To aim to be rated internationally for its teaching and research as a top hundred Institution in the world over time.
 - ⊙ **Quality teaching and Research:** To provide for high quality teaching and research and for the advancement of knowledge and its dissemination.
- ⌚ **Benefits:**
 - ⊙ **Autonomy:** Institutes with IoE tag will be given **greater autonomy and freedom** to decide fees, course durations and governance structures.
 - ⊙ **Grant:** The **public institutions** under IOE tag will receive a **government grant of Rs 1,000 crore,** while the **private institutions will not get any funding** under the scheme.

India Rankings 2020: NIRF

Why in News

Recently, **'India Rankings 2020'** of Institutions of Higher Education was released.

- While, the **QS World University Rankings** showed that India's best institutions like **Indian Institutes of Technology (IITs)** and **Indian Institute of Science (IISc)** have slipped in the global list.

Key Points

- The **Ministry of Human Resource Development (MHRD)** has taken this important initiative of creating a **National Institutional Ranking Framework (NIRF)**, which has been used for the past five years for ranking institutions of higher education in different categories and domains of knowledge.
 - NIRF was launched on **29th September 2015**.
- Objective:** To encourage institutes to compete against each other and simultaneously work towards their growth. In addition, these rankings also attract foreign students, providing a solid base for the 'Study in India' programme for the growth of **higher education in India**.
- NIRF is one of the criterias for private institutions assessment for the **Institutions of Eminence (IoE)** Scheme.
 - IoE Scheme is a government's scheme to provide the regulatory architecture for setting up or upgrading of 20 Institutions (10 from public sector and 10 from the private sector) as world-class teaching and research institutions.
- NIRF outlines a methodology to rank institutions** across the country. The methodology draws from the overall recommendations and broad understanding arrived at by a Core Committee set up by MHRD.
- Broad Parameters:**
 - Teaching, Learning and Resources.
 - Research and Professional Practices.
 - Graduation Outcomes.
 - Outreach and Inclusivity.
 - Peer Perception.
- 90% of the parameters in NIRF are completely objective** and fact-based, while only 10% is based on the subjective parameter of perception by academic peers and employers.
 - In international rankings, Indian institutions' low ranking is due to the high weightage given to the perception which is a subjective parameter.
- It is acknowledged that Indian institutions struggle on the "internationalisation" parameter in global

rankings and the NIRF rankings are believed to reach a point where international institutions will want to be included in the Indian ranking system rather than vice versa.

- Overall, 3,771 institutions registered** in the ranking framework this year which is a 20% increase in comparison to 2019.
- This is the fifth consecutive edition of these rankings. This year 'Dental' category has been introduced for the first time bringing the total tally to 10 categories/subject domains.
- Rankings (top three)**

NIRF India Ranking 2020

<p>Overall Category</p> <ul style="list-style-type: none"> ■ IIT Madras, ■ IISc Bangalore, ■ IIT Delhi <p>University Category</p> <ul style="list-style-type: none"> ■ IISc Bangalore, ■ JNU New Delhi, ■ BHU Varanasi <p>Engineering Category</p> <ul style="list-style-type: none"> ■ IIT Madras, ■ IIT Delhi, ■ IIT Bombay <p>Management Category</p> <ul style="list-style-type: none"> ■ IIM Ahmedabad, ■ IIM Bangalore, ■ IIM Calcutta <p>Pharmacy Discipline</p> <ul style="list-style-type: none"> ■ Jamia Hamdard University, ■ Punjab University, ■ National Institute of Pharmaceutical Education and Research Mohali 	<p>Colleges Category</p> <ul style="list-style-type: none"> ■ Miranda House DU, ■ LSR for Women DU, ■ Hindu College DU <p>Medical Discipline</p> <ul style="list-style-type: none"> ■ AIIMS, New Delhi, ■ PGIMER Chandigarh, ■ Christian Medical College, Bangalore <p>Law Discipline</p> <ul style="list-style-type: none"> ■ National Law School of India University, Bengaluru, ■ NLU New Delhi, ■ Nalsar University of Law, Hyderabad <p>Architecture Discipline</p> <ul style="list-style-type: none"> ■ IIT Kharagpur, ■ IIT Roorkee, ■ NIT Calicut <p>Dental College</p> <ul style="list-style-type: none"> ■ Maulana Azad Institute of Dental Science, ■ Manipal College of Dental Science, ■ Dr DY Patil Vidyapith Pune
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Re-establishment of PCIM&H

Why in News

Recently, the Union Cabinet has given its approval to re-establish **Pharmacopoeia Commission for Indian Medicine and Homoeopathy (PCIM&H)** as a subordinate office under the **Ministry of AYUSH**.

- ⌚ **Pharmacopoeia Laboratory for Indian Medicine (PLIM) and Homoeopathic Pharmacopoeia Laboratory (HPL)**, central laboratories established at **Ghaziabad** (Uttar Pradesh) since **1975**, will be merged into the PCIM&H.

Key Points

- ⌚ Presently, PCIM&H is an **autonomous body** under the aegis of Ministry of AYUSH, established since **2010**.
- ⌚ **Pharmacopoeia** is an **officially recognized book of standards** as per the **Drugs and Cosmetics Act, 1940** and **Rules 1945** thereunder.
 - ⊙ As per the **Second Schedule of the Drugs and Cosmetics Act**, it is designated as the official book of standards for drugs imported and/or manufactured for sale, stock or exhibition for sale or distribution in India.
 - ⊙ It specifies the **standards of drugs manufactured and marketed in India** in terms of their **identity, purity and strength**.
- ⌚ The merger intends to accord legal status to the merged structure of PCIM&H and its laboratory by making the necessary amendments and enabling provisions in the **Drugs and Cosmetics Rules, 1945**.
 - ⊙ Consultations have been done with the Director General Health Services, Drugs Controller General and the **Ayurveda, Siddha and Unani Drugs Technical Advisory Board (ASUDTAB)**.
- ⌚ **Benefits of the Merger:**

- ⊙ Optimum use of infrastructural facilities, technical manpower and financial resources of the three organizations for enhancing their standardised outcomes.
- ⊙ Focused and cohesive development of standards of AYUSH drugs and publication of pharmacopoeias and formularies.

Ayurveda, Siddha and

Unani Drugs Technical Advisory Board

- ⌚ ASUDTAB is a **statutory body** under the provisions of **Drugs and Cosmetics Act, 1940**.
- ⌚ It **advises the central and state governments** in regulatory matters of **Accelerated Shelf Life Testing (ASLT) drugs**.

Accelerated Shelf Life Testing

- ⌚ It is an indirect method of measuring and estimating the stability of a product by storing the product under controlled conditions that increase the rate of degradation occurring in the product under normal storage conditions.
- ⌚ ASLT is useful for a number of purposes like:
 - ⊙ To predict product stability including colour.
 - ⊙ To determine product safety under abuse conditions.
 - ⊙ To troubleshoot in the initial stages of product development.
 - ⊙ To assess the packaging performance of a product.



Economic Scenario

Highlights

- ⌘ *Universal Basic Income*
- ⌘ *Social Stock Exchange*
- ⌘ *MSP Raised for Kharif Crops*
- ⌘ *Global Economic Prospects: World Bank*
- ⌘ *TULIP: The Urban Learning Internship Program*
- ⌘ *Sahakar Mitra: Scheme on Internship Programme*
- ⌘ *Import Out to Become Self-Reliant*
- ⌘ *Agricultural Sector Reforms*
- ⌘ *Pan-India Real Time Market for Electricity*
- ⌘ *Gross Value Added*
- ⌘ *Border Adjustment Tax*
- ⌘ *Rights Issue*
- ⌘ *USTR's Probe into Digital Services Taxes*
- ⌘ *SWADES: Skill Mapping Exercise for Returning Citizens*
- ⌘ *Central Employment Guarantee Council*
- ⌘ *Indian Digital Payment System Outside India*
- ⌘ *Shapes of Economic Recovery*
- ⌘ *Fall in Direct Tax Collection*
- ⌘ *Fall in Money Remitted Abroad*
- ⌘ *GST Council Meeting*
- ⌘ *Small Farmers' Agribusiness Consortium*

Universal Basic Income

Why in News

To deal with the **economic inequality, unemployment and poverty** created by the Covid-19 pandemic, many advocate **Universal Basic Income (UBI)** programme to be a solution.

Key Points

- ⌚ In order to deal with the **Covid-19 pandemic**, the governments across the world have imposed measures like lockdown and social distancing.
- ⌚ However, these measures have caused collateral damage to almost every sector of the economy, so much so that the **International Monetary Fund** held the current economic crisis could be the worst ever since the **Great depression 1929**.
- ⌚ With almost **90% of India's workforce in the informal sector without minimum wages or social security**, micro-level circumstances in India are worse than anywhere else.
 - ⊙ Even before pandemic, India was struggling to provide job opportunities for millions of job aspirants who were entering the job market.

- ⌚ Regular payments through **Universal Basic Income (UBI)** can ensure the sustenance of the workers engaged in the informal sector, at least till the economy normalises.
- ⌚ Countries across the world, which include **Kenya, Brazil, Finland, and Switzerland**, have bought into this concept.
- ⌚ Supporters of the UBI programme include **Economics Nobel Laureates Peter Diamond and Christopher Pissarides**, and tech leaders Mark Zuckerberg and Elon Musk.

Idea of Universal Basic Income

- ⌚ The **Economic Survey of India 2016-17** has advocated the concept of **Universal Basic Income (UBI)** as an alternative to the various social welfare schemes in **an effort to reduce poverty**.
- ⌚ Idea behind the Universal Basic Income is that every person should have a **right to a basic income to cover his needs, just by virtue of being a citizen**.
- ⌚ The purpose of the UBI is to **prevent or reduce poverty** and increase equality among citizens.
- ⌚ UBI has five components:
 - ⊙ **Universality** - It is universal in nature.
 - ⊙ **Periodic** - Payments at periodic regular intervals (not one-off grants).

⌚ **Payments to Individuals.**

- ⌚ **Payments in cash** (not food vouchers or service coupons).
- ⌚ **Unconditionality** - There are no preconditions attached with the cash transferred to the beneficiary.

Benefits of Universal Basic Income

- ⌚ UBI will provide secured income to individuals.
- ⌚ The scheme **will reduce poverty and income inequality** in society.
- ⌚ It will **increase the purchasing power** of every poor which will further increase aggregate demand.
- ⌚ Easy to implement because no identification of the beneficiary is involved.
- ⌚ It will reduce the wastage of government money because its implementation is very simple.

Issues In implementing UBI

- ⌚ **Lack of the political will** because of the **costs involved**.
 - ⌚ The fiscal cost of the UBI pegged at Rs. 7,620, at 75% universality, was 4.9% of the GDP.
 - ⌘ The Economic Survey of India's (2016-17) model of UBI suggested providing Rs. 7,620 per annum to 75% of India's population.
 - ⌘ The income was based on **Suresh Tendulkar's poverty line** of 2011-12 inflation-indexed to 2016-17.
 - ⌚ A UBI on par with the numbers suggested by the Economic Survey could lead to targeted household incomes increasing by almost Rs. 40,000 per annum, since the average Indian household size is approximately five.
- ⌚ **Difficulty in reducing some of the existing subsidies** to balance the resultant deficit.
- ⌚ There is no guarantee that the given cash will be spent on productive activities, health & education, etc. It may be spent on tobacco, alcohol, drugs, and other luxury goods etc.
- ⌚ Free cash to the people will **increase the rate of inflation** in the economy.
- ⌚ Workers can **refuse to work as a labourer or demand higher wages** which can increase the cost of production of agricultural goods.

Way Forward

- ⌚ The 2017 Economic Survey had flagged the UBI scheme as "a conceptually appealing idea" and a possible

alternative to social welfare programmes targeted at reducing poverty.

- ⌚ UBI envisages an uncompromised social safety net that seeks to assure a dignified life for everyone, a concept that is expected to gain traction in a global economy buffeted by uncertainties on account of globalization, technological change, and automation.
- ⌚ If universal basic income ever had a time, it is now. It can be implemented to deal with the unemployment, income inequality and poverty posed by Covid-19 pandemic.

Social Stock Exchange

Why in News

Recently, an expert panel constituted by the **Securities and Exchange Board of India (SEBI)** has recommended allowing **non-profit organisations** to directly list on **Social Stock Exchanges (SSE)**.

Major Recommendations

- ⌚ **Issuance of Bonds:**
 - ⌚ Allowing non-profit organisations to directly list through issuance of bonds in the form of **zero coupon or zero principal bonds**.
 - ⌘ **Zero-coupon bond** is a debt security that **does not pay interest** but instead trades at a deep discount, drawing a profit at maturity, when the bond is **redeemed for its full face value**.
 - ⌘ This would help to access funds from donors, philanthropic foundations and Corporate Social Responsibility (CSR) spenders as they will be encouraged to buy zero coupon bonds.
- ⌚ **Social Venture Funds (SVFs):**
 - ⌚ It recommends a range of funding avenues, such as **Social Venture Funds (SVFs) under Alternative Investment Funds (AIFs)**.
 - ⌘ **Social Venture Funds (SVFs)** are funds investing in early-stage social enterprises to expand opportunity for people living in poverty.
 - ⌘ AIF means any fund established in India which is a privately pooled investment vehicle which collects funds from sophisticated investors, whether Indian or foreign, for investing it in accordance with a defined investment policy for the benefit of its investors.

⌚ **Enhanced Reporting Standards:**

- ⊙ Profit social enterprises be allowed to list on the platform with **enhanced reporting requirements**.
- ⌚ The social stock exchange can be housed within the existing national bourses like the **Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE)**.
- ⌚ **Significance:**
 - ⊙ This will help the SSE to leverage **existing infrastructure and client relationships** with onboard investors, donors, and social enterprises.
 - ⊙ Certain tax incentives allowed under the recommendation would encourage **participation in the culture of 'giving'** among various stakeholders.
 - ⊙ It would encourage banks and other investors to participate with non profit organisations and thereby making social and economic growth more inclusive.

Social Stock Exchange (SSE)

- ⌚ The idea of the **Social Stock Exchange (SSE)** as a platform for listing social enterprise, voluntary and welfare organisations so that they can raise capital was mooted in the Union Budget 2019-20.
 - ⊙ **Social enterprise** can be defined as a non-loss; non-dividend paying company created and designed to address a social problem.
- ⌚ It will work under the market regulator **SEBI**.
- ⌚ The aim of the initiative is to help **social and voluntary organisations** which work for social causes to **raise capital as equity or debt or a unit of mutual fund**.
- ⌚ It provides new and cheaper sources of **financing for social welfare projects**, while showcasing India's independence from foreign aid .
- ⌚ SSE already exists in countries such as Singapore, UK, Canada among others. These countries allow firms operating in sectors such as health, environment and transportation to raise risk capital.

MSP Raised for Kharif Crops

Why in News

Recently, the **Cabinet Committee on Economic Affairs** has marginally increased the **Minimum Support Price (MSP)** of more than a dozen crops for Kharif Marketing Season (KMS) 2020-21.

Key Points

- ⌚ The MSP has been raised in the range of 2%-7.5% for the kharif crops based on the recommendation of the **Commission for Agricultural Costs and Prices (CACP)**.
- ⌚ The increase in MSP is in line with the **Union Budget 2018-19 announcement of fixing the MSPs at a level of at least 1.5 times** of the all-India weighted average cost of production, **aiming at reasonably fair remuneration for the farmers**.
- ⌚ **Issue:** This rise will not make much of a difference to farmers, unless there is large scale government procurement in most crops at MSP.
- ⌚ **Kharif crops:** They are the crops which are grown during the monsoon or rainy season from June to October. **Examples:** Paddy, Cotton, etc.

Minimum Support Price

- ⌚ The MSP is the rate at which the **government buys grains from farmers**.
- ⌚ **Reason behind the idea of MSP is to counter** price volatility of **agricultural commodities** due to the factors like variation in their supply, lack of market integration and information asymmetry.
- ⌚ **Fixation of MSP:** The MSP is fixed **on the recommendations of the Commission for Agricultural Costs and Prices (CACP)**.
- ⌚ **Factors taken into consideration** for fixing MSP include:
 - ⊙ Demand and supply,
 - ⊙ Cost of production (**A2 + FL method**),
 - ⊙ Price trends in the market, both domestic and international,
 - ⊙ Inter-crop price parity,
 - ⊙ Terms of trade between agriculture and non-agriculture,
 - ⊙ A minimum of 50% as the margin over cost of production, and
 - ⊙ Likely implications of MSP on consumers of that product.
- ⌚ The **Commission also makes visits to states** for on-the-spot assessment of the various constraints that farmers face in marketing their produce, or even raising the productivity levels of their crops.
- ⌚ Based on all these inputs, the Commission then finalizes its recommendations/reports, which are then submitted to the government.

- ⌚ The government, in turn, circulates the CACP reports to state governments and concerned Central Ministries for their comments.
- ⌚ After receiving the feed-back from them, the **Cabinet Committee on Economic Affairs (CCEA) of the Union government takes a final decision** on the level of MSPs and other recommendations made by the CACP.
- ⌚ **Procurement:** The **Food Corporation of India (FCI)**, the nodal central agency of the Government of India, along with other State Agencies undertakes procurement of crops.
- ⌚ **MSP Calculation:** This MSP is usually estimated based on **three types** of calculation methods.
 - ⊙ **A2:** Under this, MSP is set 50% higher than the amount farmers spend on farming including spending on seeds, fertilisers, pesticides, and labour.
 - ⊙ **A2+FL:** It includes A2 plus an assigned value of unpaid family labour.
 - ⊙ **C2:** Under C2, the estimated land rent and the cost of interest on the money taken for farming are added on top of A2+FL.
- ⌚ The Central government had set up the **National Commission on Farmers (NCF) in 2004** to address the issues of farmers in India including that of calculation of MSP.

National Commission on Farmers: Swaminathan Committee

- ⌚ On 18th November, 2004, the Union government constituted this committee **with MS Swaminathan as its chairman**.
- ⌚ The main **aim of the committee** was to **come up with a sustainable farming system, make farm commodities cost-competitive and more profitable**.
- ⌚ The commission, in 2006, recommended that MSPs must be at least 50% more than the cost of production and **recommended the C2 method for MSP calculation**.
- ⌚ However, the **government calculates** its MSP based on the **A2+FL method**.

Commission for Agricultural Costs and Prices

- ⌚ The CACP is an **attached office** of the **Ministry of Agriculture and Farmers Welfare**, formed in 1965. It is a **statutory body**.
- ⌚ Currently, the Commission comprises a **Chairman, Member Secretary, one Member (Official) and two Members (Non-Official)**.

- ⊙ The non-official members are representatives of the farming community and usually have an active association with the farming community.
- ⌚ It is mandated to recommend **Minimum Support Prices (MSPs)** to incentivize the cultivators to adopt modern technology, and raise productivity and overall grain production.
- ⌚ CACP submits separate reports recommending prices for **Kharif and Rabi seasons**.

Global Economic Prospects: World Bank

Why in News

Recently, the **World Bank** has released a part of the **Global Economic Prospects (GEP)** June 2020 report.

- ⌚ The report highlighted that the **Covid-19 pandemic** will be having a “severe” short and long term effects on economic growth.

Key Findings

⌚ **Impact on Global Poverty:**

- ⊙ The **Covid-19 pandemic and economic shutdowns** have devastated the poor around the world which is unprecedented in modern times.

- ⊙ It has been **estimated that 60 million people** could be pushed into extreme poverty in 2020. These estimates are likely to rise further, with the reopening of advanced economies.

- ⊙ These economic lockdowns have also damaged the multiple channels, including lower investment and innovation, erosion of the human capital and a retreat from global trade and supply linkages.
 - ⌘ It has also lowered the potential growth and labor productivity.

⌚ **Emerging Market and Developing Economies (EMDEs):**

- ⊙ EMDEs are most vulnerable and may face health crises, restrictions and external shocks like falling trade, tourism and commodity prices, as well as capital outflows.
- ⊙ These countries are expected to have a 3-8% output loss in the short term. But in the long term these countries will experience a drop in the level of output with a lowering of potential output growth.

⊙ Growth is likely to slow more in commodity-exporting EMDEs than in commodity-importing ones.

⌚ **Spillover Effect over EMDEs:**

⊙ EMDEs are also **expected to witness the spillover effects of the U.S.**, the Euro Area and China, which represent almost half of global output.

⊙ As these countries are unlikely to return to pre-pandemic levels of output before the end of 2021.

⌚ **Issue of Loan Repayments:**

⊙ Earlier, **G20** countries and commercial creditors had agreed to freeze loan repayments for low income countries (starting 1st May, 2020) till year-end. But these creditors had not yet implemented the same.

⊙ The delay by commercial creditors to freeze loan repayment is deepening poverty in the debtor country.

⊗ Most creditors are in advanced economies like the U.S., Europe, Japan, China and the Gulf.

⌚ **Energy-Exporting Emerging Market and Developing Economies (EMDEs):**

⊙ The **Energy-Exporting Emerging Market and Developing Economies (EMDEs)** are facing a dual problem of the public health crisis with strained fiscal positions due to the recent collapse in oil revenues.

⊙ The collapse in oil demand due to the worldwide economic lockdowns and a surge in oil inventories have made steepest **one-month decline in oil prices** on record.

⊙ Additionally, the low oil prices are unlikely to buffer the effects of the pandemic, though it may provide some initial support for the global recovery.

Steps Taken

⌚ Some of the policy choices being implemented worldwide include greater debt transparency to invite new investment.

⊙ **Greater transparency is expected to assist borrowers, creditors and the official sector** in the ongoing assessment of debt dynamics and debt sustainability.

⌚ The **economies have also fastened their digital connectivity**, and have also implemented an expansion of cash safety nets for the poor which intends to limit the damage and build a stronger recovery.

Suggestions

⌚ **Short Term Steps:**

⊙ **Address Health Emergencies:**

⊗ The countries should try to moderate the short-term impact of the pandemic on economic activity and employment.

⊗ Initially, countries need to address health emergencies and secure core public services to revive the economy.

⊙ **Allocation of New Capital:**

⊗ The worldwide economies should allow an orderly allocation of new capital toward sectors that would be productive in the new post-pandemic structures that emerge.

⊗ It has also suggested to fasten the adjustment of the capital and labour.

⌚ **Long Term Steps:**

⊙ **Business and Governance:**

⊗ The economies worldwide need to implement policies such as improving the environment for business, improving governance, and enhancing the outcomes of education.

⊗ It also includes public health investments, encouraging the new types of businesses, jobs and governance systems in the post-pandemic world.

⊙ **Financing and Productive Infrastructure**

⊗ Countries need to speed litigation and the resolution of bankruptcies and reform the costly subsidies, monopolies.

⊗ They also need to relook into the protected state-owned enterprises that have slowed development.

TULIP: The Urban Learning Internship Program

Why in News

Recently, the Ministry of Human Resource Development (MHRD), the Ministry of Housing and Urban Affairs and **All India Council for Technical Education (AICTE)** have jointly launched an online portal called **The Urban Learning Internship Program (TULIP)**.

Key Points

⌚ **Aim: To provide internship opportunities to 25,000 fresh graduates in all Urban Local Bodies (ULBs) and Smart Cities** across the country.

- ⌚ **Concept:** TULIP has been conceived pursuant to the Budget 2020-21 announcement under the theme ‘Aspirational India’ which laid emphasis on changing the **approach of education from ‘doing by learning’ to ‘learning by doing’.**
- ⌚ **Area of Work:** The internship opportunities will be provided for ‘Smart City’ projects which range from positions in **urban planning, water supply, waste management, slum improvement and digital governance** among others.
- ⌚ **Eligibility:** Applicants must be **Indian citizens** who have **completed their final year of college within the last 18 months** and **have a degree of B. Tech, B. Planning, B. Arch, B.A., B.Sc., B. Com, LLB.**
- ⌚ **Duration:** Internship durations can range from eight weeks to one year.
- ⌚ **Benefit:** It would help enhance the **value-to-market of India’s graduates** and help create a **potential talent pool** in diverse fields.
 - ⊙ TULIP would also **benefit ULBs and smart cities.** It will lead to **infusion of fresh ideas and energy** with engagement of youth in co-creation of solutions for solving India’s urban challenges.
- ⌚ The TULIP’s launch is also an important stepping stone for fulfillment of MHRD and AICTE’s goal of **one crore successful internships by the year 2025.**

Smart City Mission

- ⌚ It is an **innovative** initiative under the **Ministry of Housing and Urban Affairs**, Government of India to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.
- ⌚ **Objective:** To promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of Smart Solutions.
- ⌚ **Coverage and Duration:** The Mission covers **100 cities** for the duration of **five years** starting from the Financial Year (FY) 2015-16 to 2019-20.
- ⌚ **Financing:** It is a **Centrally Sponsored Scheme.**

Way Forward

- ⌚ Despite having a large number of skill development initiatives, the skill gap remains a big challenge in India. Therefore, there is a need to enhance the breadth and depth of these initiatives.

- ⌚ The disconnect between education and industry broadly because of the traditional approach in education is another important aspect. Initiatives like TULIP is a welcome intervention specifically focusing on these aspects.

Sahakar Mitra: Scheme on Internship Programme

Why in News

Recently, the Ministry of Agriculture & Farmers’ Welfare has launched a **Scheme on Internship Programme (SIP) i.e. Sahakar Mitra.**

- ⌚ It is an initiative by the **National Cooperative Development Corporation (NCDC)** for young professionals.
- ⌚ It is expected to be beneficial for both i.e. **cooperatives** as well as for the **young professionals.**

Key Points

- ⌚ **Objectives:**
 - ⊙ The Sahakar Mitra scheme will help **cooperative institutions** access **new and innovative ideas of young professionals** while the interns will gain experience of working in the field to be self-reliant.
 - ⊙ It **will provide the young professionals an opportunity of practical exposure and learning** from the working of NCDC and **cooperatives** as a paid intern.
 - ⊙ It would also provide an opportunity to professionals from academic institutions to develop leadership and entrepreneurial roles through cooperatives as **Farmers Producers Organizations (FPO).**
 - ⊙ In line with the **AtmaNirbhar Bharat (Self Reliant India)**, it focuses on the importance of **Vocal for Local.**
- ⌚ **Eligibility:**
 - ⊙ Professional **graduates** in disciplines such as Agriculture and allied areas, IT, etc.
 - ⊙ Professionals who are **pursuing or have completed their MBA degrees** in Agribusiness, Cooperation, Finance, International Trade, Forestry, Rural Development, Project Management, etc.
- ⌚ **Financial Support:**
 - ⊙ NCDC has designated funds for the **paid internship program** under which each intern will get **financial support** over a **4 months internship period.**

National Cooperative Development Corporation

- ⌚ **Formation:** The National Cooperative Development Corporation (NCDC) was established by an Act of Parliament in 1963 as a **statutory Corporation** under the **Ministry of Agriculture & Farmers' Welfare**.
- ⌚ **Headquarters:** NCDC functions through its **Head Office at New Delhi** and multiple Regional Offices.
- ⌚ **Objectives:**
 - ⊙ The objectives of NCDC are **planning and promoting programmes for production, processing, marketing, storage, export and import of agricultural produce, foodstuffs, industrial goods, livestock** and certain other notified commodities and services on cooperative principles.
 - ⊙ The NCDC has the **unique distinction of being the sole statutory organisation** functioning as an **apex financial and developmental institution** exclusively devoted to the **cooperative sector**.
 - ⊙ It is a major financial institution for cooperatives, and has **recently started Mission Sahakar 22**, which aims to **double farmers' income by 2022**.

About Cooperatives

- ⌚ According to the **International Labour Organisation (ILO)**, a **cooperative** is an **autonomous association of persons united voluntarily** to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. E.g. FPOs as cooperatives.
- ⌚ **An FPO**, formed **by a group of farm producers**, is a **registered body with producers** as shareholders in the organisation.
 - ⊙ It deals with **business activities related to the farm produce** and it works for the benefit of the member producers.

Provisions of Indian Constitution related to Cooperatives

- ⌚ The Constitution (97th Amendment) Act, 2011 added a new Part IXB right after Part IXA (Municipals) regarding the cooperatives working in India.
- ⌚ The word “cooperatives” was added after “unions and associations” in **Art. 19(1)(c) under Part III of the Constitution**. This enables all the **citizens to form cooperatives** by giving it the **status of fundamental right of citizens**.
- ⌚ A new **Article 43B** was added in the **Directive Principles of State Policy (Part IV)** regarding the “**promotion of cooperative societies**”.

Import Cut to Become Self-Reliant

Why in News

Recently, the Union Government has identified 10 promising sectors to cut “unnecessary” import.

Key Points

- ⌚ **Identified Sectors:** The sectors include capital goods and machinery, mobile and electronics, gems and jewellery, pharmaceuticals, textiles and garments.
 - ⊙ Earlier, the government had asked the Indian industry to set new targets towards building self-reliance in furniture, footwear and air conditioners.
- ⌚ **Government's Plan:**
 - ⊙ The government is looking for increasing domestic manufacturing and exploring the export potential in these areas.
 - ⊙ For this, the government is bringing more investment and making India a major manufacturing destination for these sectors.
 - ⊙ The government is also focussing on raising quality controls to make India globally competitive.
 - ⊙ If necessary, the government can also raise the import duties on these sectors without violating the **World Trade Organisation (WTO)** bound rates.
- ⌚ **PM's Focus on AtmaNirbhar Bharat:** Earlier, the Prime Minister had stressed on the need for **self-reliance** and a stronger focus on manufacturing locally by enterprises to strengthen the economy against the impact of coronavirus and get the country back on the growth track.
 - ⊙ He had emphasised on the need to build robust local supply chains and focus on **Make In India**.
 - ⊙ He called for creating strong enterprises in India that can become global forces and help in generating employment.
 - ⊙ He highlighted that India did not use to manufacture PPE kits earlier but the pandemic has shown that India can fulfill its own needs.
- ⌚ **Schemes:**
 - ⊙ The government has brought various schemes towards making India a major player in sectors like medical devices, **Active Pharmaceutical Ingredients (APIs)**. For example: **Production Linked Incentive (PLI) Scheme**.

- ⌚ However, in some cases, the schemes are repackaged versions of older attempts of the previous government to promote domestic production in these areas.
- ⌚ For instance, recently, the government invited applications from companies to invest in India under the second phase of the **electronics manufacturing scheme**.
- ⌚ An earlier version of a similar electronics manufacturing scheme, called the Modified Special Incentive Package Scheme was notified by the previous government in July 2012.

Issues

- ⌚ Concerns related to India’s dependence on imports e.g. over 30% Imports in the air conditioners sector.
- ⌚ As per the Ministry of Commerce, India imported \$467.2 billion worth of commodities between April, 2019 and March, 2020.
- ⌚ With **AtmaNirbhar Bharat**, there is a danger of India going back to an import substitution framework.
- ⌚ Taking this path would also be quite daunting, as the financial and technological resources required would be very high.

Agricultural Sector Reforms

Why in News

Recently, the Cabinet has approved a proposal to promulgate three separate ordinances to **push agriculture marketing and commodities trade reforms** in the country.

- ⌚ These reforms are part of the **third tranche of the economic package** announced under **Atmanirbhar Bharat Abhiyan** to counter **Covid-19 pandemic**.
- ⌚ These ordinances are expected to give effect to the **amendments proposed to the Essential Commodities Act** and bring in two new Central laws on inter-state trading and engagement of the farmers with processors, exports, etc.

Amendments to Essential Commodities Act (1955)

- ⌚ **Background:**
 - ⌚ India has become surplus in most agri-commodities but farmers have been **unable to get better prices due to lack of investment** in cold storage, processing and export.

- ⌚ The **imposition of the curbs on stocking** of farm produce and **regulation of the prices of commodities**, etc. under **Essential Commodities Act (ECA)** are some of factors responsible for **less entrepreneurial spirit** and thus **less investment** in the farm sector.

⌚ **Benefits of Amendments:**

- ⌚ The amendment would **deregulate the commodities** such as cereals, edible oils, oilseeds, pulses, onions and potatoes. It will help to **lessen the fears of private investors** of **excessive regulatory interference** in their business operations.
 - ⌘ Any **limits under ECA** over these commodities will be **imposed only in exceptional circumstances** such as war, famine, extraordinary price rise and natural calamity.
- ⌚ The **freedom to produce, hold, move, distribute and supply** will lead to harnessing economies of scale and attract private sector/foreign direct investment into the agriculture sector.
 - ⌘ It will help drive up investment in cold storages and modernization of the food supply chain.

⌚ **Significance:**

- ⌚ The announced amendment is expected to help both farmers and consumers while bringing in **price stability**.
- ⌚ It will also create a **competitive market environment** and also prevent wastage of agri-produce that happens due to lack of storage facilities.
- ⌚ It is considered as a **step towards transformation of agriculture and raising farmers’ income**.

Farming Produce Trade and Commerce (Promotion and Facilitation) Ordinance, 2020

⌚ **Background:**

- ⌚ Currently, there are **restrictions for farmers in selling agri-produce** outside the notified **Agricultural Produce Market Committee (APMC)**.
- ⌚ The farmers are also restricted to sell the produce **only to registered licensees of the State Governments**.
- ⌚ Further, **barriers exist in free flow of agriculture produce** between various States owing to the prevalence of **various APMC legislations** enacted by the **State Governments**.

⌚ **Benefits of Ordinance:**

- ⌚ It will create an ecosystem where the farmers and

traders would enjoy freedom of choice of sale and purchase of agri-produce.

- ⊙ It will also promote **barrier-free inter-state and intra-state trade and commerce** outside the physical premises of markets notified under State agricultural produce marketing legislations.
- ⊙ The ordinance also proposes an **electronic trading in transaction platform** for ensuring a seamless trade electronically.
- ⊙ It also proposes to set up a **separate dispute resolution mechanism** for the farmers.

🕒 **Significance:**

- ⊙ It will open **more choices for the farmer, reduce marketing costs** for the farmers and help them in getting **better prices**.
- ⊙ It will supplement the existing **Minimum Support Price (MSP)** procurement system and both will help to provide **stable income to farmers**.
- ⊙ It will also help farmers of regions with surplus produce to get better prices and consumers of regions with shortages, lower prices.
- ⊙ It is expected to pave the way for creating **One India, One Agriculture Market** in the country.

Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Ordinance, 2020

🕒 **Background:**

- ⊙ Indian Agriculture is characterized by **fragmentation due to small holding sizes** and has certain weaknesses such as weather dependence, production uncertainties and market unpredictability.
- ⊙ It makes agriculture **risky and inefficient** in respect of both **input & output management**.

🕒 **Benefits of Ordinance:**

- ⊙ It empowers **farmers for engaging** with processors, wholesalers, aggregators, wholesalers, large retailers, exporters etc. and thus **eliminating intermediaries** resulting in full realization of price.
 - ⌘ Farmers have been provided adequate protection. Sale, lease or mortgage of farmers' land is totally prohibited and farmers' land is also protected against any recovery.
 - ⌘ It also provides an **effective dispute resolution mechanism** for with clear timelines for redressal

- ⊙ It contains mechanisms which would **transfer the risk of market unpredictability** from the farmer to the sponsor.

🕒 **Significance:**

- ⊙ It also enables the farmer to **access modern technology and better inputs**. It will **reduce the cost of marketing** and improve income of farmers
- ⊙ It will help to **attract private sector investment** for building supply chains for supply of Indian farm produce to global markets.

Pan-India Real Time Market for Electricity

Why in News

Recently, the government has launched a **pan-India real-time market of electricity** to enable the buyers and sellers pan-India to **meet their energy requirement closer to real time** of operation.

- 🕒 It is expected that **shorter bidding time, faster scheduling, and defined processes** will enable the participants to **access resources** throughout the all India grid, promoting competition.

Key Points

🕒 **Description:**

- ⊙ The real time market of electricity is an **organized market platform** which will bring required flexibility to provide realtime balance while ensuring optimal utilization of the available surplus capacity in the system.
- ⊙ The real-time market would **open for 30 minutes in a day**, and buyers and sellers would have the option of placing **buy or sell bids for each 15-minute** time block.
- ⊙ It will also help **manage diversity in the demand pattern in the country** with a market at national level.

🕒 **Benefits:**

- ⊙ **Penetration of Renewable Energy:**
 - ⌘ The Government of **India's target of 175 GW RE Capacity by 2022** is driving accelerated renewable penetration pan-India.
 - ⌘ The real time market would help to mitigate challenges of grid management and help to integrate higher amounts of renewable energy resources into the grid.

⊙ **Discoms:**

- ⌘ It would provide an alternate mechanism for Discoms to **access larger markets at competitive prices.**
- ⌘ These are also expected to manage their power purchase portfolio more optimally with this market and likely to result in **cost optimisation of power purchase.**

⊙ **Consumers:**

- ⌘ It would lead to **cost optimization of power purchase** and serving the consumers with **reliable supply** as any last minute requirement of power can easily be bought from the Real Time market.
- ⌘ Earlier regime of managing the grid by load shedding due last minute changes will be avoided.

⌘ Financial, Real Estate and Professional Services **contributes almost one-fourth of the overall GVA.**

⊙ Trade, Hotels, Transport, Communications and services related to Broadcasting also saw a significant reduction in estimates.

⌘ Q1, Q2 and Q3 growth has been cut from 5.7%, 5.8% and 5.9%, respectively to 3.5%, 4.1% and %, respectively.

⌘ These services contribute almost 20% to GVA and are the **second largest component of GVA.**

⊙ However, the revisions show two other key sectors, **Agriculture and Public Administration in a positive light.**

⊙ The Public Administration sector's Q1, Q2 and Q3 growth have been revised from 8.7%, 10.1% and 9.7%, respectively, to 7.7%, 10.9% and 10.9%.

Gross Value Added

Why in News

According to the provisional data released by the **National Statistical Office (NSO)**, the **Gross Value Added (GVA)** estimates for the first three quarters of financial year 2019-20, revealed significant revisions from what the NSO had shared back in February 2020.

Key Points

- ⌚ In February, the NSO had pegged year-on-year GVA growth rates in the first three quarters at 5.4%, 4.8% and 4.5%, respectively.
- ⌚ However, the latest estimates saw significant downward revisions in the GVA data pertaining to the first three quarters to 4.8%, 4.3% and 3.5% respectively.
- ⌚ The revisions combined with dull performance in the fourth quarter ultimately **lowered the overall annual GVA growth estimate** for 2019-20 by as much as 1% point to 3.9%, from the 4.9% forecast in February.
- ⌚ The significant revisions in GVA data point to a **deeper weakness in the service sectors.**
 - ⊙ The growth estimates for the **largest services sector, Financial, Real Estate and Professional Services**, have been reduced sharply.
 - ⌘ Q1, Q2 and Q3 growth has been cut from 6.9%, 7.1% and 7.3%, respectively to 6%, 6% and 3.3%, respectively.

Gross Value Added

⌚ In 2015, India opted to make major changes to its compilation of national accounts and decided to bring the whole process into conformity with the **United Nations System of National Accounts (SNA) of 2008.**

⊙ The SNA is the internationally agreed standard set of recommendations on how to compile measures of economic activity.

⊙ It describes a coherent, consistent and integrated set of macroeconomic accounts in the context of a set of internationally agreed concepts, definitions, classifications and accounting rules.

⌚ As per the SNA, **GVA is defined as the value of output minus the value of intermediate consumption** and is a **measure of the contribution to growth made by an individual producer, industry or sector.**

⊙ It provides the **rupee value** for the number of goods and services produced in an economy after **deducting the cost of inputs and raw materials** that have gone into the production of those goods and services.

⌚ It can be described as the **main entry on the income side of the nation's accounting balance sheet**, and from an economics perspective **represents the supply side.**

⌚ At the macro level, from a **national accounting perspective**, GVA is the sum of a country's GDP and net of subsidies and taxes in the economy.

- ⊙ Gross Value Added = GDP + subsidies on products - taxes on products
- ⌚ Earlier, India had been measuring GVA at '**factor cost**' till the new methodology was adopted in which GVA at '**basic prices**' became the primary measure of economic output.
 - ⊙ GVA at basic prices will **include production taxes and exclude production subsidies.**
 - ⊙ GVA at factor cost included no taxes and excluded no subsidies.
- ⌚ The **base year** has also been shifted to **2011-12** from the earlier 2004-05.
- ⌚ The NSO provides **both quarterly and annual estimates of output** of GVA. It provides sectoral classification data on **eight broad categories** that includes **both goods produced and services provided** in the economy. These are:
 - ⊙ Agriculture, Forestry and Fishing.
 - ⊙ Mining and Quarrying.
 - ⊙ Manufacturing.
 - ⊙ Electricity, Gas, Water Supply and other Utility Services.
 - ⊙ Construction.
 - ⊙ Trade, Hotels, Transport, Communication and Services related to Broadcasting.
 - ⊙ Financial, Real Estate and Professional Services.
 - ⊙ Public Administration, Defence and other Services.

Importance of GVA

- ⌚ While GVA gives a picture of the state of economic activity from the **producers' side or supply side**, the GDP gives the picture from the **consumers' side or demand perspective.**
 - ⊙ Both measures need not match because of the difference in treatment of net taxes.
 - ⊙ **GDP** is the sum of private consumption, gross investment in the economy, government investment, government spending and net foreign trade (the difference between exports and imports).
 - ⊙ $GDP = \text{Private consumption} + \text{Gross investment} + \text{Government investment} + \text{Government spending} + (\text{Exports} - \text{Imports})$
- ⌚ GVA is considered a **better gauge of the economy.** GDP fails to gauge the real economic scenario because a sharp increase in the output can be due

to higher tax collections which could be on account of better compliance or coverage, rather than the real output situation.

- ⌚ A **sector-wise breakdown provided by the GVA measure helps policymakers** decide which sectors need incentives or stimulus and accordingly formulate sector-specific policies.
 - ⊙ But GDP is a key measure when it comes to making cross-country analysis and comparing the incomes of different economies.
- ⌚ From a **global data standards and uniformity perspective**, GVA is an integral and necessary parameter in measuring a nation's economic performance.
 - ⊙ Any country which seeks to **attract capital and investment from overseas does need to conform to the global best practices** in national income accounting.

Issues with GVA

- ⌚ The accuracy of GVA is heavily dependent on the sourcing of data and the accuracy of the various data sources.
- ⌚ GVA is as susceptible to vulnerabilities from the use of inappropriate or flawed methodologies as any other measure.

Border Adjustment Tax

Why in News

Recently, a **NITI Aayog** member has favoured imposing a **Border Adjustment**

Tax (BAT) on imports to provide a level-playing field to domestic industries.

- ⌚ This suggestion comes in the backdrop of the **USA-China trade tensions (trade war)** which are expected to rise even further **post-Covid-19.**

Key Points

- ⌚ **BAT** is a duty that is proposed to be **imposed on imported goods in addition to the customs levy that gets charged at the port of entry.**
- ⌚ BAT is a **fiscal measure** that imposes a charge on goods or services in accordance with the **destination principle of taxation.**
 - ⊙ Under this principle, a government taxes products based on the location of their sale to the final

consumer rather than on the location of their production or origin.

- ⌚ Thus, to adjust a tax “**at the border,**” a country:
 1. taxes imported products and domestically produced products sold on its market on the same basis and at the same rate; and
 2. exempts from this tax products exported for sale to foreign consumers.
- ⌚ Generally, BAT seeks to **promote “equal conditions of competition”** for foreign and domestic companies supplying products or services within a taxing jurisdiction.
- ⌚ The **World Trade Organisation (WTO)** rules allow for the adjustment of certain types of internal taxes at the border under certain conditions. The main conditions are:
 - ⊙ The tax must be applied equally to imports and “like” domestic products.
 - ⊙ The tax must be “borne” by a product and not be “direct”.
 - ⊙ A permitted border tax adjustment must not subsidize exports.
- ⌚ **Impact of BAT on trading partners:**
 - ⊙ At the macro level, with imports reduced and exports increased, a country can cut its trade deficit.
 - ⊙ If a country is a major export market for many developing countries, the tax plan will have serious adverse effects on them after implementation.
 - ⊙ BAT may render some firms less profitable and if the prices are forced upwards they may lose competitiveness with substitute products or locally-made similar products.
- ⌚ Various taxes such as electricity duty, mandi tax, clean energy cess and royalty are **imposed on domestic goods leading to the escalation of price.** This gives imported goods a price advantage in India.
- ⌚ It was highlighted that advocating self-reliance under **AtmaNirbhar Bharat** vision, **should not imply that India would embrace isolationist policies.** India has to go global but with a supply chain which is more local.

Rights Issue

Why in News

Recent reports suggest that several companies, including Mahindra finance, Tata Power, Shriram Transport

Finance among others are planning to raise funds through “**rights issue**” amidst the **Covid-19 pandemic.**

Key Points

- ⌚ **Reason:**
 - ⊙ Recently, Reliance Industries Limited (RIL) has concluded its rights issue and raised a total of Rs. 53,124 crore and witnessed an oversubscription of 1.59 times.
 - ⌘ RIL’s Rights Issue is India’s largest rights issue.
 - ⊙ The successful rights issue of RIL and the big demand (oversubscription) shows that there is a huge demand in the market for the shares of companies with strong credentials at a good price.
- ⌚ **Definition:**
 - ⊙ A rights issue is a mechanism by which companies can raise additional capital from existing shareholders.
 - ⊙ It is different from **public issue (Initial Public Offer) and private placement.**
- ⌚ **Advantages:**
 - ⊙ A company would offer a rights issue in order to raise capital which can be used to clear its debt obligations, acquire assets, or facilitate expansion without having to take out a loan from a bank.
 - ⊙ It is a **more efficient mechanism of raising capital.** Under it, there is no requirement of shareholders’ meeting and an approval from the board of directors is sufficient and adequate.
 - ⊙ Therefore, the turnaround time for raising this capital is short and is much suited for the current situation (Covid-19 pandemic).
- ⌚ **Disadvantages:**
 - ⊙ Raising funds through the right issue might create pressure on the company.
 - ⊙ Value of each share may get diluted.
 - ⊙ If the share price decreases post rights issue then investors may lose the holding value.
 - ⌘ Holding value is an indicator of an asset that someone has in his/her portfolio. It is a value which sums the impacts of all the dividends that would be given to the holder in the future, to help them estimate a price to sell or buy assets.
 - ⊙ **Stock exchanges put a restriction** on the amount on which a company can raise via the right issue.
- ⌚ **Reforms Under Rights Issue:**

- ⊙ The **Securities and Exchange Board of India (SEBI)** has provided some permanent reforms in the rights issue, it has also provided some temporary relaxations in the wake of Covid-19 pandemic.
- ⊙ **Permanent Reforms:** In November 2019, SEBI streamlined the rights issue process and the timelines for completion was significantly reduced from T+55 days to T+31 days — a 40% cut in the time.
 - ⌘ The 'T' stands for transaction date, which is the day the transaction takes place.
 - ⌘ It has also reduced the notice period of rights issue to at least 3 working days from 7 days earlier.
- ⊙ **Temporary relaxations:** SEBI relaxed certain guidelines for right issues that open on or before 31st March, 2021.
 - ⌘ It reduced the eligibility requirement of average market capitalisation of public shareholding from Rs. 250 crore to Rs. 100 crore for a fast track rights issuance.
 - **Market capitalisation** is the value of a company that is traded on the stock market. It is calculated by multiplying the total number of shares by the present share price.
 - ⌘ It reduced the minimum subscription requirement from 90% to 75% of the issue size.
 - ⌘ **Listed entities raising funds** upto Rs. 25 crores (erstwhile limit was Rs. 10 crores) through a rights issue are now not required to file draft offer documents with SEBI.
 - Listed Entity means an entity which is listed on a recognised stock exchange(s).

USTR's Probe into Digital Services Taxes

Why in News

Recently, the office of the **United States Trade Representative (USTR)** has initiated investigations into **taxes adopted or under consideration by 10 nations, including India**, on revenues of **American digital service companies like Netflix, Airbnb etc.**

⌚ Such taxes are known as **Digital Service Taxes.**

Key Points

- ⌚ **The Office of the United States Trade Representative (USTR):**
 - ⊙ It is responsible for developing and coordinating US international trade.
 - ⊙ **Section 301** gives the USTR **broad authority to investigate and respond to a foreign country's** action which may be unfair or discriminatory as well as negatively affect US commerce.
 - ⌘ Adopted through the 1974 Trade act, the Section allows the US President to impose tariffs or other curbs on foreign nations.
 - ⊙ However, the law mandates consultations with trading partners.
- ⌚ **Digital Services Taxes (DSTs):**
 - ⊙ These are the adopted taxes on revenues that certain companies generate from providing certain digital services. E.g. digital multinationals like Google, Amazon and Apple etc.
 - ⊙ The **Organisation for Economic Cooperation and Development (OECD)** is currently hosting negotiations with over 130 countries that aim to adapt the international tax system. One goal is to address the tax challenges of the digitalization of the economy.
 - ⌘ Some experts argue that a tax policy designed to target a single sector or activity is likely to be unfair and have complex consequences. The digital economy cannot be easily separated out from the rest of the global economy.
- ⌚ **India's Tax on Digital Companies:**
 - ⊙ The US is probing the **2% Digital Services Tax (DST)** that India adopted in March and which went into effect on April 1, 2020.
 - ⊙ The tax applies only to **non-resident companies** with annual revenues over \$267,000, and covers online sales of goods & services to persons in India.
 - ⊙ Further, equalisation levy at 6% has been in force since 2016 on payment exceeding Rs. 1 lakh a year to a non-resident service provider for online advertisements.
 - ⌘ This is **applicable for e-commerce companies** that are sourcing revenue from Indian customers without having tangible presence in the particular country.

🕒 **The US Stand:**

- ⊙ The US is concerned that many of its trading partners are adopting tax schemes designed to unfairly target US companies.
 - ⌘ Several countries in the world are adopting unilateral measures in the absence of a multilateral consensus spearheaded by OECD. US tech companies which have been phenomenally successful globally are facing the brunt of these unilateral measures and therefore this investigation.
- ⊙ It argued that **India's equalisation levy is complex and ambiguous** which includes the **possibility of double taxation of income** in absence of access to foreign tax credit as per tax treaties.

🕒 **India's Chance to Respond:**

- ⊙ India will be given an opportunity to negotiate with the US and prevent the imposition of tariffs by reaching a comprehensive outcome, on the line of similar negotiations that are currently underway with France.
- ⊙ India is expected to argue that the levy is in compliance with India's commitments under the 1995 General Agreement on Trade in Services (Treaty under the World Trade Organization) and is applicable on all global companies, not just American ones.
- ⊙ In case when the goods and services are supplied to the resident, typically the **non-residents have been able to pass on the burden to the Indian consumers** and therefore indirectly the tax has been borne by the **Indian consumers**.

🕒 **Concerns:**

- ⊙ In the backdrop of an improper functioning of the **World Trade Organization (WTO)**, the move could signal the start of more **unilateral action** by the US especially on the digital services front.
- ⊙ In India's case, the probe could potentially affect the **outcome of a bilateral trade deal** that India has been looking to forge with the US.
- ⊙ Further, **India continues to be on the 'Priority Watch List' of the United States Trade Representative (USTR)** for lack of adequate Intellectual Property (IP) rights protection and enforcement.

SWADES: Skill Mapping Exercise for Returning Citizens

Why in News

Recently, the Government has launched an initiative '**SWADES - Skilled Workers Arrival Database for Employment Support**'.

Key Points

- 🕒 The initiative, undertaken as part of the Vande Bharat Mission, aims at empowering the returning citizens with relevant employment opportunities.
 - ⊙ Vande Bharat Mission is an evacuation exercise to bring back Indian citizens stranded abroad amidst the coronavirus-induced travel restrictions.
- 🕒 It is a **joint initiative** of the Ministry of Skill Development & Entrepreneurship, the Ministry of Civil Aviation and the Ministry of External Affairs.
 - ⊙ The **National Skill Development Corporation (NSDC)** is supporting the implementation of the project.
- 🕒 It aims to create a database of qualified citizens based on their skill sets and experience to tap into and fulfil demand of Indian and foreign companies.
 - ⊙ The collected information will be shared with the companies for suitable placement opportunities in the country.
- 🕒 The returning citizens are required to fill up an online **SWADES Skills Card**.
 - ⊙ It will facilitate a strategic framework to provide the returning citizens with suitable employment

National Skill Development Corporation

- 🕒 NSDC is a not-for-profit public limited company incorporated under section 25 of the Companies Act, 1956 (corresponding to section 8 of the Companies Act, 2013).
- 🕒 It was set up by the Ministry of Finance as a Public Private Partnership (PPP) model.
- 🕒 The Government of India through the Ministry of Skill Development & Entrepreneurship (MSDE) holds 49% of the share capital of NSDC, while the private sector has the balance 51% of the share capital.
- 🕒 It aims to promote skill development by catalyzing creation of large, quality and for-profit vocational institutions.

opportunities through discussions with key stakeholders including State Governments, Industry Associations and Employers.

Central Employment Guarantee Council

Why in News

Recently, the 21st meeting of the **Central Employment Guarantee Council** was held through video-conferencing.

Key Points

- ⌚ The government highlighted the work done under **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005**, by providing employment to rural people.
 - ⦿ The government has allocated Rs. 61,500 crore for MGNREGA for the Financial Year 2020-21, which is an all-time high.
 - ⦿ Additional provision of Rs. 40,000 crore has been made for this programme under **Atmanirbhar Bharat Abhiyan** to provide employment to the needy workers during the difficult period due to Covid-19.
- ⌚ The government has also stressed on the irrigation and water conservation activities under the MGNREGA.
- ⌚ **Central Employment Guarantee Council:**
 - ⦿ The Central Council has been **constituted under Section 10 of the MGNREGA**.
 - ⦿ It is chaired by the **Minister of Rural development**.
 - ⦿ It is **responsible for advising the Central Government on MGNREGA related matters**, and for monitoring and evaluating the implementation of the Act.
 - ⦿ It prepares Annual Reports on the **implementation of MGNREGA for submission to Parliament**.

Indian Digital Payment System Outside India

Why in News

The **Reserve Bank of India (RBI)** is exploring the possibility of expanding its payment system abroad, following the requests from several countries.

Key Points

- ⌚ **Requests for Payment System:**
 - ⦿ The RBI has received requests from abroad for implementing its payment systems like Cheque Truncation System (CTS), National Electronic Fund Transfer (NEFT), Unified Payments Interface (UPI) and messaging solutions.
- ⌚ **Reason:**
 - ⦿ The availability of low cost innovative digital payment products in India has led to many countries expressing their interest in Indian payment system.
- ⌚ **Availability of Payment System Outside India:**
 - ⦿ Currently, there are no RBI authorised payment system operators providing payment services outside India.
 - ⦿ However, there is cross-country cooperation with Bhutan with respect to CTS, National Automated Clearing House (NACH) and NEFT. NEFT is also available for one-way transfers from India to Nepal.
- ⌚ **Scope of Payment System Outside India:**
 - ⦿ According to RBI there is scope for enhancing global outreach of its payment systems, including remittances, through active participation and co-operation in international and regional fora by collaborating and contributing to standard setting.
 - ⦿ Efforts have been made to increase and widen the scope, coverage and usage of **RuPay card scheme** and **UPI to enhance their brand value internationally**.
- ⌚ **Issues Involved:**
 - ⦿ Overdependence on the foreign funds (through digital payments) may lead to possible liquidity risk issues in India.
 - ⦿ Different time zones may pose a risk in digital payments.
- ⌚ **Digital Payments and India:**
 - ⦿ India's growing use of retail digital payments, indicates a shift in the relationship with cash.
 - ⦿ According to the RBI, the digital payments in the country have witnessed a growth of 61% and 19% in terms of volume and value, respectively.
 - ⦿ The value of digital payments to **Gross Domestic Product (GDP)** has also increased from 660% in 2014-15 to 862% in 2018-19.
 - ⦿ The Point of sale (PoS) terminals grew at a high pace of 35%, contrastingly the deployment of ATMs has grown at a low pace (4%).

Unified Payments Interface

- It is an advanced version of **Immediate Payment Service (IMPS)**, round-the-clock funds transfer service to make cashless payments **faster, easier and smoother**.
- UPI is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing and merchant payments into one hood.
- National Payments Corporation of India (NPCI)** launched UPI with 21 member banks in 2016.

National Electronic Funds Transfer

- It is a nation-wide payment system facilitating one-to-one funds transfer. Under this scheme, individuals, firms and corporates can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the scheme.
- There is no limit, either minimum or maximum, on the amount of funds that could be transferred using NEFT.
- However, the maximum amount per transaction is limited to Rs 50,000/- for cash-based remittances within India and also for remittances to Nepal under the Indo-Nepal Remittance Facility Scheme.

RuPay Card Scheme

- RuPay is the first-of-its-kind domestic Debit and Credit Card payment network of India.
- The name, derived from the words 'Rupee and Payment', emphasises that it is India's very own initiative for Debit and Credit Card payments.
- The card can also be used for transactions in Singapore, Bhutan, UAE, Bahrain and Saudi Arabia.

Cheque Truncation System

- It is an online image-based cheque clearing system undertaken by the RBI for faster clearing of cheques. It eliminates the associated cost of movement of physical cheques.

National Automated Clearing House

- It is a service offered by NPCI to banks which aims at facilitating interbank high volume, low value debit/credit transactions, which are repetitive and electronic in nature.

Shapes of Economic Recovery

Why in News

As India is going to come out of the **Covid-19 lockdown**, experts are debating over the shape of recovery of Indian economy.

Key Points

- The economists are unanimous that in the current financial year 2020-21, **India's economy will contract**.
 - According to the **World Bank's South Asia Economic Focus report, India's growth is likely to remain at 1.5-2.8% in 2020-21** which is the slowest since 1991 economic reforms.
- Many economists are also of the opinion that after hitting the bottom this year, the Indian economy will start its recovery in the next financial year (2021-22).
- However, according to an **analysis by Pronab Sen, former Chief Statistician of India, India's economy will contract not just in the financial year 2020-21 but also in 2021-22**.
 - This means that India **could experience a full-blown depression** – the first in India's history as an independent nation.
 - The Table shows India's absolute Gross Domestic Product (GDP) is likely to struggle to even come back to the 2019-20 level by 2023-24.
 - India is likely to end up with an **"elongated U-shape" recovery** due to the **weakness of the economy going into the Covid crisis** as well as the **inadequate fiscal stimulus measure taken by the government**.
 - The Table also provides a snapshot of the likely trend level of GDP had India grown at 6% and 8% respectively over the same period.
- Other economists are of the view that **it is difficult to predict the shape of economic recovery in India** at this juncture as there are too many unknowns.

YEAR	Likely growth rate of GDP (in %)	Likely absolute GDP in Rs Trillion*	Absolute GDP at 6% growth (Rs Trillion)	Absolute GDP at 8% growth (Rs Trillion)
2019-20 (pre-Covid)	5	207		
2019-20 (post-Covid)	3	203		
2020-21	—12	178	219	224
2021-22	—9	165	233	242
2022-23	6	172	247	261
2023-24	6	183	261	282

- ⊙ If there is no second wave of Covid-19, India can expect swift normalization from negative growth levels to the pre-covid levels of 5% and a gradual recovery to 7% by the second half of the next fiscal (2021-22).

Types of Shape of Economic Recovery

- ⌚ Economic recovery can take many forms, which is depicted using alphabetic notations. For example, a **Z-shaped recovery**, **V-shaped recovery**, **U-shaped recovery**, **elongated U-shaped recovery**, **W-shaped recovery** and **L-shaped recovery**.

- ⌚ The **alphabets generally denote the graph of growth rate**, which resembles the shape of the letter.

- ⌚ The fundamental difference between the different kinds of recovery is the **time taken for economic activity to normalize**.

- ⊙ The **time taken is often a factor of multiple things** such as the depth of the economic crisis. e.g deeper the recession, longer is the time to get back to normal.

- ⌚ The other aspect of economic recovery includes **the effect of pandemic on jobs and household incomes**, and the **kind of policy response taken by the government** that determines how quickly economic growth will recover.

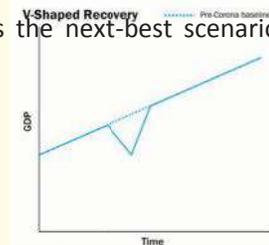
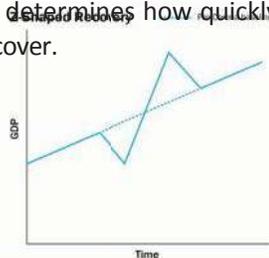
- ⌚ **Z-shaped recovery:** It is the most-optimistic scenario in which **the economy quickly rises after an economic crash**.

- ⊙ It makes up more than for lost ground before settling back to the normal trend-line, thus forming a Z-shaped chart.

- ⊙ In this economic disruption lasts for a small period wherein more than people's incomes, it is their ability to spend is restricted.

- ⌚ **V-shaped recovery:** It is the next-best scenario after Z-shaped recovery in which the economy quickly recoups lost ground and gets back to the normal growth trend-line.

- ⊙ In this, incomes and jobs are not permanently



- ⊙ lost, and the economic growth recovers sharply and returns to the path it was following before the disruption.

- ⌚ **U-shaped recovery:** It is a scenario in which the economy, after falling, struggles around a low growth rate for some time, before rising gradually to usual levels.

- ⊙ In this case several jobs are lost and people fall upon their savings.

- ⊙ If this process is more-long drawn than it throws up the **"elongated U" shape**.

- ⌚ **W-shaped recovery:** A W-shaped recovery is a dangerous creature. In this, growth falls and rises, but falls again before recovering, thus forming a W-like chart.

- ⊙ The double-dip depicted by a W-shaped recovery can be due to the second wave of the pandemic.

- ⌚ **L-shaped recovery:** In this, the economy fails to regain the level of GDP even after years go by.

- ⊙ The shape shows that there is a permanent loss to the economy's ability to produce.

Fall in Direct Tax Collection

Why in News

According to the **Central Board of Direct Taxes (CBDT)**, the gross direct tax collections for the financial year (FY) 2019-20 fell by almost 5% compared to FY 2018-19.

- ⌚ The total direct tax collections for 2019-20 was a Rs. 12.33 lakh crore against Rs. 12.97 lakh crore of 2018-19.

- ⌚ Direct tax is a type of tax where the incidence and impact of taxation fall on the same entity. In the

case of direct tax, the burden can't be shifted by the taxpayer to someone else.

- ⦿ These are largely taxes on income or wealth. e.g Income tax, corporation tax, property tax etc.

Key Points

- ⌚ The fall in the collection of direct taxes is due to a combination of factors, **which include the historic tax reforms undertaken in 2019 and much higher refunds** issued during the FY 2019-20.
 - ⦿ **Tax Reforms:**
 - ⌘ **Reduction in corporate tax rate to 22%** from FY 2019-20 for all existing domestic companies.
 - ⌘ **Incentive for new manufacturing domestic companies** by reducing the tax rate to 15%.
 - Such companies have also been exempted from payment of **Minimum Alternate Tax (MAT)**.
 - This was done in order to promote growth and investment.
 - ⌘ **Reduction in MAT rate from 18.5% to 15%** to provide relief to the companies which continue to avail exemption and pay tax under MAT.
 - ⌘ **Exemption from income-tax** to individuals earning income up to Rs. 5 lakh and increase in standard deduction from Rs. 40,000 to Rs. 50,000.
 - ⌘ The revenue impact of these reforms have been estimated at Rs. 1.45 lakh crore for Corporate Tax and at Rs. 23,200 crore for the Personal Income Tax (PIT).
 - ⦿ **High Refunds:** In FY 2019-20, the **total refunds** given was Rs. 1.84 lakh crore as compared to Rs. 1.61 lakh crore in FY 2018-19 which is a 14% increase year-on-year.
- ⌚ **Tax Buoyancy:** Excluding the effect of tax reform measures and higher issuance of refunds during the FY20, **the tax buoyancy for gross direct collection, corporate tax and personal income tax was positive.**
 - ⦿ The tax buoyancy for gross direct tax collection was 1.12, for corporate tax it was around 1 and for personal income tax it was 1.32.
 - ⦿ The higher growth rate in direct taxes as compared to GDP even in these challenging times proves that recent efforts for the widening of the tax base undertaken by the government are yielding results.

- ⦿ **Tax buoyancy is used to assess the efficiency of the tax system.**

- ⌚ **Investment:** The setting up of new manufacturing facilities requires various preliminary steps like acquisition of land, construction of factory sheds, setting up of offices and other infrastructures, etc.
 - ⦿ The tax reforms were brought in September 2019 and these activities cannot be completed in just a few months. Further, the outbreak of **Covid-19**, may delay this process.

Steps Taken by the Government to Increase Direct Tax and Investment

- ⌚ **Personal Income Tax** - The Finance Act, 2020 has provided an option to individuals and co-operatives for paying income-tax at concessional rates if they do not avail specified exemption and incentive.
- ⌚ **Abolition of Dividend Distribution Tax (DDT)** - The Finance Act, 2020 removed the Dividend Distribution Tax in order to increase the attractiveness of the Indian Equity Market.
- ⌚ **Vivad se Vishwas** - Under **Vivad se Vishwas**, declarations for settling pending tax disputes are currently being filed.
 - ⦿ This will benefit the Government by generating timely revenue and also to the taxpayers by bringing down mounting litigation costs.
- ⌚ **Encouraging digital transactions** - In order to facilitate the digitalisation of the economy and reduce unaccounted transactions, various measures have been taken which include:
 - ⦿ Reduction in rate of presumptive profit on digital turnover,
 - ⦿ Removal of **Merchant Discount Rate (MDR)** charges on prescribed modes of transactions,
 - ⦿ Reducing the threshold for cash transactions,
 - ⦿ Prohibition of certain cash transactions, etc.
- ⌚ **Raising of monetary limit for filing of appeal** - To effectively reduce taxpayer grievances and help the Income Tax Department focus on litigation involving complex legal issues and high tax effect, the monetary thresholds for filing of departmental appeals have been raised.
 - ⦿ The monetary threshold has been raised from Rs. 20 lakh to Rs. 50 lakh for appeal before Income Tax Appellate Tribunal (ITAT), from Rs. 50 lakh to

Rs. 1 crore for appeal before the High Court and from Rs. 1 crore to Rs. 2 crore for appeal before the Supreme Court.

- ⌚ **Expansion of scope of TDS/TCS** - For widening the tax base, several new transactions were brought into the ambit of Tax Deduction at Source (TDS) and Tax Collection at Source (TCS).
 - ⊙ These transactions include huge cash withdrawal, foreign remittance, purchase of luxury cars, e-commerce participants, sale of goods, acquisition of immovable property, etc.

Key Terms

- ⌚ **Corporate Tax:** It is levied on a firm's profit by the government.
 - ⊙ It is taxed on operating earnings after expenses have been deducted.
 - ⊙ The rate of corporate tax in India varies from one type of company to another i.e. domestic corporations and foreign corporations pay tax at different rates.
- ⌚ **Dividend Distribution Tax (DDT):** Dividend refers to the distribution of profits to shareholders of a company.
 - ⊙ Thus, the dividend distribution tax is a type of tax that is payable on the dividends offered to its shareholders by the corporate.
 - ⊙ Higher dividends mean a greater tax burden for the corporate entity.
- ⌚ **Minimum Alternate Tax**
 - ⊙ At times it may happen that a taxpayer, being a company, may have generated income during the year, but by taking the advantage of various provisions of Income-tax Law (like exemptions, deductions, depreciation, etc.), it may have reduced its tax liability or may not have paid any tax at all.
 - ⊙ Due to an increase in the number of zero tax paying companies, Minimum Alternate Tax (MAT) was introduced by the Finance Act, 1987 with effect from assessment year 1988-89. Later on, it was withdrawn by the Finance Act, 1990 and then reintroduced by Finance Act, 1996.
 - ⊙ MAT is an important tool with which tax avoidance can be prevented.

Fall in Money Remitted Abroad

Why in News

According to data released by the **Reserve Bank of India**, the amount of money Indians send abroad has witnessed a **61% decline** under the **Liberalised Remittance Scheme (LRS)** as Covid-19 and the lockdown cripple the global economy and ground international travel.

Key Points

- ⌚ In April 2020, Indians remitted **\$499.14 million** under the Liberalised Remittance Scheme (LRS) — a **61% decline from \$1,287.91 million** in the same month last year.
 - ⊙ The monthly outward flow in April 2020 is **lowest since February 2016** when it was **\$449.28 million**.
 - ⊙ Substantial decline has been recorded in money sent for purchase of immovable property abroad; investment in equity/debt; deposit; gift; medical treatment; and other categories during April 2020.
- ⌚ **A Triple Whammy Effect:**
 - ⊙ This dip **reflects economic distress, lockdown at home and curbs on overseas travel**.
 - ⊙ Earlier, Resident Indians have remitted a **record \$18,750 million** under LRS in the financial year ended March 31, 2020.
 - ⌘ Despite the outflows reaching a record level during last financial year, March, 2020 saw a dip — \$1,358.82 million — against \$1,476.82 million in the corresponding month of 2019.
- ⌚ **Money sent for Travel Purposes:** The sharpest decline — 71.81% — has been recorded in money sent for travel purposes which came down to \$121.13 million in April this year from \$429.75 million a year ago.
 - ⊙ This is significant **as an estimated 2 million Indian nationals** travel overseas every month.
- ⌚ **Money Sent for Studies Abroad:** This has also seen a sharp decline of 68.85% — \$78.76 million in April this year from \$252.84 million in the corresponding month last year.
 - ⊙ **Over 7 lakh Indian students pursued studies** in foreign institutions in 2018.
- ⌚ **Maintenance of Close Relatives:** The category, which contributes the highest amount to total outward remittances under LRS, has recorded a decline of

50%— \$148.25 million in April this year from \$296.14 million last year.

- ⌚ **Deposit and Investment in Equity/Debt:** These categories have recorded lesser decline i.e. **of 29.91%**.
- ⌚ **Donations:** The only **exception** (stands neutral in terms of decline or increase) **to other sources of remittances is “donations” e.g. for charity or social service**, which contribute a **negligible amount** to the total outflows.
- ⌚ **Gift and Medical Treatment:** While the category “Gift” has recorded a 66% decline in outward remittances, “medical treatment” has seen a decline of 45.85% in April 2020.
- ⌚ **Overall Impact:**
 - ⊙ Significantly, the cut in expenses on education, medical treatment and maintenance of relatives may endure beyond the travel ban and Covid due to financial strain.
 - ⊙ Investment in shares and debt instruments used to buy immovable properties in overseas markets may decline.
 - ⊙ Opening of foreign currency accounts with banks outside India may also get reduced.
 - ⊙ In nutshell it would affect the **currency reserve** of the country as an Indian resident needs to buy dollars using the Indian rupees (INR) from an authorised dealer (the bank) in India.

Liberalised Remittance Scheme

- ⌚ This is the **scheme of the Reserve Bank of India**, introduced in the year **2004**.
- ⌚ Under the scheme, all resident individuals, including minors, are allowed to freely remit up to USD 2,50,000 per financial year (April – March) for any permissible current or capital account transaction or a combination of both.
- ⌚ **Not Eligible:** The Scheme is not available to **corporations, partnership firms, Hindu Undivided Family (HUF), Trusts** etc.
- ⌚ **Remitted Money can be used for:**
 - ⊙ Expenses **related to travelling (private or for business), medical treatment, study, gifts and donations, maintenance of close relatives** and so on.
 - ⊙ Investment in shares, debt instruments, and buy immovable properties in the overseas market.

- ⊙ Individuals can also open, maintain and hold foreign currency accounts with banks outside India for carrying out transactions permitted under the scheme.

⌚ Prohibited Transactions:

- ⊙ Any purpose specifically prohibited under Schedule-I (like the purchase of lottery tickets, proscribed magazines, etc.) or any item restricted under Schedule II of **Foreign Exchange Management (Current Account Transactions) Rules, 2000**.
- ⊙ Trading in foreign exchange abroad.
- ⊙ Capital account remittances, directly or indirectly, to countries identified by the **Financial Action Task Force (FATF)** as “non-cooperative countries and territories”, from time to time.
- ⊙ Remittances directly or indirectly to those individuals and entities identified as posing a significant risk of committing acts of terrorism as advised separately by the Reserve Bank to the banks.
- ⌚ **Requirements:** It is mandatory for the resident individual to provide his/her **Permanent Account Number (PAN)** for all transactions under LRS made through Authorized Persons.

GST Council Meeting

Why in News

Recently, the 40th **Goods and Services Tax (GST) Council** meeting was held.

Key Points

- ⌚ **GST Collections:**
 - ⊙ In the first two months of the current financial year, 2020-21, the cumulative GST revenues of states and the Centre **has been only 45% of the monthly target**.
 - ⊙ In 2020-21, the combined monthly GST revenue target is estimated at Rs. 1.21 lakh crore taking into account the budget estimate and states’ protected revenue.
- ⌚ **Market Borrowing:**
 - ⊙ As revenue has fallen for both the Centre and states, the GST Council has decided to hold a single-point

agenda meeting in July, 2020 which will discuss **market borrowing by the Council itself** as one of the ways to raise money and **compensate states for GST revenue losses**.

- ⌚ The **GST Act, 2017** extends a **guarantee to states** that any **loss in revenues in the first five years (2017-2022) of GST implementation** will be compensated through a cess that accrues to the **Compensation Fund**.

- ⌘ The shortfall is calculated assuming a 14% annual growth in GST collections by states over the base year of 2015-16.

- ⌚ In the 8th GST Council meeting it was discussed that in case the amount in the GST Compensation Fund fell short of the compensation payable, the Council shall decide the mode of raising additional resources including borrowing from the market.

- ⌘ The borrowing could be repaid by collection of cess in the sixth year or further subsequent years.

⌚ **Issues Involved:**

- ⌘ There is a question about the **legality of the GST Council to borrow**; for instance, can it be accorded **sovereign status** like Centre and states.

- ⌘ The burden and the impact of market borrowing on the **Fiscal Responsibility and Budget Management Act (FRBM Act), 2003** is not clear.

⌚ **Tax Rationalisation:**

- ⌘ The Council discussed correction of **inverted duty structure** for footwear, fertilisers and textiles.

- ⌘ Inverted duty structure is a situation where the rate of tax on inputs used is higher than the rate of tax on the finished good.

- ⌘ Take an imaginary situation of the tyre industry, the tax rate on natural rubber (input) purchased is 10% whereas the tax rate on rubber tyre is 5%. Here since the tax rate on input is higher than that on the finished good, there is an inverted tax structure.

- ⌘ However, the decision was deferred because it would have resulted in increase in the prices of fertiliser, footwear and ready-made garments, which would have affected the process of economic revival.

⌚ **Compliance-related Relief:**

- ⌘ The GST Council also provided compliance-related relief to small taxpayers with turnover up to Rs. 5 crore.

- ⌘ It **reduced the interest by half on delayed filing of GST returns** for February, March and April, 2020 to 9%, provided the returns are filed by September 2020.

- ⌘ For May-July, 2020 the deadline for filing GST returns has been extended till 30 September, 2020 without any penalty.

GST Council

- ⌚ It is a **constitutional body** under **Article 279A**. It makes recommendations to the Union and State Government on issues related to **Goods and Service Tax** and was introduced by the **Constitution (One Hundred and First Amendment) Act, 2016**.

- ⌚ The GST Council is **chaired by the Union Finance Minister** and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.

- ⌚ It is **considered as a federal body** where both the centre and the states get due representation.

- ⌘ The **Economic Survey 2017-18** also hailed the GST Council for its **cooperative federalism technology** which brings together the Center and States and can be applied to many other policy reforms.

- ⌚ Every decision of the Goods and Services Tax Council shall be taken at a meeting by a **majority of not less than three-fourths of the weighted votes of the members present and voting**, in accordance with the following principles, namely:

- ⌘ The vote of the Central Government shall have a weightage of one third of the total votes cast, and

- ⌘ The votes of all the State Governments taken together shall have a weightage of two-thirds of the total votes cast in that meeting.

Small Farmers' Agribusiness Consortium

Why in News

Recently the Union Minister of Agriculture & Farmers' Welfare highlighted the role of **Small Farmers' Agribusiness Consortium (SFAC)** in increasing **incomes of small and marginal farmers** through aggregation and development of agribusiness.

Key Points

- ⌚ **Established:** SFAC was established in **1994 under Societies Registration Act, 1860** as an autonomous body promoted by the Ministry of Agriculture & Farmers' Welfare.
- ⌚ **Objectives:** Promoting agribusiness by encouraging institutional and private sector investments and linkages to ensure the empowerment of all farmers in the country.
 - ⌚ Organising small and marginal farmers as Farmer Interest Groups, Farmer Producer Organisations and Farmer Producer Company for endowing them with bargaining power and economies of scale.
- ⌚ **Few Important Schemes Implemented by SFAC:** Equity Grant & Credit Guarantee Fund (EGCGF) Scheme, Venture Capital Assistance (VCA) Scheme, **Farmer Producer Organization (FPO) Scheme**, **National Agriculture Market (NAM) Scheme**, etc.
- ⌚ **Recent Initiatives/Developments:** SFAC launched the **Kisan Rath app** with the help of officials of the Ministry of Agriculture which lessened the problem of transport of farm produce during lockdown.

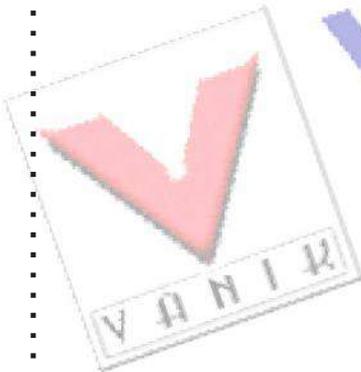
- ⌚ It signed a **Memorandum of Understanding (MoU)** with the Agricultural and Processed Food Products Export Development Authority (APEDA) to bring in better synergy in the agricultural activities.

Equity Grant & Credit Guarantee Fund (EGCGF) Scheme

- ⌚ The Equity Grant Fund has been set up with the primary objectives of:
 - ⌚ Enhancing **viability and sustainability, credit worthiness** of Farmer Producer Companies (FPCs),
 - ⌚ Enhancing the shareholding of members to increase their ownership and participation in their FPCs.
- ⌚ **The Credit Guarantee Fund Scheme** provides a Credit Guarantee Cover to the Eligible Lending Institution (ELI) to enable them to provide collateral free credit to FPCs.

Venture Capital Assistance

- ⌚ Venture Capital Assistance is financial support in the form of an **interest free loan** provided by SFAC to meet the shortfall in the capital requirement for implementation of the project.



International Relations

Highlights

- ⌘ Proposed Expansion of G7
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Proposed Expansion of G7

Why in News

Recently, the USA has suggested the **postponement of the 46th G7 (Group of 7) Summit** which was scheduled to be held in June (2020) at Camp David (USA).

- ⌚ Additionally, the USA President has also proposed the **expansion of the G7 to be called 'G10 or G11'**.

G7

⌚ Description:

- ⌚ The G7 or 'Group of Seven' consists of **Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States**.
- ⌚ It is an **intergovernmental organisation** that was formed in **1975** as an informal forum to discuss pressing world issues.
 - ⌘ Initially it focussed on economic issues but later it focussed on the several challenges such as the oil crashes of the 1970s, terrorism, arms control, and drug trafficking, etc.
- ⌚ The group does **not** have a **formal constitution or a fixed headquarters**. The decisions taken by leaders during **annual summits are non-binding**.



- ⌚ The G7 nations meet at annual summits that are **presided over by leaders of member countries on a rotational basis**.

⌚ Host Country of the Summit:

- ⌚ The host country **not only holds the G7 presidency but also sets the agenda for the year**.
- ⌚ It also gets a chance to **invite dignitaries from outside the G7** to attend the Summit.

⌚ Presence of Sherpas:

- ⌚ The groundwork for the Summit, including matters to be discussed and follow-up meetings, is done by the **sherpas**.
- ⌚ The sherpas are generally personal representatives or members of diplomatic staff such as ambassadors.

Key Points

⌚ Expansion of G7:

- ⌚ The proposed expansion has suggested **inclusion of India, Australia, South Korea and Russia** in the grouping of the largest advanced economies.
- ⌚ The existing **G7 group** has been called an **outdated group of countries** as it does not include emerging economies of the world and thus it is believed that the group **does not follow** the current world order.
- ⌚ It is **unclear** that the proposed expansion will be **permanent or temporary**.

⌚ Re-inclusion of Russia:

- ⊙ The proposal to re-admit Russia is expected to receive **strong reactions from other G7 member countries.**
 - ✳ Russia is seen as an ally of China.
- ⊙ The G7 was known as the **'G8' for several years** after the original seven were **joined by Russia in 1997.**
 - ✳ The Group returned to being called G7 after Russia was expelled as a member in 2014 following the latter's annexation of the Crimea region of Ukraine.
- 🕒 **India at the G7 Summit:**
 - ⊙ India had attended the **G7 summit of 2019 at Biarritz in France** as a **special guest of French President.**
 - ⊙ India has attended the **G8 five times** as special guests by various hosts of the G8 Summit in the past.
- 🕒 **Attempt to Unite Allies Against China:**
 - ⊙ **China is not a member of G7** despite being the world's biggest population and second-biggest economy. But, China has relatively low levels of wealth per head of population. Thus it is not considered as an advanced economy like other G7 members.
 - ⊙ The expansion of G7 has been believed to be a plan to **unite all traditional allies to deal with assertive diplomacy of China.**
 - ⊙ The proposal comes amid ongoing issues between the US and China which includes **Hong Kong's autonomy to Taiwan, the origins of Covid-19, South China Sea tensions and trade issues.**

G7 Vs G20

- 🕒 **Members:** The **G20** is a **larger group** of countries, which also **includes G7 members.**
 - ⊙ Apart from the G7 countries, the G20 comprises Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea, and Turkey.
- 🕒 **Share in Global Economy:** The G20 countries make up around **80% of the world's economy.** G7's share in global GDP has **fallen to around 40%.**
- 🕒 **Range of Issues:** As opposed to the G7, the G20 discusses a broad range of issues including those concerning the global economy and financial markets.

Way Forward

- 🕒 The rise of India, China, and Brazil over the past few decades has reduced the G7's relevance. Thus, inclusion

of emerging economies like India, South Korea, etc. may extend the support to establish equal levels for each country at global level.

- 🕒 The proposed expansion may also help G7 to be a more representative institution than current G7 and subsequently to establish an equal platform at global level.

China's Opposition to THAAD

Why in News

Recently, China has issued a statement reiterating its long-standing objections to the presence of the **USA's THAAD missile defence system in South Korea.** This comes after the reports of an overnight operation to bring in new, replacement interceptor missiles to the USA base in South Korea.

Key Points

- 🕒 **THAAD:**
 - ⊙ It is an acronym for **Terminal High Altitude Area Defense**, a **transportable, ground-based anti-ballistic missile** defence system.
 - ⊙ First proposed in **1987** and then finally deployed in **2008**, the THAAD cannot be used as a form of attack against an enemy.
 - ⊙ It is designed to **intercept and destroy** short and medium-range ballistic missiles in their final flight phase.
 - ⊙ THAAD is coupled with **space-based and ground-based surveillance stations**, which transfer data about the incoming missile and inform the THAAD interceptor missile of the threat type classification.
 - ⊙ This system has been designed and manufactured by the **USA company Lockheed Martin.**
 - ⊙ It has been previously deployed in the United Arab Emirates (UAE), Guam, Israel, Romania as well.
- 🕒 **Background:**
 - ⊙ THAAD was deployed in South Korea as a **countermeasure against potential attacks by North Korea**, particularly after the country had engaged in testing ballistic missiles.
 - ✳ In **2017**, when North Korea test-fired a few missiles in the direction of USA bases in Japan,

the USA moved the missile systems to its army base in **Osan, South Korea**.

- ⊙ Ever since China has objected these moves causing deterioration of their relationship.
- ⊙ For South Korea, North Korea poses a nuclear threat and the THAAD missile defence system is a necessity to counter that.
- ⊙ The USA and South Korea have consistently maintained that these missiles are only to counter potential threats by North Korea.

🕒 **China's Concerns:**

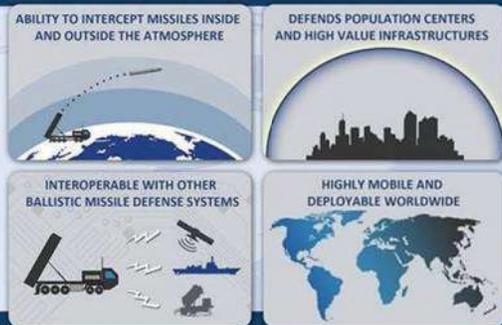
- ⊙ China is less concerned about the missiles itself and more about the **system's inbuilt advanced radar systems** that can track China's actions.
- ⊙ The **USA's presence and influence in East Asia**, through its military bases in Japan and South Korea, **hamper the geopolitics and complex conflicts** of the region.
- ⊙ It also **interferes with Beijing's** long-term military, diplomatic and economic **interests** in the region.

🕒 **Repercussions on South Korea:**

- ⊙ **Economic:** Operations of South Korean businesses, including large conglomerates like LG, Lotte and Samsung, were hampered. These included shutting down of institutions and enterprises that had little to do with the defence and military, like golf courses and shopping malls.
- ⊙ **Tourism:** Tourism from China to South Korea fell drastically. The tourism industry contributes significantly to South Korea's economy.
- ⊙ **Entertainment:** South Korea's entertainment industry witnessed concerts, shows and other commercial ventures in China being forced to cancel.
- ⊙ **Cosmetics and Personal Care:** The sales of South Korean cosmetics and beauty products were being impacted. They are extremely popular in China but due to calls on social media to boycott South Korean products, their sales went down.
- ⊙ **Demographic:** Protests sparked off in South Korea against the deployment which has caused major worries regarding peace and security in the region.

TAKING THE HIGH GROUND

The THAAD system provides the critical capability to defend against short and medium ranged ballistic missiles.



INTERCEPTING A MISSILE

The system has a track record of 100% mission success in flight testing since 2005.



Boosting Infrastructure Along China Border

Why in News

Recently, the Ministry of Home Affairs (MHA) has announced to spend 10% funds of the **Border Area Development Programme (BADP)** only to improve the infrastructure along the China border.

Key Points

🕒 **Enhancing Infrastructure:**

- ⊙ **The Border Area Development Programme (BADP)** has been allocated Rs 784 crore for projects in areas of States/UTs inhabited along the **Indo-China border** viz. **Arunachal Pradesh, Himachal Pradesh, Ladakh, Sikkim and Uttarakhand**.
- ⊙ The fund is distributed to the border States and UTs depending on **various criteria** such as the **length of the international border and population**.
- ⊙ Under this, the projects for developing **strategically important villages and towns** in border areas will be given priority.
- ⊙ Construction of roads, bridges, primary schools, health infrastructure, playfields, irrigation works, etc. will be undertaken within 10 km of the border.

🕒 **Role of Various Security Forces:**

- ⦿ Security Forces such as the **Border Security Force (BSF)**, deployed along the Bangladesh and Pakistan borders, the **Indo-Tibetan Border Police (ITBP)** on the China border, the **Sashastra Seema Bal along the Nepal border**, and the **Assam Rifles** stationed along the Myanmar border would provide independent feedback on the projects in the blocks concerned and may be tasked to conduct social audit of the works, it stated.
- ⦿ These forces will play a crucial role in **identification of the villages** and **implementation** of the related work.

🕒 **Significance:**

- ⦿ **Bridging Socio-economic gaps:**
 - ⌘ It is an important intervention of the Government to bring about development of border areas by supplementing the State Plan Funds to **bridge the gaps in socio- economic infrastructure** on one hand and **improving the security environment in border areas on the other.**
- ⦿ **Safe and Secure Borders:** It would create a **positive perception of care** and **encourage people to stay** on in the border areas **leading to safe and secure borders.**
 - ⌘ This would help **integrate these areas with the hinterland.**
- ⦿ **Better Management of the Border:** In the light of the recent incident of face-off between India and China the creation of infrastructure is a strategic move for the better management of the border areas.

Border Area Development Programme

- 🕒 The BADP was launched by the Ministry of Home Affairs in **1986-87** as part of a **comprehensive approach to Border Management.**
- 🕒 BADP was initiated in the border areas of the western region during **the Seventh Five Year Plan (1985-90)**, for ensuring balanced development of border areas through development of infrastructure and promotion of a sense of security among the border population.
- 🕒 The States covered are Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttar Pradesh, Uttarakhand and West Bengal.

- ⌘ It will provide **faster mobility to troops and equipment** to the border with China.
- ⌘ India is continuing the infrastructure for better connectivity to the **Line of Actual Control** with China. E.g. the construction of a strategic tunnel in Uttarakhand as a part of the **Char Dham Pariyojana.**

Darbuk-Shyok-Daulat Beg Oldie Road

Why in News

The **Darbuk-Shyok-Daulat Beg Oldie (DSDBO) road** has been in the making for around two decades and is expected to be completed by 2020.

Key Points

- 🕒 The **255-km road** from **Darbuk** traverses at an **altitude of 14,000 feet** and reaches **Shyok**, the **last Indian village in the region.**
- 🕒 This road **joins Leh to the Karakoram Pass**, which divides Ladakh from China's Xinjiang province.
- 🕒 Between Shyok and Karakoram Pass lies **Daulat Beg Oldie (DBO)**, a **plateau at an altitude of over 16,000 feet** and the **location of an Advanced Landing Ground (ALG)** used by the air force to drop supplies.
- ⦿ DBO is India's **northernmost corner**, which in army parlance is called **Sub-Sector North.**

🕒 **Background:**

- ⦿ The road's **construction** was started in **2000** and was to be completed by 2012 at a cost of Rs. 320 crore under the **monitoring of the Prime Minister's Office (PMO).**



- ⦿ However, the construction **could not be finished** as the road was **aligned with the Shyok riverbed** that led to it being **damaged every summer during flooding.**
- ⦿ Later, major portions of the road were realigned, keeping them away from the river.
- ⦿ In October **2019**, the **430 m Colonel Chewang Rinchen Setu** over Shyok river was inaugurated that joins Darbuk to DBO in Eastern Ladakh

Stachen Glacier area of Ladakh was declared open for tourists by the Government of India.

- ⌚ India has **decided to not stop road construction** on its side of the **Line of Actual Control (LAC)** despite the **border confrontations** and **objections by China** as it does not want India to utilise the DSDBO road to its full potential.
- ⌚ **Significance of the Road:**
 - ⦿ DBO is located only 9 km away from the LAC with China and the road will **help manage the border and the areas adjoining Aksai Chin**, Chip Chap River and Jiwan Nalla.
 - ⦿ It will also **ensure faster deployment of troops** in the area.
 - ⌘ Before the laying of the road, the only way to reach the area was via the ALG, where heavy-lift aircraft can land.
 - ⦿ From the DSDBO road, a **road branches off towards Galwan Valley** which had prompted the **stand-off in Galwan Valley**.
 - ⌘ Indian troops have been patrolling up to this area but they will have road access and can be present there.

Way Forward

- ⌚ In the **Wuhan** (2018) and **Mahabalipuram** (2019) summits, both India and China had reaffirmed that they would make efforts to ensure peace and tranquillity in the border areas.
- ⌚ On 1st April 2020, India and China completed their **70 years of diplomatic relations**. Both countries have **resolved border issues peacefully in the past** four decades which gives them hope that the tensions will subside soon.
- ⌚ India and China are amongst the largest economies, demography, markets and militaries of the world. Therefore, it is in the interests of both the countries to **align their energies for the growth and development of their people, region and global peace**.

e-Diplomacy

Why in News

Recently, the **first India-Australia Virtual Leaders' Summit** was held where important strategic decisions,

ranging from military interoperability to jointly tackling the **pandemic**, were made.

- ⌚ The summit was noteworthy for its novel modus operandi after the dangers posed by **Covid-19** have compelled the traditional summit diplomacy to adapt to new digital ways.

Key Points

- ⌚ **e-Diplomacy (electronic diplomacy)** is the use of technology by nations to define and establish diplomatic goals and objectives and to efficiently carry out the functions of diplomats.
 - ⦿ These functions include representation and promotion of the home nation, establishing both bilateral and multilateral relations, consular services and social engagement.
- ⌚ The pandemic has forced mankind to maintain physical and social distancing, leading to a shift towards work from home mode and using online platforms for education (**online classes**), business (**e-Commerce**) and other daily things.
 - ⦿ Just as corporations and educational institutions have migrated to online mediums, nation-states are left with no choice but to do the same by conducting virtual or e-summits.
- ⌚ **Advantages:**
 - ⦿ These are physically safer for leaders because there is no need for any physical contact with anyone.
 - ⦿ The process is time-saving as the leaders can attend the summits and conferences from their offices without having the need to physically reach the venue or other country.
 - ⦿ These economise events by avoiding costly physical journeys and event management.
- ⌚ **Challenges:**
 - ⦿ It is doubtful that major breakthroughs or deals requiring the direct intervention of leaders can happen without all the protocols and structured dialogues in person.
 - ⦿ There is a possibility of e-diplomacy becoming less productive as online summits will simply not satisfy the broader political goals and bigger objectives that heads of state carry with them.
 - ⦿ Threats related to **cybersecurity** also come in the picture:
 - ⌘ E-diplomacy is riskier and could be subject to hacking of classified content.

- ⌘ This could reduce the spontaneity and openness of the conversations.
- ⌘ In pre-Covid-19 times, summit venues were debugged to prevent sensitive foreign policy content from being spied upon or leaked.
- ⌚ Apart from the virtual summit with Australia, India has had a few multilateral e-diplomacy rounds since the Covid-19 outbreak. For example,
 - ⊙ SAARC Leaders' video conference.
 - ⊙ Extraordinary G20 Leaders' Summit.
 - ⊙ Non-Aligned Movement Virtual Summit.

Way Forward

- ⌚ The British scholar Ernest Satow dubbed “**summits a permanent feature of diplomatic topography**”. It has been a maxim in diplomacy that face-to-face interactions at the highest level mark the zenith of foreign relations.
 - ⊙ In-person summits will restart one-day but the online interlude has to go on because diplomacy has to go on.
 - ⊙ However artificial and unsatisfying the video conferencing medium is, having some summit is better than no summit at all. Key partners have to get on with it and hold high-level meetings as part of their strategic signalling.

Violation of Armistice Agreement: UNC

Why in News

Recently, the **United Nations Command (UNC)** has found both North and South Korea guilty of violating the **Korean Armistice Agreement 1953** due to gunfire along the **Korean Demilitarised Zone (DMZ)** between the two countries.

United Nations Command

- ⌚ The **USA led UNC** is a **unified command** for the multinational military forces.
- ⌚ It **oversees affairs in the heavily fortified DMZ** and ensures the terms of the armistice are being agreed upon by both North Korea and South Korea.
- ⌚ It was established on **24th July 1950 in Tokyo, Japan.**



Key Points

- ⌚ The UNC led a **multinational special investigation** regarding the recent shootings at DMZ whose findings have **not been accepted by South Korea** owing to **non-cooperation by North Korea** in the investigations.
 - ⊙ Investigations had been **unable to determine** whether the shootings that originated from North Korea had been intentional.
- ⌚ The shooting also violates the **Pyongyang Joint Declaration of September 2018**, an **inter-Korean military agreement**, which calls for reduced military tensions between the two countries.

Korean Armistice Agreement 1953

- ⌚ The armistice agreement **halted the Korean War of 1950-53** and established the **Korean Demilitarized Zone (DMZ)**, the **current border** between the two nations.
 - ⊙ India has played a major role in the cease-fire agreement, strengthening **India-South Korea relations.**
 - ⊙ The DMZ runs close to the **38th parallel line.**
- ⌚ The armistice was signed on **27th July 1953** and was designed to ensure a complete cessation of hostilities

and of all acts of armed force in Korea until a final peaceful settlement is achieved.

- ⌚ It was signed by representatives of the UNC, Korean People's Army (KPA) and the Chinese People's Volunteer Army (PVA).
 - ⦿ **South Korea did not sign** the armistice as it refused to accept it.
- ⌚ It was only a ceasefire and there was no official declaration of the end of the war so in the absence of an official peace treaty, as is the norm, **the two countries officially remain at war**.
 - ⦿ However, in **December 1991**, North and South Korea **signed a pact** agreeing to refrain from aggression.

India-Australia Virtual Summit

Why in News

Recently, Prime Ministers of **India and Australia** held their **first virtual bilateral summit** and both **concluded nine agreements** including the **Comprehensive Strategic Partnership (CSP)** and the **Mutual Logistics Support Agreement (MLSA)**.

- ⌚ The two leaders are expected to meet in person at the extended **G-7 summit** which will be held in the USA later in 2020.

Key Points

- ⌚ **Agreements:**
 - ⦿ **Comprehensive Strategic Partnership:** Upgradation of the existing **2+2 dialogue** to the Ministerial level, elevating the **2009 bilateral Strategic Partnership** to a **CSP**.
 - ⌘ India already has a **2+2 ministerial-level dialogues** mechanism with the USA and Japan, the other members of the **Quadrilateral grouping (QUAD)**.
 - ⌘ **India has signed CSPs** with the United Kingdom, Indonesia, Vietnam and the United Arab Emirates (UAE) thus far, while **Australia has CSPs** with China, Indonesia and Singapore.
 - ⦿ **Mutual Logistics Support Agreement:** Both sides agreed to continue to deepen and broaden **defence cooperation** by enhancing the scope and complexity of their military exercises and engagement activities to develop new ways to address shared security challenges.

- ⌘ It will **increase military interoperability** through defence exercises and allow both militaries the reciprocal use of bases, humanitarian and disaster relief cooperation, port exercises and passage exercises.

- ⌘ **India has such agreements** with the USA (**Logistics Exchange Memorandum of Agreement-LEMOA**), France, Singapore and South Korea.

- ⦿ **Joint declaration on 'Shared Vision for Maritime Cooperation in the Indo-Pacific':** The two sides announced a roadmap to harness opportunities and meet challenges together as **comprehensive strategic partners**.

- ⦿ **Comprehensive Economic Cooperation Agreement (CECA):** The two sides decided to recommence suspended talks over the **India-Australia CECA** which has been suspended since 2015.

- ⌘ This move comes in the wake of **India opting out** of the **ASEAN-led Regional Comprehensive Economic Partnership (RCEP)**.

- ⦿ **Australia-India Strategic Research Fund** to promote innovative solutions for responding to and treating **Covid-19** as well as other jointly determined priorities, to be preceded by a one-off **Special Covid Collaboration Round in 2020**.

- ⦿ Both sides have decided to reflect on the recommendations of the ongoing evaluation of the international response over the **World Health Organisation's (WHO)** role in dealing with the **Covid-19 pandemic**.

- ⌘ Both countries will work together to **strengthen international institutions** to ensure they are **inclusive and rules-based**.

- ⦿ **Framework arrangement on Cyber and Cyber-enabled critical technology cooperation:** Work together in the digital economy, cybersecurity and critical and emerging technologies.

- ⦿ **Agreement on agriculture and related activities:** Agriculture was identified as an important pillar of both the economies with shared challenges and climatic conditions.

- ⦿ **Memorandum of Understanding (MoU) on mining and processing critical and strategic minerals:** Cooperate **on new technologies for exploration and extraction of minerals** including Australian rare earth metals used for electronics, governance, vocational training and water management.

🕒 **Untouched Issues:**

- ⦿ **Tensions between India and China** over the **standoff at the Line of Actual Control (LAC)** and Australia-China tensions over trade issues and differences over the handling of the pandemic.
- ⦿ There were no discussions on **including Australia in Malabar exercise**.
 - ⌘ India is prepared to expand the **Malabar exercise** to also include Australia.
 - ⌘ Despite regular requests from Australia, **India resisted** issuing the invitation due to its concerns that the move would give the **appearance of a 'quadrilateral military alliance' aimed at China**.
- ⦿ Both leaders had no discussions on the **RCEP**, even though earlier Australia had expressed hope that India would reconsider joining the trade agreement.

Way Forward

- 🕒 **Shared values, shared interests, shared geography and shared objectives** are the bedrock of deepening India-Australia ties and the cooperation and coordination between the two countries have picked up momentum in recent years.
- 🕒 Both India and Australia share a vision of a free, open, inclusive and rules-based Indo-Pacific region and cooperative use of the seas by adherence to international law including the **United Nations Convention on the Law of the Sea (UNCLOS)** and peaceful resolution of disputes rather than through unilateral or coercive actions.

Australia to be Included in Malabar Exercise

Why in News

India is prepared to expand the **Malabar exercise** to also include Australia.

Malabar Exercise

- 🕒 It is an **annual trilateral naval exercise** between the navies of **India, Japan, and the USA** which is held **alternately in the Indian and Pacific Oceans**.
- 🕒 It began as a bilateral **naval exercise** between **India and the USA in 1992** and was expanded into a trilateral format with the **inclusion of Japan in 2015**.
- 🕒 Other exercises between India and Australia are **Pitch Black and AUSINDEX**.

Key Points

- 🕒 Despite regular requests from Australia, **India resisted** issuing the invitation due to its concerns that the move would give the **appearance of a 'quadrilateral military alliance' aimed at China**.
- 🕒 However, the recent **India-China tensions** over the situation at the **Line of Actual Control (LAC)** may have brought more flexibility to the decision making process.
- 🕒 India is already a member of the **Quad** and attended the **Quadrilateral Security Dialogue** held in Nov 2019.
 - ⦿ Quad is the **informal strategic dialogue between India, the USA, Japan and Australia** with a shared objective to ensure and support a free, open and prosperous" Indo-Pacific region.

Way Forward

- 🕒 The two nations are at **very different levels of development** so there can be converging and diverging interests. Therefore, the future must be woven around the three pillars, which are **economic relationship, geostrategic congruence** and **people-to-people ties** and the glue that can bind this is a sustained momentum.
- 🕒 India and Australia are wary of **China's assault** on maritime security and freedom of navigation in the **Indo-Pacific region**. Inclusion of Australia in Malabar exercise along with strengthening the idea of 'Quad' can therefore promote rule-based, open, free and inclusive Indo-Pacific.

India's Campaign Brochure for UNSC Seat

Why in News

Recently, India has released a **campaign brochure** ahead of the vote for the **non-permanent member** of the **United Nations Security Council (UNSC)** in 2021-22.

- 🕒 This will be the **eighth time** India will occupy a non-permanent UNSC seat, with its last term in 2011-2012.
- 🕒 India also seeks for a **permanent membership in the UNSC**.
 - ⦿ India along with **other countries of G4 grouping (Japan, Brazil and Germany)** is asking for a spot for permanent membership in UNSC.
 - ⦿ **Five permanent members:** China, France, the Russian Federation, the UK and the USA.

Key Points

- ⌚ India is guaranteed a place as it is the **sole candidate for Asia-Pacific** but needs two-thirds of the 193-member General Assembly to vote in its favour in a secret ballot scheduled for 17th June, 2020 in New York (USA).
- ⌚ **Issues Highlighted:**
 - ⦿ International governance has been under increasing strain due to traditional and non-traditional security challenges. **Terrorism** is one of the most cited examples.
 - ⦿ Unreformed and under-representative global institutions and the **Covid-19 pandemic** with its economic impact has increased challenges for the UNSC.
- ⌚ **India's Solutions:**
 - ⦿ Its objective will be the achievement of **N.O.R.M.S: a New Orientation for a Reformed Multilateral System**.
 - ⦿ India will highlight international terrorism, **United Nations** reforms and Security Council expansion, streamlining the peacekeeping operations and technology initiatives during its upcoming tenure.
- ⌚ **Background:**
 - ⦿ Since 2013, India has been planning for a seat in **2021** as the year will mark its **75th year of Independence**.
 - ⦿ Identifying an uncontested spot is not an easy task.
 - ⦿ However, the **Islamic Republic of Afghanistan** agreed to set aside for the 2021-22 seat, in a **friendly gesture**.
 - ⦿ India also **persuaded** the **Asia-Pacific grouping nomination** by diplomacy and negotiations to avoid any last-minute contenders against India.
 - ⌘ India was able to win a **unanimous endorsement from the 55-nation grouping that included both China and Pakistan**, in June 2019.
 - ⦿ However, **winning the maximum votes** at the General Assembly this time will be a little **hard for India due to:**
 - ⌘ Rising **tensions** in relations with both **Pakistan and China**.
 - ⌘ Criticism from Turkey, Malaysia and the **Organisation of Islamic Cooperation** (OIC) over the government's decision on **scrapping Article 370** as well as the **Citizenship Amendment Act (CAA) 2019**.

Selection of Non-permanent Members of Security Council

- ⌚ Each year, the General Assembly **elects five non-permanent members** (out of ten in total) for a **two-year term**. The ten non-permanent seats are distributed on a regional basis:
 - ⦿ Five for African and Asian countries.
 - ⦿ One for Eastern European countries.
 - ⦿ Two for Latin American and Caribbean countries.
 - ⦿ Two for Western European and other countries.
- ⌚ **Article 23 of the UN Charter** concerns the composition of the Security Council.
- ⌚ **Other Contenders for Other Seats:**
 - ⦿ **Mexico** is expected to be elected unopposed for the **Latin American group**.
 - ⦿ **Canada, Ireland and Norway** will contend for two seats of the **West European and Others Group** (WEOG).
 - ⦿ **Kenya and Djibouti** will contend for an **African seat**.

Way Forward

- ⌚ India for long has been of the view that the UNSC sought to be reformed by expansion in its permanent membership and non-permanent membership as well.
- ⌚ India has been acknowledged as a rising power by most of the states. Also, there is a pressing need to democratize multilateral fora, starting from the United Nation system itself. In this context, India is making a legitimate claim for its rightful place in the changing architecture of global governance, including the UNSC.

MoU between India and Bhutan

Why in News

- The Union Cabinet has given its approval for signing of a Memorandum of Understanding (MoU) with **Bhutan** for **cooperation in the field of environment protection and management of natural resources**.
- ⌚ The MoU will enable **establishment and promotion** of closer and long-term cooperation in **environment protection and management of natural resources** on the basis of **equity, reciprocity and mutual benefits**, taking into account the laws and legal provisions in each country.

Key Points

⌚ Background:

- ⊙ A Memorandum of Understanding (MoU) was signed between the **Central Pollution Control Board (CPCB)** of India and the **National Environment Commission (NEC)** of the Government of Bhutan in 2013.



- ⊙ This MoU expired in 2016.
- ⊙ Noting the benefits of the earlier MoU, both sides have decided to continue cooperation and collaboration in the field of environment to strengthen the **Indo-Bhutan relationship**.

⌚ Details of the New MoU:

- ⊙ **Time Period:** The MoU shall enter into force on the date of signature and shall continue to remain in force for a period of ten years.
- ⊙ **Areas of Cooperation:** Air, Waste, Chemical Management, Climate Change and Any other areas jointly decided upon.
- ⊙ **Exchange of Best Practices:**
 - ⌘ The MoU shall facilitate **exchange of experiences, best practices and technical knowledge** through both **public and private sectors** and **research institutions** for sustainable development.
- ⊙ **Joint Working Group:**
 - ⌘ It provides for joint projects in areas of mutual interest.
 - ⌘ It provides for **holding of Joint Working Group/ bilateral meetings** to review and **analyze the progress of activities** and keeping their respective ministries/agencies, duly informed of progress and achievements.

Indo-Bhutan Relationship

⌚ Indo-Bhutan Treaty of Peace and Friendship, 1949

- ⊙ The Treaty provides for, among other things, perpetual peace and friendship, free trade and commerce and equal justice to each other's citizens.
- ⊙ In 2007 the treaty was re-negotiated, and provisions were included to encourage Bhutan's sovereignty, abolishing the need to take India's guidance on foreign policy.

⌚ Multilateral Partnership:

- ⊙ Both of them share multilateral forums such as **South Asian Association for Regional Cooperation (SAARC)**, **BBIN (Bangladesh, Bhutan, India, and Nepal)**, **BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation)** etc.

⌚ Hydropower Cooperation:

- ⊙ This hydropower cooperation comes **under the 2006 Agreement on Cooperation in Hydropower**. Under a protocol to this agreement, India has agreed to assist Bhutan in the development of a minimum of 10,000 MW of hydropower and import of surplus electricity from the same by 2020.

⌚ Trade:

- ⊙ The trade between the two countries is governed by the **India Bhutan Trade and Transit Agreement 1972** which was last renewed in November 2016.
- ⊙ The agreement **establishes a free-trade regime between the two countries** and also provides for duty-free transit of Bhutanese exports to third countries.

⌚ Economic Assistance:

- ⊙ India is Bhutan's leading development partner. Since the launch of the First Five Year Plan of Bhutan in 1961, India has been extending financial support to Bhutan's FYPs. India has allotted Rs 4500 crore to Bhutan's 12th FYP (2018-23).

⌚ Educational and Cultural Cooperation:

- ⊙ A large number of college going Bhutanese students study in India. The Government of India provides a number of scholarships to Bhutanese students.

International Religious Freedom Report 2019

Why in News

Recently, the **US State Department** has released its annual **International Religious Freedom (IRF) Report 2019**, which is a survey of the state of **religious freedom** across the world.

- ⌚ It published a report i.e. **the country report for India** to highlight the issue of religious freedom in the country.
- ⌚ Earlier, **the US Commission on International Religious Freedom (USCIRF report)** downgraded India's religious freedom to the lowest grade — in the 'Country of Particular Concern (CPC)' category.

Key Points

- ⌚ The IRF report listed countries for **positive developments in religious freedom** and **negative examples**.
 - ⦿ **Nicaragua, Nigeria and China** were cited as negative examples.
 - ⦿ It stated that in China, state-sponsored repression against all religions continues to intensify because of the Chinese Communist Party.
 - ⦿ **India is not cited in either list.**
- ⌚ **The Country Report for India:**
 - ⦿ It highlighted the developments that took place in 2019 i.e. **the status of Jammu and Kashmir, the Citizenship (Amendment) Act (CAA) and the National Register of Citizens (NRC)**.
 - ⦿ It discussed in detail about **mob lynchings, anti-conversion laws, cow vigilantism** and related issues.
 - ⦿ Taking note of the alleged attacks and discrimination **against religious and ethnic minorities in India, the report emphasised the need to ensure full protection to minorities in the country as guaranteed under the Constitution.**
 - ⦿ It also outlines the U.S. engagement with India on these issues.
- ⌚ **India's Stand:**
 - ⦿ The Indian government **has rejected the report by asserting** that there is no locus standi for a foreign government to comment on the state of its citizens' constitutionally protected rights.
 - ⦿ It also emphasised that the report **did not talk about the religious freedom given to various communities in India.**

Freedom of Religion in India

- ⌚ Freedom of religion in India is a **fundamental right** guaranteed by **Article 25-28 of the Constitution of India**.
 - ⦿ **Article 25** (Freedom of conscience and free profession, practice and propagation of religion)
 - ⦿ **Article 26** (Freedom to manage religious affairs)
 - ⦿ **Article 27** (Freedom as to payment of taxes for promotion of any particular religion)
 - ⦿ **Article 28** (Freedom as to attendance at religious instruction or religious worship in certain educational institutions)
- ⌚ Further **Article 29 and 30** of the Constitution deal with the protection of interest of minorities.

⌚ Religious Freedom in the US:

- ⦿ The US government has signed an executive order which included a move to formally prioritise religious freedom in the U.S. foreign policy.
- ⦿ The order also directed the **United States Agency for International Development (USAID)** to allocate \$50 million in its yearly budget towards programmes that sought to promote religious freedom.
- ⦿ Recently, the US faced domestic protests in response to the death of George Floyd, an unarmed black man at the hands of a white police officer.

Indian Naval LOs at Madagascar and Abu Dhabi

Why in News

India is planning to post **Naval Liaison Officers (LOs)** at the **Regional Maritime Information Fusion Centre (RMIFC)** in **Madagascar** and the **European Maritime Awareness in the Strait of Hormuz (EMASOH)** in **Abu Dhabi** for improved **Maritime Domain Awareness (MDA)**.

- ⌚ This move comes after **India joined the Indian Ocean Commission (IOC)** as Observer in **March 2020** along with **Japan and the United Nations**.

Key Points

- ⌚ The move **aims to improve linkages** of the Navy's **Information Fusion Centre for Indian Ocean Region (IFC-IOR)** in **Gurugram** with other IFCs and become the **repository for all maritime data** in the IOR.
- ⌚ **India is working closely with France**, who is a pre-eminent member of IOC, to post a Naval LO at the RMIFC in Madagascar.
 - ⦿ The **RMFIC functions under the aegis of the IOC** and is designed to deepen maritime domain awareness by monitoring maritime activities and promoting information sharing and exchange.
- ⌚ The Navy LO is expected to be posted at **EMASOH by July** and at the **RMIFC by September or October 2020**.
 - ⦿ India has a LO at the IFC in Singapore for over four years now.
- ⌚ **Indian Ocean Commission**
 - ⦿ It is an **intergovernmental body and regional forum** created in **1984** to protect the interests of the **western Indian Ocean islands**.

- ⊙ It consists of **Madagascar, Comoros, La Réunion** (French overseas territory), **Mauritius** and **Seychelles**.
- ⊙ IOChas **five observers** which are **China, European Union (EU), Malta** and **International Organisation of La Francophonie (OIF), India, Japan** and the **UN**.
 - ⊗ OIF is a 54 french speaking nations collective.
- 🕒 **European Maritime Awareness in the Strait of Hormuz**
 - ⊙ France started EMASOH with the aim to monitor maritime activity and guarantee freedom of navigation in the **Persian Gulf** and the **Strait of Hormuz**.
 - ⊙ It is **based at the French naval base in Abu Dhabi (UAE)**.
 - ⊙ It was declared operational by the French Ministry of Armed Forces in February 2020.
- 🕒 **India's Other Initiatives:**
 - ⊙ To strengthen the naval forces and surveillance, India has signed a series of **white shipping agreements, Logistics Support Agreements (LSA)** and **maritime cooperation agreements** with several countries, recently.
 - ⊗ For example, **India Australia Virtual Summit** announced a joint declaration on a shared vision for maritime cooperation in the **Indo-Pacific** in which they agreed to deepen navy-to-navy cooperation and strengthen MDA in the Indo-Pacific region through enhanced exchange of information.
 - ⊙ In **2015**, India unveiled it's strategic vision for the Indian Ocean i.e. **Security and Growth for All in the Region (SAGAR)**. It is an increasing recognition of the increasing importance of maritime security, maritime commons and cooperation.
 - ⊗ Through SAGAR, India seeks to **deepen economic and security cooperation with its maritime neighbours** and **assist in building their maritime security capabilities**.

Way Forward

- 🕒 India's engagement with the Western Indian Ocean will facilitate collective engagement with the islands there, which are becoming strategically significant.
- 🕒 Given China's growing presence in the region, India will be able to increase its naval presence and gain support for its maritime projects across the Indo-Pacific.

Information Fusion

Centre for Indian Ocean Region

- 🕒 The **Indian Navy** set up the IFC-IOR in **December 2018** within the premises of the **Information Management and Analysis Centre (IMAC)** in Gurugram to track maritime movements in the region.
 - ⊙ IMAC is located in **Gurugram** and is the main centre of the Indian Navy for **coastal surveillance and monitoring**.
 - ⊙ IMAC is a **joint initiative of Indian Navy, Coast Guard and Bharat Electronics Ltd** and functions under the **National Security Adviser (NSA)**.
- 🕒 IFC is the **single point centre linking all the coastal radar chains** to generate a seamless real-time picture of the nearly 7,500 km coastline.
- 🕒 **France** became the **first country to deploy** a LO at the IFC-IOR **followed by the USA** and several other countries including Australia, Japan and the UK have announced their intention to post LOs.
- 🕒 It **coordinates with similar centres** across the globe which include:
 - ⊙ Virtual Regional Maritime Traffic Centre (VRMTC)
 - ⊙ Maritime Security Centre-**Horn of Africa (MSCHOA)**
 - ⊙ **Regional Cooperation Agreement on Combating Piracy and Armed Robbery (ReCAAP)**
 - ⊙ Information Fusion Centre-Singapore (IFC-SG)
 - ⊙ International Maritime Bureau-Piracy Reporting Centre (IMB-PRC)
- 🕒 India's consultative, democratic and equitable leadership can help achieve the security and sustainable growth to all in the region.

Persian Gulf Region

Why in News

- The persian gulf region has the presence of the **major producers of crude oil and natural gas**, and thereby contributing **critically to the global economy**.
- 🕒 Thus, **maintaining peace in the geopolitically significant region through cooperative security** by the regional members and major world economies is one of the best solutions to stabilize the region politically and economically.

Persian Gulf Region

- ⌚ The lands around the Persian Gulf are shared by **eight** countries namely, **Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.**
- ⌚ These all **eight** countries are **members of the United Nations.**
 - ⊙ United Arab Emirates (UAE), Bahrain, Saudi Arabia, Oman, Qatar, Kuwait are members of the Gulf Cooperation Council (GCC).
 - ⊙ Out of Persian Gulf countries, Iran, Iraq, Kuwait, United Arab Emirates (UAE) and Saudi Arabia are members of OPEC.
- ⌚ Being major producers of **crude oil and natural gas**, there is a **commonality of interest** among these countries.
 - ⊙ This commonality of interest has given rise to **their own prosperity** and subsequently, **economic-political entanglements among them.**



Background

- ⌚ **British Era:**
 - ⊙ For eight decades prior to 1970, the Persian Gulf was **guarded as a 'British lake'.**
 - ⊙ After the end of the British era, regional players entered with the **intra-regional rivalries and forced cooperation.**
- ⌚ **Aggravated Political Tensions in the Region:**
 - ⊙ Events like the **Muscat conference (1975), Iranian Revolution (1979) and the Iraq-Iran War (1980)** aggravated the political tensions in the region. Subsequently, it **enhanced USA's interests and roles in the region.**
 - ⌘ The Muscat Conference (1975) was intended to develop the unified army cooperation to enhance the security among Gulf states to guarantee free navigation in the Persian Gulf.

- ⊙ Later, the **United Nations Security Council Resolution 598 (1987)** was adopted to ensure a ceasefire between Iran and Iraq **specifically** and to explore measures to enhance the security and stability in the region **generally.**

Current Scenario

- ⌚ **Rising Conflicts in the Region:**
 - ⊙ Recently, the geopolitical factors and conflicts in the **West Asian region — Yemen, Syria, Libya —** aggravated global and regional relationships.
- ⌚ **Declining Role of USA:**
 - ⊙ The above mentioned conflicts have **hampered USA-Iran relations** that were to be premised on the multilateral agreement on **Iran's nuclear programme agreed to by western powers.**
 - ⊙ The **declining USA's commitment to sub-regional security** has raised more issues among the members of the **Gulf Cooperation Council (GCC)** due to political and ideological disagreement with Iran.
- ⌚ **Emerging Split Within GCC:**
 - ⊙ The recent **emergence of conflicting tactical and strategic interests** and subjective considerations has created a division among the members of the GCC.
 - ⊙ These divisions in the GCC are being aggravated due to following reasons:
 - ⌘ Global economic crisis
 - ⌘ Immediate and longer-term impact of Covid-19 on regional economies
 - ⌘ Problems in the Organization of the Petroleum Exporting Countries (OPEC)
 - ⌘ Decline in oil prices
- Possible Stability Framework for the Region**
- ⌚ **Regional as well as Global Security:**
 - ⊙ Any possible framework for stability and security in the region needs to ensure the **security not only on the regional terms but also on global terms.**
 - ⊙ Because the Gulf regional security is not an issue among the Gulf States themselves but it is also an external issue.
- ⌚ **Other Aspects:**
 - ⊙ Additionally, the framework will also need to ensure the following conditions which include:
 - ⌘ **Peace and stability** in individual littoral states.

- ⌘ Freedom to all states of the Gulf littoral to exploit their **hydrocarbon and other natural resources**.
- ⌘ **Freedom of commercial shipping** in international waters of the Persian Gulf.
- ⌘ Freedom of **access to, and outlet from, Gulf waters** through the **Strait of Hormuz**.
- ⌘ The **prevention of conflict** that may impinge on the freedom of trade and shipping.

India's Relation with Persian Gulf Region

🕒 **India and GCC:**

- ⊙ The economic and political relationship of India with the GCC has blossomed in recent years. The governments of the GCC members are **India-friendly and Indian-friendly**.
- ⊙ The friendly relation has been reflected in the **bilateral trade of around \$121 billion** and **remittances of \$49 billion** from a workforce of over nine million.
- ⊙ GCC suppliers account for around **34% of India's crude imports**.

🕒 **India and Iran:**

- ⊙ India has always shared a friendly relationship with Iran. But the India-Iran relation faces one of the **most complex phases** at all times due to the **USA's pressure** which has **politico-economic impacts**.
- ⌘ In May 2018, the **USA abandoned the nuclear deal** and reinstated **economic sanctions against Iran**.

🕒 **India's Overall Role in the Region:**

- ⊙ India has **avoided involvement in local or regional disputes** in the region.
- ⊙ Indian interests do not entail power projection but necessitate peace and regional stability.

India- Laos Relations

Why in News

Recently, the Prime Minister of India had a telephonic conversation with the Prime Minister of Lao People's Democratic Republic (PDR).

Key Points

- 🕒 Both the leaders exchanged views on the health and economic challenges posed by the global **Covid-19 pandemic**.

- 🕒 They agreed on the need for international cooperation, and for sharing of best-practices and experiences, in order to prepare for the post-Covid world.



- 🕒 India's Prime Minister highlighted India's historic and cultural links with Laos and expressed satisfaction at being involved **in the restoration of the Vat Phou hindu temple complex (world heritage site)**.
- ⊙ He also reiterated India's commitment to continue its development partnership with Lao PDR, a valued partner in **India's extended neighbourhood**.
- 🕒 Lao Prime Minister thanked India's support for Lao's development programmes, in capacity building and for scholarships.

Relations Between the Countries

🕒 **Political Relations:**

- ⊙ Based upon historical and civilizational foundations, India and Laos enjoy long standing, friendly and mutually supportive relations.
- ⊙ Political relations between both the countries were established in February 1956.
- ⊙ Laos has been supportive on major issues of regional and international concerns to India, including India's claim for permanent membership of the **UN Security Council**.

🕒 **Defence Cooperation:**

- ⊙ Since 1994, under **Indian Technical and Economic Cooperation (ITEC)** Agreement, a two-member Indian Army Training Team has conducted training for Lao defence personnel in English, Computers and Basic Tactics.
- ⌘ The Indian team is the only foreign training team besides the Vietnamese and the Chinese.
- ⊙ Indian Army had also conducted three training capsules on Unexploded Ordnance (Bomb) (UXOs) and De-mining in Laos in 2011, 2012 and 2013.
- ⌘ De-mining is the process of removing land mines from an area.

🕒 **Economic Cooperation:**

- ⊙ Bilateral trade between both the nations in 2017-18

has reached to 193.63 US million dollars. Although the trade balance is heavily shifted in favour of Laos.

- ⊙ India has supported development of Laos by extending **Lines of Credit** for infrastructure projects in the fields of transmission line, hydropower project, conversion of diesel to electric driven pump sets, and irrigation projects.
- 🕒 **Cultural Relations:**
 - ⊙ The two countries share age-old civilisational ties best symbolised by:
 - ⌘ The relic of the Buddha encased in the That Luang Stupa, the national emblem of Lao PDR.
 - ⌘ The Vat Phou Temple Complex, an ancient Shiva temple, whose earliest structures date back to the 5th and 6th Century AD, and which is currently being renovated and restored by the **Archaeological Survey of India**.
- 🕒 **Human Resource Development:**
 - ⊙ The Government of India has been providing nearly 140 scholarships annually to Lao nationals under various schemes.
 - ⊙ The **Lao-India Entrepreneurship Development Centre (LIEDC)** set up in November, 2004, trains Lao entrepreneurs for setting up small and medium scale businesses.
 - ⊙ Agreement for setting up of **Centre of Excellence in Software Development and Training (CESDT)** in Vientiane under **ASEAN Framework** was signed in 2015.

Note:

Line of Credit is a 'soft loan' provided on concessional interest rates to developing countries, which has to be repaid by the borrowing governments. The projects under LOCs are spread over different sectors like agriculture, infrastructure, telecom, railway, transmission/power, renewable energy, etc.

India-Tanzania Relations

Why in News

Recently, Prime Minister of India thanked **Dr John Pombe Joseph Magufuli, President of the United Republic of Tanzania** for his assistance provided for the evacuation of Indian citizens from Tanzania in the wake of **Covid-19**.

- 🕒 Both leaders **reviewed the overall bilateral relationship** and expressed satisfaction at the growing development

partnership, educational linkages, trade and investment flows and **discussed possibilities of further accelerating** these trends.

Tanzania

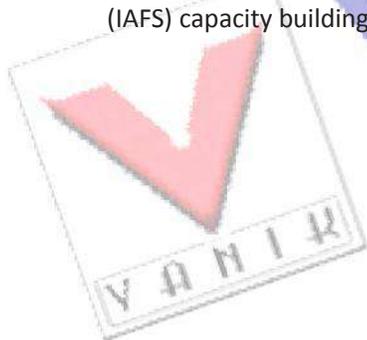
- 🕒 It was formed as a **sovereign state in 1964** through the **union of the separate states of Tanganyika and Zanzibar**.
- 🕒 **Dodoma** is the **official capital** and **Dar es Salaam** is the seat of most **government administrations** as well as is the **largest city and port in the country**.
- 🕒 It is located in **east Africa** just south of the Equator. It is bounded by Uganda, Lake Victoria and Kenya to the **north**, by the Indian Ocean to the **east**, by Mozambique, Lake Nyasa, Malawi and Zambia to the **south** and southwest and by Lake Tanganyika, Burundi and Rwanda to the **west**.
- 🕒 **Africa's highest mountain, Kilimanjaro** (5,895 metres) and the **world's second deepest lake, Lake Tanganyika** (1,436 metres deep) are located in Tanzania.



Key Points

- 🕒 Tanzania is **one of the fastest-growing African countries** of this decade and plays an important role in **India-Africa relations**.
- 🕒 Tanzania and India have enjoyed traditionally **close, friendly and cooperative relations**.
- 🕒 The **High Commission of India** in Dar es Salaam has been operating since **November 1961** and the **Consulate General of India** in Zanzibar was set up in **October 1974**.
- 🕒 In October 2019, as part of the **Indian Navy's Overseas Deployment**, four indigenously built ships of the Indian Navy visited the ports at **Dar es Salaam and Zanzibar** located in Tanzania.
- 🕒 **Bilateral Treaties & Agreements:**
 - ⊙ Agreement on the establishment of a Joint Trade Committee (2000).
 - ⊙ MOU for Co-operation in the field of Agriculture and Allied Sectors (2002).
 - ⊙ MoU on Exchange of Programme on Co-operation in the field of Education (2003).

- ⊙ MOU on Defence Cooperation (2003).
- ⊙ MOU for Cooperation in the field of Hydrography between Tanzania and India and Protocol on exchange of Hydrographic Data (2015).
- ⊙ MOU on Cooperation in the field of water resource management and development (2016).
- ⊙ Loan Agreement between Exim Bank and Government of Tanzania on line of credit for USD 500 million for water supply projects in 17 towns across Tanzania (May 2018).
- 🕒 **Commercial and Economic Relations:**
 - ⊙ India is the **largest trading partner of Tanzania** comprising **16%** of Tanzania's foreign trade.
 - ⊙ India is also **among the top five investment sources** in Tanzania.
 - ⊙ **India's major exports to Tanzania:** Petroleum products, pharmaceuticals and chemicals, motor vehicles, electrical goods, articles of iron and steel, sugar, machinery, etc.
 - ⊙ **Tanzania's major exports to India:** Gold ore, cashew nuts, pulses, timber, spices (mainly cloves), ores and metal scrap, gemstones, etc.
- 🕒 **Development Partnership:**
 - ⊙ Tanzania is a **major beneficiary of training courses** allocated under India's **Indian Technical and Economic Cooperation Programme/Special Commonwealth African Assistance Programme (ITEC/SCAAP)** and under **India Africa Forum Summit (IAFS)** capacity building cooperation.
- ⊙ India has executed a number of projects under **government grants and soft loans** in Tanzania.
- ⊙ India provided **essential medicines and vaccines** as grant support to Tanzania in September 2018 and set up a **radiation therapy machine 'Bhabhatron-II'** for cancer patients.
- ⊙ India has also extended a **Credit Line to Tanzania for various water supply projects** in Dar-es-Salaam, coastal Chalinze region, Tabora, Igunga, Nzega, etc.
- 🕒 **Culture:**
 - ⊙ The **Indian Cultural Centre (ICC)**, Dar es Salaam under the **Indian Council for Cultural Relations (ICCR)**, coordinates cultural outreach since its establishment in December 2010.
 - ⊙ The 5th **International Day of Yoga (21st June)** was celebrated in Tanzania in 2019.
- 🕒 **Indian Community:**
 - ⊙ Tanzania is home to **more than 50,000 people of Indian origin**.
 - ⊙ The Indian origin community is **active in the field of trade, industry and services** in Tanzania.
 - ⊙ **Pravasi Bharatiya Samman Award** and '**Bharat Ko Janiye**' quiz generate interest in Tanzania.
 - ⊗ Government of India organises **Bharat Ko Janiye Quiz**, which is an online quiz for **Non-Resident Indians (NRIs)** and **Overseas Citizens of India (OCIs)** between the age of 18 and 35 years.



Science and Technology

Highlights

- ⌘ SpaceX Crew Dragon
- ⌘ DRDO's Ultra Swachh
- ⌘ A3i: Unique Trait in Covid-19 in India
- ⌘ microRNA
- ⌘ Genetically Modified Seeds
- ⌘ Nature Index 2020: Index of Scientific Research
- ⌘ 163348 (2002 NN4): A Near-Earth Asteroid
- ⌘ New Drug for Amoebiasis
- ⌘ Global Vaccine Summit
- ⌘ LiDAR Based Research in Tamar Valley
- ⌘ RT-nPCR Test

SpaceX Crew Dragon

Why in News

Recently, a spacecraft, **Crew Dragon**, built by **SpaceX** has successfully carried astronauts of **National Aeronautics and Space Administration (NASA)** at the **International Space Station**.

- 🕒 **SpaceX** became the **first private company** to launch people (**human spaceflight**) into orbit, a feat achieved by the US, Russia & China.

Key Points

- 🕒 **Crew Dragon:**
 - ⌘ It is a part of the **Dragon 2**, a class of **reusable spacecraft** developed and manufactured by American aerospace manufacturer SpaceX.
 - ⌘ It is the **fifth class** of US spacecraft to take human beings into orbit, after the **Mercury, Gemini, Apollo and Space Shuttle programs**.
 - ⌘ The rocket, named **Falcon 9**, which carried the spaceship into the orbit, was also built by SpaceX.
 - ⌘ It is done under the **Demo-2 Mission** of NASA and SpaceX.
- 🕒 **Significance of Private Participation:**
 - ⌘ The landing by SpaceX flight is a culmination of more than decade-long efforts to enable private players to build and operate what essentially is a commercial taxi-service to space, and allow **NASA to concentrate on deep space exploration**, and work more vigorously towards taking **humans to the moon, and Mars**.

- ⌘ The United States now plans to return to the Moon in 2024 under the **Artemis mission**, establishing a launching pad to Mars by 2030.

🕒 India and Private Space Companies:

- ⌘ While there are many private companies operating in the space sector in the United States, their contribution is not much significant in India.
- ⌘ Most of them collaborate with the **Indian Space Research Organisation (ISRO)**, in building and fabricating the components that go into making rockets and satellites.
- ⌘ However, launch services, **including the building of rockets or launch vehicles** are still a monopoly of government space agency, i.e. ISRO.

Importance of Private Participation in India

- 🕒 **Space tourism** is one among several opportunities that Indian businesses may be keen to explore. A policy framework to enable private participation in this sector, of course, would have to be formulated by the government.
- 🕒 **Small satellite revolution** is underway, globally, 17,000 small satellites are expected to be launched between 2020 and 2030. A strong private sector in space will help India to tap into this lucrative commercial space launch market.
- 🕒 **Increasing space competitiveness:**
 - ⌘ **Singapore** is offering itself as a hub for space entrepreneurship based on its legal environment, availability of skilled manpower and equatorial location.

- ⊙ **New Zealand** is positioning itself as a location for private rocket launches.
- ⊙ **China, too**, has changed its rules to allow private commercial space activity.
- ⊙ **ISRO** has been a genuine global pioneer of aerospace cost compression on several fronts. Cost-effectiveness has given the agency a distinct edge in the commercial arena of satellite launch services.
- ⌘ With such a valuable base of expertise within the country, it is only natural to expect the emergence of a private space industry that could prove globally competitive.

DRDO's Ultra Swachh

Why in News

The **Defence Research and Development Organisation (DRDO)** has developed a **disinfection unit named Ultra Swachh** to disinfect a wide range of materials, including Personal Protective Equipment (PPEs), electronics items, fabrics, etc.

Key Points

- ⌚ The system uses an advanced oxidative process (ozonation).
- ⊙ **Ozonation** is a type of advanced oxidation process, involving the production of very reactive oxygen species able to attack a wide range of organic compounds and all microorganisms.
- ⊙ Ozone is more effective than chlorine in destroying viruses and bacteria.

Defence Research and Development Organisation

- ⌚ DRDO was established in 1958 after combining the Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).
- ⌚ It works under the administrative control of the **Ministry of Defence**, Government of India.
- ⌚ It is working to establish a world class science and technology base for India and provides our Defence Services decisive edge by equipping them with internationally competitive systems and solutions.

- ⌚ The system is double layered with specialised Ozone sealant technology ensuring trapping of ozone for the necessary disinfection cycle.
- ⌚ It also has a catalytic converter to ensure environment friendly exhaust i.e only oxygen and water.
- ⊙ A **catalytic converter** is a device used in exhaust systems to reduce emissions.
- ⌚ The Ultra Swachh comes in two variants namely Ozonated Space and Trinetra Technology. Trinetra technology is the combination of Ozonated space and radical dispenser.

A3i: Unique Trait in Covid-19 in India

Why in News

Recently, scientists from the **Centre for Cellular and Molecular Biology and the Institute of Genomics and Integrative Biology** of the **Council of Scientific and Industrial Research (CSIR)** laboratories have identified a **coronavirus** type (**A3i**) that may be the second most prevalent in India and may comprise 3.5% of the genomes globally.

Key Points

- ⌚ The scientists analysed **213 genomes and found that 62%** of them were A2a, making it the most dominant coronavirus clade in India.
- ⊙ **Clade**: The coronavirus type or clade, is a cluster of SARS-CoV-2 viruses that share evolutionary similarities and are grouped together based on characteristic mutations or similarities in parts of their genomes. In layman terms, a clade can be understood as a strain of the virus.
- ⌚ The newly identified **A3i or Clade I/A3i comprised 41%**, making it the **second most common coronavirus** type in India.
 - ⊙ The A3i clade stood out from other clades due to differences at four different places in its sequence.
 - ⊙ According to scientific analysis, the A3i clade mutates slowly compared to the A2a which is often disadvantageous for the virus.
 - ⊙ So far, there is no evidence of whether A3i is more virulent (extremely severe or harmful in its effects) and linked to more deaths.

- ⊙ A3i is the predominant strain circulating in Tamil Nadu, Telangana, Maharashtra and Delhi.
- 🕒 **Significance of the Classification:** Such classifications are useful in establishing whether certain strains are particularly virulent, spread more easily, how they are likely to evolve over time and whether some could be less vulnerable to certain kinds of vaccines.
- 🕒 With the **new clade**, there are now **11 SARS-CoV-2 types identified globally** with at least six of them identified in India.
- 🕒 Previous studies have shown that **while type O was the first ancestral family** of the virus identified from China, it's the A2a type, which is the most dominant in the world because of a mutation in its genes that allow that coronavirus' spike to more efficiently infiltrate the lungs.
- 🕒 The **Indian Council of Medical Research (ICMR)** has so far maintained that there are three principal variants in India of the SARS-CoV-2 virus: those that came from Wuhan, the USA, and Europe via air travellers.

Council of Scientific and Industrial Research

- 🕒 It was established by the Government of India in September 1942 as an autonomous body.
- 🕒 It is known for its cutting edge research and development knowledge base in diverse science and technology areas.
- 🕒 It has been ranked first in the Nature Ranking Index-2020.
 - ⊙ The Nature Index provides close to a real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

Indian Council of Medical Research

- 🕒 It is the apex body in India for the formulation, coordination and promotion of biomedical research.
- 🕒 Its mandate is to conduct, coordinate and implement medical research for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.
- 🕒 It is funded by the Government of India through the Department of Health Research, Ministry of Health and Family Welfare.

microRNA

Why in News

Recently, researchers at the Indian Institute of Technology (IIT) Madras have identified a specific microRNA (miRNA) called 'miR-155' that is over-expressed in tongue cancer.

Key Points

🕒 **MicroRNAs:**

- ⊙ These are **short non-coding Ribonucleic Acids (RNAs)** containing 20–24 nucleotides that participate in virtually all biological pathways in animals.
- ⊙ They play important roles in many cancers, in carcinogenesis, malignant transformation and metastasis.

⌘ **Carcinogenesis:** It is the formation of cancer (uncontrolled development of cells), whereby normal cells are transformed into cancer cells. It is also called oncogenesis or tumorigenesis.

⌘ **Malignant transformation:** It is the process by which cells acquire the properties of cancer. This may occur as a primary process in normal tissue, or secondarily as malignant degeneration of a previously existing benign tumour.

⌘ **Metastasis:** The spread of cancer cells from the place where they first formed to another part of the body. In metastasis, cancer cells break away from the original (primary) tumour, travel through the blood or lymph system and form a new tumour in other organs or tissues of the body.

🕒 **Oncomirs:**

- ⊙ The miRNAs associated with cancer are called Oncomirs.
- ⊙ They affect cancer growth through inhibiting or enhancing the functions of certain proteins.
- ⊙ Oncomirs affect cancer by suppressing the performance of tumour-suppressing agents which can prevent the growth and spread of cancer cells and sometimes prevent tumour growth itself.

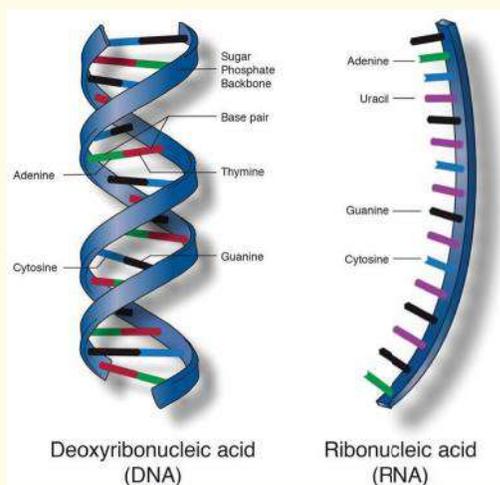
🕒 **Significance of the Research:**

- ⊙ The finding could help **develop molecular strategies** to manipulate miR-155 expression to develop therapeutics for tongue cancer.

- ⊙ **miRNA manipulation** is being combined with conventional cancer treatment methods such as chemotherapy, radiotherapy and immunotherapy.
- ⊙ Eliminating miR-155 causes death of cancer cells, arrests the cell cycle and regresses tumour size in animal models and reduces cell viability and colony formation in benchtop (suitable for convenient use on a laboratory workbench) assays.
- ⊗ An **assay is an investigative (analytic) procedure** in laboratory medicine, pharmacology, environmental biology and molecular biology for qualitatively assessing or quantitatively measuring the presence, amount, or functional activity of a target entity (the analyte).

Ribonucleic Acid

- ⊙ **RNA is a polymer of ribonucleotides** and an important biological macromolecule that is present in all **biological cells**.
- ⊙ It is **principally involved in the synthesis of proteins**, carrying the messenger instructions from Deoxyribonucleic acid (DNA), which itself contains the genetic instructions required for the development and maintenance of life.
- ⊙ **RNA differs from DNA** in three basic respects:
 - ⊙ **RNA employs uracil as a nitrogenous base**, in place of the **thymine** used in DNA.
 - ⊙ RNA nucleotides possess a **hydroxyl group** at the 2nd position, while DNA is **deoxygenated** at that position to a proton.
 - ⊙ **RNA is more often found single-stranded than DNA**, which is typically completely base-paired into a double helix.



Genetically Modified Seeds

Why in News

Recently, Shetkari Sanghatana, a Maharashtra based farmers' union body has announced agitation for use of unapproved genetically modified seeds of cotton, maize, rice, mustard, soybean and brinjal.

- ⊙ Shetkari Sanghatana is a big supporter of GM seeds. Its main aim is to provide farmers, freedom of access to markets and technology.
- ⊙ Last year its members had broken the law by planting Herbicide Tolerant Bt cotton seeds. This year too it's members are planning to repeat the same.

Key Points

- ⊙ **Genetically Modified Seeds:**
 - ⊙ Conventional plant breeding involves **crossing species of the same genus** to provide the offspring with the desired traits of both parents.
 - ⊗ Genus is a class of items such as a group of animals or plants with similar traits, qualities or features.
 - ⊙ **Genetic modification** aims to transcend the genus barrier by **introducing an alien gene** in the seeds to get the desired effects. The alien gene could be from a plant, an animal or even a soil bacterium.
 - ⊗ **Bt cotton** is the **only Genetically Modified (GM) crop** that is allowed in India. It has **alien genes from the soil bacterium Bacillus thuringiensis (Bt)** that allows the crop to develop a protein toxic to the common **pest pink bollworm**.
 - ⊗ **Herbicide Tolerant Bt (Ht Bt) cotton**, on the other hand is derived with the insertion of an additional gene, from another soil bacterium, which allows the plant to resist the common **herbicide glyphosate**.
 - ⊗ In **Bt brinjal**, a gene allows the plant to resist attacks of fruit and shoot borers.
 - ⊗ In **DMH-11 mustard**, genetic modification allows cross-pollination in a crop that self-pollinates in nature.
- ⊙ **Legal Position of GM Crops in India**
 - ⊙ In India, the **Genetic Engineering Appraisal Committee (GEAC)** is the apex body that allows for commercial release of GM crops.

- ⌚ In 2002, the GEAC had allowed the commercial release of Bt cotton. More than 95% of the country's cotton area has since then come under Bt cotton.
- ⊙ Use of the unapproved GM variant can attract a **jail term of 5 years and fine of Rs. 1 lakh** under the Environment Protection Act, 1986.
- ⌚ **Farmers Demand for GM Seeds:**
 - ⊙ GM seeds reduce the production cost and increase productivity.
 - ⌚ Ht Bt cotton reduces the high cost of weeding.
 - ⌚ Bt brinjal reduces the use of pesticides.
- ⌚ **Issues Involved:** Genetic modification brings about changes that can be harmful to humans in the long run. The long-lasting effect of GM crops is yet to be studied. Some of the issues involved are:
 - ⊙ **Threat to Biodiversity:**
 - ⌚ Cross-pollination in GM crops paves the way for **herbicide-resistant superweeds** that can further threaten the sustenance of other crops and pests because of their uncontrolled growth.
 - ⌚ GM crops because of their pest resistance characteristics could **eliminate important species of pests** that are responsible for sustaining domestic varieties and can pose serious threats to biodiversity. They can **affect the food chain** also.
 - ⊙ **Nutrition Issues:**
 - ⌚ Bt brinjal poses risks to human health as its **resistance to antibiotics** can turn medicines ineffective and may result in the formation of new toxins and allergens.
 - ⊙ **Implications for Consumers and Farmers:**
 - ⌚ It is claimed that patent laws give developers of the GM crops a dangerous degree of **control/ dominance over the food supply** that results in the over domination of world food production by a few companies.

Way Forward

- ⌚ **Environmental impact assessment** should be carried out by independent environmentalists, as farmers do not and cannot assess the long-term impact of GM crops on ecology and health.
- ⌚ Ensure that an **unapproved variety of GM seeds is not available in markets.**

- ⌚ In order to curb the illegal cultivation of GM seeds, the **Genetic Engineering Appraisal Committee (GEAC)** should:
 - ⊙ Collaborate with state governments and launch a nation-wide investigation drive.
 - ⊙ Take action on threats of deliberate GM crop cultivation.
 - ⊙ Investigate and prosecute those involved in the illegal supply of GM Seeds.
 - ⊙ Encourage organic farming.
- ⌚ The government should go for commercialization of GM seeds only after the core and deep research on the long term prospects and benefits of commercialization of GM seeds in India.

Nature Index 2020: Index of Scientific Research

Why in News

Recently, a journal of science i.e. **the Nature Research**, has released the **Nature Index 2020**.

- ⌚ The **Nature Index** provides a database of **high-quality research** output and collaboration at the institutional, national and regional level of institutions from different countries.

Key Points

- ⌚ The top three countries in the index are **US, China and Germany** respectively.
- ⌚ Criteria for the Ranking
 - ⊙ **Sectors:** Academic and Corporate.
 - ⊙ **Subjects:** Chemistry, Earth and Environmental Science, Life Sciences, Physical Sciences.
 - ⊙ **Journal Group:** Nature and Science.

The Nature Index

- ⌚ The **Nature Index** is a **database of author affiliation information collated** from research articles published in an independently selected group of 82 high-quality science journals.
- ⌚ The **database** is compiled by **Nature Research**.
- ⌚ The Nature research is a part of **Springer Nature** which is an American German academic publishing company based in Germany.
- ⌚ The Index is updated monthly and also releases annual tables of countries.

- ⌚ The **overall ranking of India is 12th** in the index.
- ⌚ Top 3 Ranking of Institutions from India:
 - ⊙ Council of Scientific and Industrial Research (CSIR)
 - ⊙ Indian Institute of Sciences (IISc)
 - ⊙ Tata Institute of Fundamental Research (TIFR)

163348 (2002 NN4): A Near-Earth Asteroid

Why in News

Recently, the **National Aeronautics and Space Administration (NASA)** has announced that a giant **asteroid** called **163348 (2002 NN4)**, passed near Earth on 6th June 2020.

- ⌚ However, it approached the Earth within the **safe limit of distance**.

Key Points

- ⌚ **163348 (2002 NN4):**
 - ⊙ It was discovered in July 2002 and is expected to approach the earth in June 2020.
 - ⊙ The asteroid is estimated to be between **250-570 meters** in diameter.
 - ⊙ The asteroid is a **Near-Earth Object** and classified as a **Potentially Hazardous Asteroid (PHA)**.
- ⌚ **Near-Earth Objects (NEOs):**
 - ⊙ NEOs are **comets and asteroids** pushed by the **gravitational attraction of nearby planets into orbits** which allow them to enter the Earth's neighbourhood.
 - ⊙ These objects are **composed mostly of water ice** with embedded dust particles.
 - ⊙ NEOs **occasionally approach close to the Earth** as they orbit the Sun.
 - ⊙ NASA's **Center for Near-Earth Object Study (CNEOS)** determines the times and distances of these objects, when their approach to the Earth is close, through the Asteroid Watch Widget.
- ⌚ **Potentially Hazardous Asteroid:**
 - ⊙ It means that an asteroid has the potential to make **threatening close approaches to the Earth**.
 - ⊙ Specifically, all asteroids with a **Minimum Orbit Intersection Distance (MOID) of 0.05 AU** (which is about 7,480,000 km) or less and an **Absolute**

Magnitude (H) of 22.0 (about 150 mt in diameter) or less are considered PHAs.

- ⊗ **Minimum Orbit Intersection Distance** is a method for calculating the **minimum distance between two almost overlapping elliptical** orbits.
- ⊗ **The Astronomical Unit (AU)** is the distance between the Earth and the Sun and is roughly 150 million km.
- ⊗ The **absolute magnitude** is a measure of the star's luminosity i.e. the **total amount of energy radiated** by the star every second.

⌚ **Chances of hitting the earth and related Concerns:**

- ⊙ According to NASA, the objects with large size pose a **great risk to Earth** due to the **level of devastation and the impact** they can cause.
- ⊙ Less than half of the estimated 25,000 NEOs that are 140 metres or larger in size have been found to date.
- ⊗ NASA's **Near-Earth Object Observations Program** finds, tracks and characterises over 90% of the predicted number of NEOs that are 140 metre or larger in size.
- ⊙ However, no asteroid **larger than 140 metre has a "significant" chance of hitting** the Earth for the **next 100 years**.

Asteroids

- ⌚ Asteroids orbit the Sun and are small bodies in the solar system.
- ⌚ They are made up of metals and rocks.
- ⌚ They tend to have shorter and elliptical orbits.
- ⌚ They do not produce a coma or tail atmosphere.
- ⌚ The **asteroid belt** is a torus-shaped region in the Solar System, located roughly between the orbits of the planets Jupiter and Mars.

Comet

- ⌚ Comets also orbit the Sun and are relatively small bodies of the solar system.
- ⌚ They are made up of ice and hydrocarbons.
- ⌚ Comets have an eccentric orbit.
- ⌚ When comets approach the sun, some part of their ice melts and the other materials vapourise due to the heat of the sun. This results in a glowing halo that extends outwards through space.
 - ⊙ Therefore, a thin atmospheric tail is formed when close to the Sun.

⌘ Cysteine biosynthesis is crucial for the survival of *E. histolytica* and for similar protozoan parasites.

Significance

- ⌚ The scientific interest in **comets and asteroids** is largely due to their status as **relatively unchanged remnant debris from the solar system** formation process over **4.6 billion years ago**. Therefore, they offer clues about the **chemical mixture** from the planets formed.
- ⌚ Significantly, among all the reasons that will eventually cause the extinction of life on Earth, **an asteroid hit is widely acknowledged** as one of the likeliest.
 - ⊙ Over the years, scientists have suggested different ways to ward off such a hit, such as blowing up the asteroid before it reaches Earth, or deflecting it off its Earth-bound course by hitting it with a spacecraft.

New Drug for Amoebiasis

Why in News

Recently, researchers from the **Jawaharlal Nehru University (JNU)** have developed new drug molecules against the **protozoa 'Entamoeba histolytica'** that causes **amoebiasis**.

Key Points

- ⌚ **The Protozoa and High Oxygen Level:**
 - ⊙ The protozoa is **anaerobic or microaerophilic** in nature such that it **cannot survive high concentrations of oxygen**.
 - ⌘ Anaerobic organisms are those who exist in the absence of free oxygen.
 - ⌘ A **microaerophilic** atmosphere is ideal for a **microorganism** that can grow under **reduced oxygen** and increased carbon dioxide levels.
 - ⊙ However, during infection, it **faces a high surge of oxygen** inside the human body. The organism synthesizes large amounts of cysteine to **counter oxidative stress**.
- ⌚ **Synthesis of Cysteine:**
 - ⊙ This **pathogen deploys cysteine** as one of the essential molecules in its defence mechanism against **high oxygen levels**. It **expresses two crucial enzymes** for **synthesizing cysteine**.
 - ⌘ Cysteines are enzymes that degrade proteins in the body.

JNU Research:

- ⊙ Researchers have characterized and determined the molecular structures of both the crucial enzymes.
- ⊙ They have also successfully screened for potent inhibitors for one of the enzymes, **O-acetyl-L-serine sulfhydrylase (OASS)**.
- ⊙ Some of these inhibitors can **check the growth of this organism with high efficacy** by targeting
 - ⊙ their pathways.
 - ⊙ The identified molecules can lead to the **development of drug molecules**.

Protozoa

- ⌚ These are the **single-celled eukaryotes, either free-living or parasitic**, which feed on organic matter such as other microorganisms or organic tissues and debris.
 - ⊙ **Eukaryotes** are organisms whose cells have a nucleus enclosed within membranes, unlike prokaryotes, which have no membrane-bound organelles.
 - ⊙ A **parasite is an organism** that lives on or in a host and gets its food from or at the expense of its host. For example, plasmodium parasites which cause **malaria**.
 - ⌚ **Habitat:** Mostly they are **aerobic** (with oxygen) but some are **anaerobic** (without oxygen) and present in the rumen or human intestine.
 - ⌚ **Size and Shape:** The size and shape of Protozoa vary greatly, from microbial (1µm) to large enough and can be seen by the naked eye.
 - ⌚ **Nutrition:** Protozoans are **heterotrophs** and have **holozoic nutrition**.
 - ⊙ **Holozoic nutrition** can be defined as a method of nutrition which **involves the ingestion of some complex organic substances** (such as parts of a plant or animal) that may be in the solid or the liquid form.
- ### Entamoeba histolytica
- ⌚ According to the **World Health Organization (WHO)**, **Entamoeba histolytica** is the **third-leading cause of morbidity and mortality** due to **parasitic disease in humans**.
 - ⊙ Predominantly infecting humans and other primates, *E. histolytica* is estimated to infect about **35-50 million people** worldwide.

⌚ A **parasitic disease** is an infectious disease caused or transmitted by a parasite. For example, Malaria.

⌚ It causes **amoebiasis or amoebic dysentery**, which is highly prevalent in developing countries.

Amoebiasis

⌚ It is a disease caused by the parasite *Entamoeba histolytica*.

⌚ Amoebiasis infection is most common in **tropical areas** with untreated water. E.g. India .

⌚ It **spreads through drinking or eating uncooked food**, such as fruit, that may have been washed in contaminated local water.

⌚ If symptoms occur, they may be mild and include cramping and diarrhoea.

⌚ It can be treated through antibiotics.

Global Vaccine Summit

Why in News

Recently, the Prime Minister of India addressed the **virtual Global Vaccine Summit**.

⌚ It was **hosted** by the **United Kingdom (UK)** and almost 50 countries including the business leaders, UN agencies, civil society, government ministers, Heads of State and country leaders participated in the Summit.

Key Points

⌚ **Purpose:**

⊙ The Summit was intended to urge nations around the world to **pledge funding for vaccinations** to protect the world from **future outbreaks of infectious diseases**.

⊙ The Summit was aimed at **raising USD 7.4 million** to immunise a further **300 million** children in the **world's poorest countries by 2025**.

⌚ **India's Contribution:**

⊙ India has pledged **USD 15-million** as India's contribution to the **Global Alliance for Vaccines and Immunizations (GAVI)**.

⌘ GAVI is an **international organisation** which brings together public and private sectors to create equal access to vaccines for children.

⊙ India had also mentioned that it has **shared its stocks of medicines with over 120 countries** in the wake of the pandemic.

⌚ **Status of Vaccination in India:**

⊙ India is the **world's foremost producer of vaccines** and contributes to the immunisation of about **60% of the world's children**.

⊙ India has also added **six vaccines** to its **Universal Immunization Programme (UIP)** to expand protection of vaccination in the country.

⌘ UIP was launched by the government in **1985**, to prevent mortality and morbidity in children and pregnant women against **12 vaccine-preventable diseases**.

⌘ Under UIP **free of cost vaccination** is provided against twelve vaccine-preventable diseases i.e. Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea.

⊙ The country has also **digitised the vaccine supply chain** and an electronic intelligence network has been developed to monitor the integrity of the cold chain.

⌘ But, recently the report released by the **World Health Organisation (WHO)** observed the **disruption of the Global Vaccination Programme in the country** in the wake of the Covid-19 pandemic.

LiDAR Based Research in Tamar Valley

Why in News

A UK-based team of archeologists has continued its research over the **Tamar Valley** through **LiDAR (Light Detection and Ranging)** despite lockdown due to **Covid-19** in the country.

⌚ LiDAR is commonly used by geologists and surveyors to make high-resolution maps.

Tamar Valley

⌚ Tamar valley is located in the **south of England** and is a rich archaeological landscape with many sites **belonging to the Iron Age and Roman era**.

⌚ The area is a **World Heritage Site** due to its historic mining activities.

- ⊙ A World Heritage Site is a place that is listed by the **United Nations Educational, Scientific and Cultural Organization (UNESCO)** for its **special cultural or physical significance**.
- ⊙ The list of World Heritage Sites is maintained by the **international 'World Heritage Programme'**, administered by the UNESCO World Heritage Committee.

LiDAR

🕒 **Description:**

- ⊙ LiDAR (Light Detection and Ranging) is a **remote sensing method** that uses light in the form of a pulsed laser **to measure ranges and variable distances**.
- ⊙ These light pulses, combined with other data recorded by the airborne system, generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.
- ⊙ A LiDAR instrument principally **consists of a laser, a scanner and a specialized GPS receiver**.
 - ⊗ Airplanes and helicopters are the most commonly used platforms for acquiring LiDAR data over broad areas.

🕒 **Applications:**

- ⊙ LiDAR is used for **agriculture, hydrology and water management** systems.
- ⊙ **Geology-related** applications.
- ⊙ It is also used in **archaeology**.

RT-nPCR Test

Why in News

Researchers at the **Centre for Cellular and Molecular Biology (CCMB)** have developed a **new test** to detect **novel coronavirus (SARS-CoV-2)** named '**Reverse Transcription nested Polymerase Chain Reaction (RT-nPCR)** test.

- 🕒 CCMB, one of the **Council of Scientific & Industrial Research (CSIR) laboratories**, is situated in Hyderabad (Telangana).

Key Points

🕒 **RT-nPCR Test:**

- ⊙ It **does not depend on RT-qPCR** (testing approved by the ICMR) **but uses standard RT-PCR** as part of an endpoint assay (i.e. to measure biochemical activity of a sample).
- ⊙ It has been developed on a **low-cost** and **low-tech** model.
- ⊙ This new test is **awaiting approval from the Indian Council of Medical Research (ICMR)**.
- 🕒 **RT-qPCR Test:**
 - ⊙ The ICMR has recommended only **Reverse Transcription Polymerase Chain Reaction (RT-qPCR) test** for novel coronavirus testing.
 - ⊗ **PCR** is an enzymatic reaction used to amplify DeoxyRibonucleic Acid (DNA).
 - ⊗ Unlike conventional PCR, which relies on end point analysis, **qPCR** enables the analyst to **monitor DNA amplification in real time**, as the reaction proceeds. This allows quantification of DNA.
 - ⊗ However, coronavirus is made up of Ribonucleic Acid (RNA). Therefore to detect coronavirus, **RNA is converted into DNA using a technique called Reverse Transcription (RT)**.
 - 🕒 **RT-qPCR vs RT-nPCR:**
 - ⊙ In RT-qPCR, the viral RNA is quantified, whereas in RT-nPCR, the viral RNA that nests is studied.
 - ⊙ RT-qPCR is costly, takes longer, needs special apparatus and can be performed only in a lab with sophisticated equipment. It requires a real time thermal cycler, which is an expensive instrument.
 - ⊙ RT-nPCR is economical, can be tested on a large scale, does not require special apparatus and can be done in a lab with basic equipment. It needs a simple PCR machine.
 - ⊙ Further, the CCMB scientists found a high percentage of false negative cases while comparing RT-qPCR with the new test.
 - ⊗ The RT-nPCR test was able to identify 90% of the detected samples as positive by RT-qPCR. It also detected 13% samples as positive among samples that were negative by the standard RT-qPCR test (likely false negatives).

Environment and Ecology

Highlights

- ⌘ *Scorpionfish: Scorpaenopsis neglecta*
- ⌘ *Sixth Mass Extinction*
- ⌘ *Environmental Performance Index*
- ⌘ *Sunderbans Damaged in Cyclone Amphan*
- ⌘ *Assam Gas Leak*
- ⌘ *Oil Spill in Siberia*
- ⌘ *World Environment Day*
- ⌘ *Microplastics in Deep Oceans*
- ⌘ *Biodiversity Park in Uttarakhand*
- ⌘ *World Oceans Day*
- ⌘ *Aerosols Radiative Forcing in Western Trans-Himalayas*
- ⌘ *Rise in the Population of Asiatic Lions*
- ⌘ *Athirapally Hydel Electric Project*
- ⌘ *Estimation Exercise of Indian Gaur in Nilgiris*
- ⌘ *Expansion of the Amery Ice Shelf*
- ⌘ *Poaching Increased During Lockdown*
- ⌘ *Malabar Gliding Frog*
- ⌘ *Tropical Cyclone: Cristobal*
- ⌘ *Cyclone Nisarga*
- ⌘ *Lunar Crater*

Scorpionfish: *Scorpaenopsis neglecta*

Why in News

Recently, researchers at the **Central Marine Fisheries Research Institute (CMFRI)** have found a rare **Scorpionfish (*Scorpaenopsis neglecta*)** from Sethukarai coast in the **Gulf of Mannar**.

- 🕒 This for the **first time** the particular species is **discovered alive in Indian waters**.



- 🕒 It has been deposited in the **National Marine Biodiversity Museum** of the CMFRI.

Key Points

🕒 **Characteristics of *Scorpaenopsis neglecta*:**

⊙ **Powerful sensory system:**

- ⌘ Unlike other fish, this band-tail Scorpion fish uses its **lateral sensory system** instead of eyes to hunt its prey.
- ⌘ **Lateral sensory system** is a system of sense organs found in fishes which is used to detect movement, vibration, and pressure gradients in the surrounding water.

⊙ **Colour changing:**

- ⌘ The fish has the ability to **change colour** and **camouflage** to escape from predators and while catching a prey.
- ⌘ **Camouflage:** It is a defense or tactic that organisms use to disguise their appearance, usually to blend in with their surrounding environment. This allows prey to avoid predators, and for predators to sneak up on prey.

⊙ **Neurotoxic:**

- ⌘ The fish is called 'scorpionfish' because its **spines contain neurotoxin**.
 - **Neurotoxins** are **chemical substances** that are poisonous to the nervous system.
 - Neurotoxins work by disrupting chemical signals sent between neurons and paralyzing the whole system.
 - Generally snakes i.e. **King Cobra** and **marine snakes** have these types of venom.
- ⌘ When the spines pierce an individual, the venom gets injected immediately.

🕒 **About the Scorpionfish:**

- ⊙ **Scorpionfish** belong to the family **Scorpaenidae** which are mostly marine fish that includes many of the world's most venomous species.
- ⊙ It is commonly found in the **Indo-West Pacific region** of the world.

- ⌘ It is a biogeographic region of Earth's seas, comprising the tropical waters of the Indian Ocean, the western and central Pacific Ocean, and the seas connecting the two in the general area of Indonesia.
- ⌚ It is a **nocturnal feeder** and lays motionless in the sea bottom and waits for the prey to come close to it.
 - ⌘ **Nocturnal species** are those which prefer to be active at night and sleep during the day. E.g. Bats.

The Central Marine Fisheries Research Institute

- ⌚ It was established by the Government of India in 1947 under the Ministry of Agriculture and Farmers Welfare and later it joined the **Indian Council of Agricultural Research (ICAR)** family in 1967.
- ⌚ It is a leading tropical marine fisheries research institute in the world, headquartered in **Kochi, Kerala**.
- ⌚ **Objectives:**
 - ⌚ Marine Fishery Resource Assessment.
 - ⌚ Productivity and Production Enhancement through Mariculture.
 - ⌚ Conservation of Marine Biodiversity.
 - ⌚ Transfer of Technology, Training and Consultancy.

Sixth Mass Extinction

Why in News

Recently, the researchers have observed that the ongoing **sixth mass extinction** is one of the **most serious environmental threats** to the existence of civilisation.

- ⌚ Mass extinction refers to a substantial increase in the **degree of extinction** or when the **Earth loses more than three-quarters** of its species in a geologically short period of time.
 - ⌚ Since life first evolved on the planet, a short geological period of time is defined as **less than 2.8 million years**.

History of Mass Extinction

- ⌚ So far, the Earth has experienced **five mass extinctions**.

Era	Impact and Possible Reasons
First Mass Extinction: End Ordovician, 444 million years ago	<ul style="list-style-type: none"> ⌚ 86% of species lost ⌚ Severe ice age that lowered sea levels, possibly triggered by the uplift of the Appalachians. The newly exposed silicate rock sucked CO₂ out of the atmosphere, chilling the planet.
Second Mass Extinction: Late Devonian, 383-359 million years ago	<ul style="list-style-type: none"> ⌚ 75% of species lost ⌚ With the emergence of land plants, their deep roots stirred up the earth, releasing nutrients into the ocean. This might have triggered algal blooms which sucked oxygen out of the water, suffocating bottom dwellers like the trilobites.
Third Mass Extinction: End Permian, 252 million years ago	<ul style="list-style-type: none"> ⌚ 96% of species lost ⌚ A cataclysmic eruption near Siberia blasted CO₂ into the atmosphere. Methanogenic bacteria responded by belching out methane, a potent greenhouse gas. Global temperatures surged while oceans acidified and stagnated, belching poisonous hydrogen sulfide.
Fourth Mass Extinction: End Triassic, 201 million years ago	<ul style="list-style-type: none"> ⌚ 80% of species lost ⌚ No clear causes have been found.
Fifth Mass Extinction: End Cretaceous, 66 million years ago	<ul style="list-style-type: none"> ⌚ 76% of all species lost ⌚ Volcanic activity and climate change along with asteroid species

Key Points

⌚ Background:

- ⊙ The **five mass extinctions that took place in the last 450 million years** have led to the destruction of 70-95% of the species of plants, animals and microorganisms that existed earlier.
- ⊙ All these extinctions were caused due to the catastrophic alterations to the environment, such as massive volcanic eruptions, depletion of oceanic oxygen or collision with an asteroid.
 - ⌘ After each of these extinctions, it took millions of years to regain species comparable to those that existed before the event.

⌚ Ongoing Sixth Mass Extinction:

- ⊙ It has been observed that the **sixth extinction is human-caused** and is more immediate than climate destruction. Thus, the ongoing sixth mass extinction is referred to as the anthropocene extinction.
 - ⌘ Currently, **only an estimated 2% of all of the species** that ever lived are alive but the absolute number of species is greater than ever before.
- ⊙ It is described as the most serious environmental problem since the loss of species will be permanent.
 - ⌘ The loss of species has been occurring since human ancestors developed agriculture over 11,000 years ago. Since then, the human population has increased from about 1 million to 7.7 billion.

⌚ Outcomes of the Study:

- ⊙ The study has described sixth mass extinction as the most serious environmental problem.
 - ⌘ The study analysed 29,400 species of terrestrial vertebrates and concluded that over 515 of them are near extinction.
 - ⌘ Most of these 515 species are from South America (30%), followed by Oceania (21%), Asia (21%) and Africa (16%) among others.
- ⊙ It has also observed that the disappearance of these populations has been occurring since the 1800s.

⌚ Impacts:

- ⊙ The **extinction of the species** causes tangible impact such as in the form of a loss in crop pollination and water purification.
- ⊙ Further, if a species has a specific function in an ecosystem, the loss can lead to consequences for other species by impacting the food chain.

- ⊙ When the number of individuals in a population or species drops too low, its contributions to ecosystem functions and services become unimportant.
- ⊙ The effects of extinction are expected to worsen the genetic and cultural variability which would change entire ecosystems.
 - ⌘ When genetic variability and resilience is reduced, its contribution to human welfare may be lost.

Environmental Performance Index

Why in News

India secured 168th rank in the 12th edition of the Environment Performance Index (EPI) 2020.

- ⌚ India's rank was 177th in 2018.

Environmental Performance Index

- ⌚ EPI is a biennial index prepared by Yale University and Columbia University in collaboration with the **World Economic Forum**.
- ⌚ It offers a scorecard that highlights leaders and laggards in environmental performance and provides practical guidance for countries that aspire to move toward a sustainable future.
- ⌚ This index was first published in 2002 designed to supplement the environmental targets set forth in the United Nations Millennium Development Goals.

Key Points

⌚ EPI 2020:

- ⊙ EPI Index 2020 measured the environmental performance of 180 countries.
- ⊙ The index considered 32 indicators of environmental performance and included 10-year trends in environmental performance at the national and global levels.
- ⊙ Denmark topped the index with a score of 82.5.

⌚ India' Performance:

- ⊙ **India scored 27.6** out of 100 in the 2020 EPI index and its performance was worse than all South Asian countries, except Afghanistan.
- ⊙ India scored below the regional (South-Asia) average score on all five key parameters on environmental health, including air quality, sanitation and drinking water, heavy metals and waste management.

- ⌘ These findings resonated with the concerns raised by the ‘**State of India’s Environment 2020 in Figures**’, published by the Centre for Science and Environment.
- ⌚ It has also scored below the regional average on parameters related to biodiversity and ecosystem services too.
- ⌚ India was at second position after Pakistan on ‘climate change’ among the South-Asia countries.
 - ⌘ Pakistan’s score (50.6) was the highest under the climate change category.
- ⌚ A ten-year comparison progress report in the index showed that India slipped on climate-related parameters.
 - ⌘ The report indicated that black carbon, carbon dioxide emissions and greenhouse emissions per capita increased in ten years.

Environmental

Conservation Programmes in India

- ⌚ **Climate Change: National Action Plan on Climate Change**
- ⌚ **Desertification: National Action Programme to Combat Desertification**
- ⌚ **Pollution Control: National Clean Air Program**
- ⌚ **Environmental Impact Assessment: Environment Management Plan**
- ⌚ **Forest Protection: National Afforestation Programme**
- ⌚ **Animal Conservation: Project Elephant, Project Tiger**

Sunderbans Damaged in Cyclone Amphan

Why in News

Recently, the Chief Minister of West Bengal highlighted that **about 28% of the Sunderbans** has been **damaged by Cyclone Amphan** and launched a drive for planting **mangroves** and trees to mark the **World Environment Day (5th June)**.

Key Points

- ⌚ The Indian Sunderbans, an **area south of the Dampier Hodges line**, is spread over 9,630 sq km, of which the mangrove forest accounts for 4,263 sq km.

- ⌚ 1,200 sq km of that mangrove forest has been destroyed.
- ⌚ **Mangroves** not only **reduce wind speed** but **break the waves during a storm surge** caused by a cyclone.
- ⌚ **Trees turned yellow and red** after the cyclone mostly **due to salinity** and trees can only survive if the salinity of the soil comes down.
- ⌚ **Dampier Hodges line** is an imaginary line, passing through 24 Parganas South and North districts (West Bengal) which indicates the northern-most limits of the estuarine zone affected by tidal fluctuations.
- ⌚ The **damage has been much on the Indian side** of the Sunderbans and not on the Bangladesh side.
- ⌚ The CM has directed the Forest Department to be prepared to plant 3.5 crore mangroves by **14th July** which is celebrated as the **World Forest Day**.

Sunderbans

- ⌚ It is a **vast contiguous mangrove forest ecosystem** in the **coastal region of Bay of Bengal** spread over **India and Bangladesh** on the delta of the **Ganges, Brahmaputra and Meghna rivers**.
- ⌚ The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant mangrove forests and presents an excellent example of ongoing ecological processes.
- ⌚ It constitutes **over 60% of the country’s total mangrove forest area**.
- ⌚ Indian Sunderbans was recognised as **UNESCO World Heritage Site in 1987**, ‘**Wetland of International Importance**’ under the **Ramsar Convention** in **January 2019** and also a **Biosphere Reserve** in 1989.
- ⌚ The area is **known for its wide range of fauna**, including 260 bird species and is home to many rare and globally threatened wildlife species such as the **Estuarine Crocodile**, Royal Bengal Tiger, Water Monitor Lizard, **Gangetic Dolphin** and **Olive Ridley Turtles**.
- ⌚ The Sunderbans Delta is the **only mangrove forest in the world inhabited by tigers**.
 - ⌚ For its preservation, **Discovery India** and **World Wide Fund (WWF)** India partnered with the Government of West Bengal and local communities in the Sunderbans in 2019.

Mangroves

- ⌚ Mangroves are the plant communities occurring in **inter-tidal zones along the coasts of tropical and subtropical countries**.

- ⌚ Mangrove forests perform **multiple ecological functions** such as production of woody trees, provision of habitat, food and spawning grounds for fin-fish and shellfish, provision of habitat for birds and other valuable fauna; protection of coastlines and accretion of sediment to form new land.
- ⌚ Among the states and Union Territories, **West Bengal has the highest percentage** of area under total Mangrove cover **followed by Gujarat and Andaman and Nicobar Islands**.
- ⌚ The **India State of Forest Report** gives the data about mangroves and their conditions in the country.

Assam Gas Leak

Why in News

Recently, a gas leak has occurred at **Baghjan well in Tinsukia district of Assam** following a blowout.

- ⌚ The Baghjan well is a **purely gas-producing** well in Tinsukia district, and is at an aerial distance of 900 metres from the **Dibru-Saikhowa National Park**.
- ⌚ It has been drilled by **Oil India Limited (OIL)** since 2006.
- ⌚ Natural gas is a mix of propane, methane, propylene and other gases.

Key Points

- ⌚ **Gas Leak:**
 - ⊙ The gas well at Baghjan was under maintenance, for which it was temporarily shut. The Blowout Preventer (BOP) was also removed.
 - ⊙ However, the gas started to ooze out of the well during the maintenance. The reason behind the blowout (a sudden/uncontrolled release of gas/oil) is not clear.
- ⌚ **Possible Reasons:**
 - ⊙ It **may have occurred due to lack of attention, poor workmanship**, bad maintenance, old age, sabotage to morpho-tectonic factors.
 - ⊙ Sometimes, the **disturbance of pressure balance** in a well may also lead to sudden blowouts.
- ⌚ **Steps Taken:** The authorities have built a temporary water reservoir through pipelines from the Dangori river nearby the well to control the blowout.
 - ⊙ To control a blowout, a **huge quantity of water** is required so that the gas does not catch fire.

- ⊙ The control of a blowout depends on two things: the size of the reservoir and the pressure at which the gas is flowing out. Many blowouts also automatically collapse on their own.
- ⌚ **Challenges:** The gas leak at the Baghjan is still not under control and it is continuously leaking.
 - ⊙ The limited space and non-availability of open space above the well head poses a huge challenge in placement of BOP.
 - ⊙ The BOP placement involves a huge risk since Baghjan is a gas well and runs the risk of catching fire at any point.
- ⌚ **Impact:**
 - ⊙ The **gas is flowing with the wind in the radius of up to 5 km** and condensate (the residue from gas) is falling on bamboo, tea gardens, banana trees, betel nut trees among others.
 - ⊙ While the well is outside the **Eco Sensitive Zone** of the park, there are reports that the condensate is falling into Dibru-Saikhowa National Park and Maguri-Motapung wetland too.
 - ⊙ The gas leak has also caused deaths of **Gangetic dolphins**, and a variety of fish. The number of birds have also decreased because they have flown away.
- ⌚ **Assessment of the Impact:** To safeguard the environment, OIL has engaged a National Accreditation Board for Education and Training (NABET) accredited consultant to carry out an Environment Impact Assessment study to assess the effects of blowout on terrestrial and aquatic ecosystems and to work on a Socio-Economic Impact Assessment.
 - ⊙ NABET is a constituent Board of **Quality Council of India**.
 - ⊙ It offers accreditation to educational organisations, vocational training organizations and skill certification bodies.

Dibru-Saikhowa National Park

- ⌚ Dibru-Saikhowa is a **National Park as well as a Biosphere Reserve** situated in the south bank of the river Brahmaputra in Assam.
- ⌚ It is one of the **19 biodiversity hotspots** in the world.
- ⌚ The forest type of Dibru-Saikhowa comprises semi-evergreen forests, deciduous forests, littoral and swamp forests and patches of wet evergreen forests.
 - ⊙ It is the **largest swamp forest in north-eastern India**.

- ⌚ It is an identified **Important Bird Area (IBA)** notified by the **Bombay Natural History Society**. It is most famous for the rare white-winged wood ducks as well as feral horses.

Maguri-Motapung Wetland

- ⌚ Maguri Motapung Beel is less than 10 km from Dibru-Saikhowa National Park and part of the Dibru-Saikhowa Biosphere Reserve.
- ⌚ The wetland derives its name from “Magur”, the local word for the catfish ‘Clarius batrachus’.
- ⌚ It is an Important Bird Area notified by the Bombay Natural History Society.

Oil Spill in Siberia

Why in News

Recently, **Russia** has declared a **state of emergency** in its **Krasnoyarsk Region** after a power plant **fuel leaked** causing 20,000 tonnes of diesel oil to escape into the **Ambarnaya River**.

- ⌚ Krasnoyarsk Region is located in the vast and sparsely populated **Siberian peninsula** and the Ambarnaya river is part of a network that flows into the **environmentally sensitive Arctic Ocean**.

Key Points

- ⌚ **Reasons for the Spill:**
 - ⊙ The **thermoelectric power plant** which is located near **Norilsk city** (known as the country’s **nickel capital**), around 3000 km northeast of Moscow, is **built on permafrost** which has **weakened** over the years owing to **climate change**.
 - ⌘ This caused the **pillars that supported the plant’s fuel tank to sink**, leading to a loss of containment.
 - ⊙ According to a report, **Norilsk is one of the most heavily polluted places** on Earth.
- ⌚ **Concerns:**
 - ⊙ The leak can have a serious **impact on the local ecology**.
 - ⌘ The Ambarnaya river flows to the **Pyasino lake and river Pyasina**, which connects it to the **Kara Sea, a part of the Arctic Ocean**.
 - ⊙ The **most toxic components** of diesel fuel are light **aromatics** (benzene, toluene, ethylbenzene

and xylene), which in significant quantities will nevertheless **dissolve in water and can in no way be collected**.

- ⊙ **Damages** to the Arctic waterways due to the spill could be at least **over UDS 76 million**. The estimate does not include atmospheric damage due to **greenhouse gases** and **soil pollution**.
- ⊙ According to the environmentalists, the river would be difficult to clean, given its **shallow waters and remote location**, as well as the magnitude of the spill.
- ⊙ The **World Wildlife Fund (WWF)** described this as the **second-largest known oil leak** in modern Russia’s history in terms of volume.
 - ⌘ It is only exceeded by a crude oil spill in the **northwestern region of Komi** that took place over several months in **1994**.
- ⌚ **Measures:**
 - ⊙ The declaration of the state of emergency would bring in **extra forces and federal resources for the clean-up efforts**.
 - ⊙ The Ambarnaya river is difficult to clean up because the **remote location has no roads**.
 - ⊙ **Boom obstacles** (an obstacle strung across a navigable stretch of water to control or block navigation) are placed in the river but they are **unable to contain the oil** because of **shallow waters**.
 - ⊙ There is a need to establish **monitoring of water quality** downstream up to the mouth of the Pyasina river.
 - ⌘ Diesel fuel is **lighter** than oil so it is **likely to evaporate** rather than sink but it is **more toxic to clean up**.
 - ⊙ **Burning the fuel** would be **too risky** as it will generate a lot of **heat** and will lead to the **melting of ice**.
 - ⊙ It is recommended to **dilute the layer with reagents**.
 - ⌘ A **reagent** is a substance or compound added to a system to cause a chemical reaction or added to test if a reaction occurs.

Permafrost

- ⌚ The ground that remains frozen for two or more **consecutive years** is considered permafrost.
- ⌚ Permafrost is composed of rock, soil, sediments and varying amounts of ice that bind elements together.
- ⌚ Some permafrost is frozen for tens, hundreds or even thousands of years.

World Environment Day

Why in News

The **World Environment Day** is observed on the **5th of June every year** for encouraging worldwide awareness and action to protect our environment.

- ⌚ The day has been celebrated **since 1974** by **engaging governments, businesses, celebrities and citizens** to focus their efforts on a pressing environmental issue.
- ⌚ **India** will be **focusing on the Nagar Van (Urban Forests)** in addition to the official theme of the World Environment Day.
- ⌚ Further, the **Indian Navy** has also marked the day through various initiatives which are intended to **reduce its environmental footprint**.

Key Points

⌚ Description:

- ⊙ The **theme** of World Environment Day 2020 is **'Celebrating Biodiversity', a concern that is both urgent and existential**.
- ⊙ Almost **one million species are facing extinction** worldwide and thus there has never been a more important time to focus on **biodiversity**.
- ⊙ The day will be **hosted in Colombia in partnership with Germany**.

⌚ Initiatives by Indian Navy:

- ⊙ Released **'Indian Navy Environment Conservation Roadmap' (INECR)** which is a guiding document and key enabler for progressively achieving a **green footprint**.
- ⊙ It has voluntarily implemented all six schedules of the **International Convention for the Prevention of Pollution from Ships (MARPOL)** regulations.
 - ⌘ It covers **pollution of the marine environment** by ships from operational or accidental causes.
 - ⌘ It lists various forms of marine pollution caused by oil, noxious liquid substances, harmful substances in packaged form, sewage and garbage from ships, etc.
- ⊙ Currently, it has been focussing on the **reduction of overall power consumption** through a progressive induction of energy efficient equipment.

Urban Forests

⌚ Description:

- ⊙ An urban forest is a forest, or a collection of trees, that grow within a city, town or a suburb. In a wider sense, it may include any kind of woody plant vegetation growing in and around human settlements.

⌚ Significance:

- ⊙ Biodiversity conservation has traditionally been considered confined to remote forest areas but with **increasing urbanization, a need has arisen to safeguard and save biodiversity in urban areas** also.
- ⊙ It concentrates on all tree-dominated as well as other green resources in and around urban areas, such as woodlands, public and private urban parks and gardens, street trees and square plantations, botanical gardens and cemeteries.

⌚ Benefits:

- ⊙ It is expected to **create microclimate and reduce the urban heat island effect**.
 - ⌘ An **urban heat island** is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities.
- ⊙ The urban forests play key roles in supporting water management in urban areas through management of the **urban hydrological cycle**.
- ⊙ Urban forests can **sequester huge amounts of carbon** by capturing carbon dioxide from the atmosphere.

⌚ Challenges:

- ⊙ **Lack of appropriate tree planting spaces** due to increased urbanisation.
- ⊙ **Invasive non-native plant species** threatening urban forest ecosystems.
- ⊙ **Lack of awareness** among people.

⌚ Solutions:

- ⊙ Novel and innovative methods like that of the Japanese **'Miyawaki' method** of afforestation can be used to grow urban forests and expand the green cover in these areas.
 - ⌘ Miyawaki is a technique pioneered by Japanese botanist Akira Miyawaki, that helps **build dense, native forests in a short time**.
- ⊙ The increased **awareness about the urban forestry and management** of the same would help to increase the urban forest cover with increasing urbanisation.

Biodiversity

⌚ Importance of Biodiversity:

- ⊙ The theme for the **International Biodiversity Day for 2020** was **“Our solutions are in nature”**.
 - ⊗ The theme highlights that **Biodiversity remains the answer to a number of sustainable development challenges**.
- ⊙ Biodiversity is the variety and variability of life on Earth. Biodiversity is typically a measure of **variation at the genetic, species, and ecosystem level**.
- ⊙ Human health ultimately depends upon **ecosystem products and services** (such as availability of freshwater, food and fuel sources) which are requisite for good human health and productive livelihoods.
- ⊙ Biodiversity loss can have significant **direct human health impacts** if ecosystem services are no longer adequate to meet social needs.
- ⊙ Indirectly, **changes in ecosystem services affect** livelihoods, income, local migration and, on occasion, may even cause political conflict.

⌚ Biodiversity in India:

- ⊙ India has nearly **8% of the global biodiversity**.
- ⊙ The country is endowed with rich biodiversity having several species of animals and plants and hosts **4 of the 35 global biodiversity hotspots** which include:
 - ⊗ **Himalaya:** Includes the entire Indian Himalayan region (and that falling in Pakistan, Tibet, Nepal, Bhutan, China and Myanmar).
 - ⊗ **Indo-Burma:** Includes entire North-eastern India, except Assam and Andaman group of Islands (and Myanmar, Thailand, Vietnam, Laos, Cambodia and southern China).
 - ⊗ **Sundalands:** Includes Nicobar group of Islands (and Indonesia, Malaysia, Singapore, Brunei, Philippines).
 - ⊗ **Western Ghats and Sri Lanka:** Includes entire Western Ghats (and Sri Lanka).

Microplastics in Deep Oceans

Why in News

Recently, researchers have observed that **deep sea hotspots of biodiversity** are also likely to be **microplastic hotspots**.

- ⌚ Although microplastics are known to spread on the global seafloor, the processes that control their dispersal and concentration in the deep sea remain largely unknown.
- ⌚ The researchers have studied the **spatial distribution and ultimate settling position of the microplastics** and its **effects on the biodiversity hotspots** in the deep oceans.
 - ⊙ There are above-ground biodiversity hotspots like the tropical rain forests, alpine tundra, etc. Likewise, there are landforms beneath the sea that provide rich marine diversity which include **Coral reefs**, Sea mounts, etc.

Microplastics

- ⌚ Microplastics are small plastic pieces of **less than five millimeters** in size.
- ⌚ It includes microbeads (solid plastic particles of less than one millimeter in their largest dimension) that are used in cosmetics and personal care products, industrial scrubbers which are used for aggressive blast cleaning, microfibers used in textiles and virgin resin pellets used in plastic manufacturing processes.
- ⌚ Apart from cosmetics and personal care products, most of the microplastics result from the **breakdown of larger pieces of plastic** that were not recycled and broke up due to exposure to the sun or physical wear.
- ⌚ Microplastics damage aquatic creatures including turtles and birds. It blocks digestive tracts, and alters feeding behavior. Subsequently, it reduces the growth and reproductive output in marine animals.

Deep Sea

- ⌚ The deep sea or deep layer is the **lowest layer in the ocean**, existing below the thermocline and above the seabed, **at a depth of 1000 fathoms or more**.
 - ⊙ Fathom is a unit of length **equal to six feet** (1.8 metres).
 - ⊙ A thermocline is a thin but distinct layer in a large body of fluid in which temperature changes more rapidly with depth than it does in the layers above or below.
 - ⊙ In the ocean, the thermocline **divides the upper mixed layer from the calm deep water below**.

Key Findings

- ⌚ **Role of Thermohaline Circulations:**
 - ⊙ It has been observed that **thermohaline-driven**

circulations can control the distribution of microplastics by creating **hotspots of accumulation**, analogous to current's role in depositing seafloor sediments.

- ⊗ The ocean currents are usually driven by the winds in the upper 100 meters of the ocean's surface. However, ocean currents also flow thousands of meters below the surface.
- ⊗ The ocean currents may be **classified based on their depth** as
 - **Surface Currents** : The surface currents constitute about 10 % of all the water in the ocean, these waters are the upper 400 m of the ocean.
 - **Deep Ocean Currents**: These currents make up the other 90 % of the ocean water. These currents are driven by **differences in the water's density**, which is controlled by **temperature (thermo) and salinity (haline)**. This process is known as **thermohaline circulation**.
- ⊗ In the Earth's polar regions ocean water gets very cold, forming sea ice. As a consequence the surrounding seawater gets saltier, because when sea ice forms, the salt is left behind.
- ⊗ As the seawater gets saltier, its density increases, and it starts to sink. Surface water is pulled in to replace the sinking water, which in turn eventually becomes cold and salty enough to sink. This initiates the deep-ocean currents driving the global conveyor belt.

⌚ **Vulnerability of Benthos:**

- ⊗ Further, these thermohaline currents **supply oxygen and nutrients** to deep-sea **benthos**, so deepsea biodiversity hotspots are also likely to be microplastic hotspots.
- ⊗ Benthos is the community of organisms that live on, in, or near the seabed, river, lake, or stream bottom, also known as the benthic zone.

Biodiversity Park in Uttarakhand

Why in News

Uttarakhand opened its **biggest biodiversity park** in Haldwani on the **World Environment Day** (5th June).

- ⌚ **Biodiversity** is the **variety and variability of life on Earth**. Biodiversity Parks are basically natural reserves with varieties of plants and animals.
- ⌚ The **theme** of this year's World Environment Day is **'Celebrate Biodiversity'**.

Key Points

- ⌚ Inside the Park, there are thematic gardens, a soil museum, species of plants, lichens, mosses and algae from the Jurassic era, a vermicompost unit, an interpretation centre, and a state-of-the-art weather station.
- ⌚ The Park has 40 unique sections having 479 rare plant species of cactus, medicinal herbs, different types of trees, etc.
 - ⊗ The various species of plants have been brought to the park from diverse terrains like **Niti Mana Valley** and even from some glaciers around Kedarnath.
 - ⊗ Niti Mana Valley is located near the India Tibetan Border in Chamoli district of Uttarakhand.
- ⌚ The plant species in the biodiversity park is divided into spiritual & religious, scientific, human health, and aesthetic value sections.
 - ⊗ The spiritual section has trees that find mention in holy scriptures like Guru Granth Sahib, Quran, Bible, and others.
- ⌚ It showcases the different kinds of soil found in various topographies of Uttarakhand — alpine, bhabhar, sub-mountainous, mountainous, tertiary, loam, terai.
- ⌚ Various environmental concepts and conservation issues including global warming, forest fires, species extinction, internal communication of plants and recent developments like spread of virus from animals to human beings are explained at the interpretation centre inside the park.

World Oceans Day

Why in News

The World Oceans Day is celebrated every year on **8th June** to create awareness about the benefits that mankind gets from the ocean.

- ⌚ The Day was designated by the United Nations General Assembly in 2008.
- ⌚ The theme of the World Oceans Day 2020 is **'Innovation for a Sustainable Ocean'**.

Key Points

- ⌚ **Importance of Oceans:**
 - ⦿ Oceans cover **71% of the Earth’s surface** and hold 97% of the planet’s water.
 - ⦿ They help feed the world and provide most of the oxygen.
 - ⦿ A variety of life-saving medicinal compounds, including anti-inflammatory and anti-cancer drugs have been discovered in the oceans.
 - ⦿ The ocean is vital to the world’s economy, with more than 90% of trade using sea routes and as a source of jobs for millions of people.
 - ⦿ They play a key role in regulating the weather and climate.
 - ⦿ The Sustainable Development Goal 14 is ‘Conserve and sustainably use the oceans, seas and marine resources for sustainable development’.
- ⌚ **Threats to Oceans:**
 - ⦿ Pollution, overfishing, invasive species, and rising ocean acidity due to the extensive use of fossil fuels.
 - ⦿ Plastic waste is also one of the biggest threats faced by the oceans today.

Way forward

The oceans are facing unprecedented pressures from factors ranging from pollution to climate change. Thus, the need to balance the preservation of a healthy ocean and ever-increasing economic activities requires a fresh approach and rethinking in many areas.

Aerosols Radiative Forcing in Western Trans-Himalayas

Why in News

Recently, a study by the **Aryabhata Research Institute of Observational Sciences (ARIES)** has found that **radiative forcing of aerosols** i.e. effect of anthropogenic aerosols is much higher over the high altitudes of western trans-Himalayas.

- ⌚ **ARIES**, Nainital is an autonomous research institute under the Department of Science and Technology (DST), Ministry of Science and Technology.
- ⌚ The Trans-Himalayas Mountain Region is located to the north of the Great Himalayas which consists of **Karakoram, Ladakh, Zaskar and Kailash mountain**

ranges. It is also called the **Tibet Himalayan Region** because most of the part of these ranges lies in Tibet.

Key Points

- ⌚ **Aerosol Radiative Forcing:**
 - ⦿ The study analysed the **variability of aerosol optical, physical and radiative properties** from January 2008 to December 2018 and the role of fine and coarse particles in **Aerosol Radiative Forcing (ARF)** assessment.
 - ⦿ The ARF values at top of the atmosphere were mostly low over Hanle and Merak.
 - ⌘ **ARF** is the **effect of anthropogenic aerosols on the radiative fluxes** at the top of the atmosphere and at the surface and on the absorption of radiation within the atmosphere.
 - ⌘ Hanle and Merak, situated in Ladakh are the part of **Indian Astronomical Observatory (IAO)**.
 - ⦿ **Change in Temperature:**
 - ⌘ The study shows that monthly-mean atmospheric radiative forcing of aerosols leads to heating rates of **0.04 to 0.13 degree celsius per day**.
 - ⌘ Further, the temperature over the Ladakh region is increasing **0.3 to 0.4 degree celsius per decade** from the last 3 decades.
- ⌚ **Aerosol Optical Depth:**
 - ⦿ The observations show that the **Aerosol Optical Depth (AOD)** exhibited a distinct seasonal variation with higher values (0.07) in May and lower (0.03) in winter months.
 - ⦿ **AOD** is a measure of how **light is absorbed or reflected by airborne particles** as it travels through the atmosphere.
 - ⌘ If aerosols are concentrated near the surface, **an optical depth of 1 or above** indicates very **hazy conditions**.
 - ⌘ An optical depth or **thickness, of less than 0.1** over the entire atmospheric vertical column is considered **clean**.
- ⌚ **Angstrom Exponent:**
 - ⦿ The lower values of **Angstrom Exponent (AE)** in spring indicated dominance of coarse-mode dust aerosols.
 - ⦿ **The Angstrom Exponent** is a parameter that describes **how the optical thickness of an aerosol typically depends on the wavelength** of the light.

⌚ **Composition of Air:**

- ⊙ **Pure and polluted dust** exhibited fractions between 16% and 23%, with a low frequency of less than 13% of absorbing aerosols, denoting weak influence of **anthropogenic aerosols** and **Black Carbon** over the trans-Himalayan sites.

Significance of the Study

- ⌚ The atmospheric aerosols **play a key role in the regional/global climate system** through scattering and absorption of incoming solar radiation and by modifying the cloud structure.
- ⌚ The transport of **light-absorbing carbonaceous aerosols and dust from the polluted Indo-Gangetic Plain and desert areas over the Himalayas** constitutes a major climatic issue due to severe **impacts on atmospheric warming and glacier retreat**.
- ⌚ This heating over the Himalayas facilitates the “**elevated-heat pump**” that strengthens the temperature gradient between land and ocean and modifies the atmospheric circulation and the monsoon rainfall.
- ⌚ A deep scientific study of **aerosol generation, transport, and its properties have important implications in the mitigation of climate change**.
- ⌚ The study can help better **understand the aerosol optical and microphysical properties** and improve the **modelling of aerosol effects in view of aerosol-climate implication** via modifications in atmospheric warming and changes in the snow/glacier albedo over the trans-Himalayan region.

Background

- ⌚ Measurements of aerosol optical and microphysical properties started during the last decade at the **Indian Astronomical Observatory (IAO) at the high altitude background sites of Hanle and Merak in the trans-Himalayas** under the frameworks of **Aerosol Radiative Forcing over India (ARFI)** and **Astronomical Site Survey program of Indian Institute of Astrophysics (IIA), Bangalore**.
- ⌚ The **Indian Astronomical Observatory**, located near **Leh in Ladakh**, has one of the world’s highest located sites for optical, infrared and gamma-ray telescopes.
- ⌚ In addition to this, few in-situ measurements of carbonaceous aerosols and ionic species have also been performed at Himansh Observatory (Spiti Valley) in the western Himalayas.

Aerosol

- ⌚ Aerosols are defined as a combination of **liquid or solid particles suspended** in a gaseous or liquid environment.
- ⌚ In the atmosphere, these particles are mainly situated in the low layers of the **atmosphere (< 1.5 km)** since **aerosol sources** are located on the terrestrial surface.
- ⌚ However, certain aerosols can still be found in the stratosphere, especially volcanic aerosols ejected into the high altitude layers.
- ⌚ The origin of atmospheric aerosols is either **natural or the result of anthropogenic activities**.
 - ⊙ **Natural sources of aerosols** include sea salt generated from breaking waves, mineral dust blown from the surface by wind, and volcanoes.
 - ⊙ **Anthropogenic aerosols** include sulfate, nitrate, and carbonaceous aerosols, and are mainly from fossil fuel combustion sources.
 - ⊙ **Significance:**
 - ⌘ Reflect **more energy from the sun back to space**.
 - ⌘ In remote places with cleaner air, the effect of aerosol particle formation on clouds is found to be much larger.
 - ⌘ Affect the atmospheric chemical composition.
 - ⌘ Can **reduce visibility**.
 - ⌘ Have important impacts on **air quality and human health** (e.g. aerosols can cause damage to heart and lungs).
 - ⌘ Serve as nuclei for cloud droplets or ice crystals in ice clouds.

Rise in the Population of Asiatic Lions

Why in News

- Recently, the Gujarat Forest Department has announced an **increase in the population of Asiatic lions in the Gir forest region**.
- ⌚ Total **674 lions** were recorded compared to the **523 in the Lion Census of 2015**.
 - ⌚ The count was estimated from a **population observation exercise** called **Poonam Avlokan** in place of the **15th Lion Census**.

- ⊙ The 15th lion census was due to be conducted on 5th and 6th June, but was postponed indefinitely due to the **Covid-19 outbreak**.
- ⊙ Poonam Avlokan is a **monthly in-house exercise** carried out **every full moon**. It is a mechanism developed by the Forest Department in 2014 as part of preparations for the 2015 Lion Census.

Key Points

🕒 Numerical Analysis:

- ⊙ The lion population has **grown by almost 29%** from the last count in 2015.
 - ⌘ The lion population in the state of Gujarat has **doubled since 2001**.
- ⊙ Moreover, the distribution of the lions has **expanded from 22,000 sq. km in 2015 to 30,000 sq. km in 2020**.
 - ⌘ Thus, the **geographical distribution area** for Gir forests's lions has been **increased by 36%**.

🕒 Significance of 2020 Count:

- ⊙ The 2015 Census had counted 523 lions, **up from 411 in 2010**.
 - ⌘ But 12 lions were killed in a **flash flood in Amreli** just a month after the 2015 Census.
- ⊙ The deaths of lions in 2015 was followed by deaths of more than two dozen lions in an **outbreak of Canine Distemper Virus (CDV) and babesiosis in 2018**.
 - ⌘ Babesia is a tiny parasite that infects red blood cells and is usually transmitted by a tick bite. Infection with Babesia is called babesiosis.
- ⊙ Additionally, the **babesiosis outbreak was also reported in Gir in 2020**, and around two dozen lions were reported to be killed.

🕒 Reasons for Increase:

- ⊙ Over the last several years, the lion population in Gujarat has been **steadily rising**.
- ⊙ This increase has been powered by **community participation, emphasis on technology, wildlife healthcare, proper habitat management and steps to minimise human-lion conflict**.

Regular Lion Census

🕒 History:

- ⊙ The **first Lion Census** was conducted by the **Nawab of Junagadh in 1936**.

- ⊙ **Since 1965, the Forest Department** has been regularly conducting the Lion Census every five years.

🕒 Procedure:

⊙ Time Period:

- ⌘ The regular Lion Census is conducted **once every five years**. The **last Census** was conducted in **2015**.
- ⌘ The Lion Census usually runs **for more than two days**, including a preliminary census and a final census.
- ⌘ However, the Poonam Avlokan is carried out for **24 hours assessing the number of lions** and their locations in their respective jurisdictions.

⊙ Participation:

- ⌘ The Forest Department **invites NGOs, experts and wildlife enthusiasts** to join the Census for transparency and augmenting manpower.
- ⌘ Whereas the Poonam Avlokan exercise is conducted **only by forest staff**.
- ⌘ Thus, the Lion Census experiences **larger participation** of the people compared to the Poonam Avlokan exercise.

⊙ Methodology Used:

- ⌘ The Lion Census is done using the **block counting method** — in which census enumerators remain stationed at water points in a given block and estimate abundance of lions in that block, based on direct sighting of lions who need to drink water at least once in 24 hours during the summer.
- ⌘ Under Poonam Avlokan exercise, the teams keep moving in their respective territories and make their estimates based on **inputs provided by lion trackers and on chance sightings**.

Gir National Park

- 🕒 The Gir National Park and Wildlife Sanctuary is located in the **Junagadh district of Gujarat**.
- 🕒 The Gir Forests is the **only natural habitat of Asiatic lions**. It was declared as a sanctuary in 1965 and a national park in 1975.
- 🕒 Gir is often linked with **"Maldharis"** who have survived through the ages by having a symbiotic relationship with the lions.
 - ⊙ Maldharis are religious **pastoral communities** living in Gir. Their settlements are called **"nesses"**.

Protection for Asiatic Lions

- 🕒 **Protection Status:**
 - ⊙ **IUCN Red List:** Endangered
 - ⊙ **CITES:** Appendix I
 - ⊙ **Wildlife (Protection) Act 1972:** Schedule I
- 🕒 **Conservation Efforts:**
 - ⊙ The **“Asiatic Lion Conservation Project”** has been launched by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).
 - ⊙ The project has been approved for **three financial years from 2018 to 2021.**
 - ⊙ The project envisages scientific management with the involvement of communities in coordination with multi-sectoral agencies for disease control and veterinary care for overall conservation of Asiatic lions.

Athirapally Hydel Electric Project

Why in News

Recently, the **Kerala government** has approved the proposed **Athirapally Hydro Electric Project (AHEP)** on the **Chalakydy river** in **Thrissur** district of the state.

- 🕒 There are **already five dams for power and one for irrigation** and it will be the seventh along the 145 km course of the Chalakydy river.

Key Points

- 🕒 The total installed capacity of AHEP is **163 MW** and the project is supposed to make use of the tail end water coming out of the existing **Poringalkuthu Hydro Electric Project** that is constructed across the Chalakydy river.
 - ⊙ AHEP envisages diverting water from the Poringalkuthu project as well as from its **own catchment of 26 sq km.**
- 🕒 Kerala state government has given a **no-objection certificate (NOC)** to the **Kerala State Electricity Board (KSEB)** for a period of **seven years** and has permitted it to proceed with the project’s implementation.
- 🕒 KSEB officials are confident that they can manage approval from the **Ministry of Environment, Forest and Climate Change** as it was **approved in 2012 by an Expert Appraisal Committee (EAC)** for river valley and hydro-electric projects.

Chalakydy River

- 🕒 It **originates in the Anamalai region of Tamil Nadu** and is joined by its major tributaries **Parambikulam, Kuriyarkutti, Sholayar, Karapara and Anakayam** in Kerala.
- 🕒 The river **flows through Palakkad, Thrissur and Ernakulam** districts of Kerala.
- 🕒 It is the **4th longest river in Kerala** and one of very few rivers of Kerala, which is having **relics of riparian vegetation** in substantial level.
 - ⊙ A **riparian zone** is the interface between land and a river or stream. Plant habitats and communities along the river margins and banks are called **riparian vegetation**, characterized by hydrophilic plants.
- 🕒 It is the **richest river in fish** diversity perhaps in India as it contains 85 species of freshwater fishes out of the 152 species known from Kerala only.
- 🕒 The famous waterfalls, **Athirappilly Falls and Vazhachal Falls**, are situated on this river.
- 🕒 It **merges with the Periyar River near Puthenvelikkara** in Ernakulam district.

- ⊙ EACs are constituted for giving environmental clearance under the **Environmental Impact Assessment (EIA)**.

🕒 Opposition:

- ⊙ The government’s move to revive the already controversial power project has gained **opposition from various political leaders and environmentalists.**
 - ⌘ KSEB **first mooted the project in 1996** but it had been **suspended** due to strong opposition by the local community backed by environmentalists and politicians with green concerns.
 - ⌘ A report by the **Kerala State Biodiversity Board** pointed out in **1997** that the power project would **adversely affect the ecology** of the fragile river ecosystem at Athirappilly.
- ⊙ It is feared that it will cause people to **organise a protest on the lines of Silent Valley** in the coming days.
 - ⌘ **Silent Valley** was an **ecological movement** with huge mass participation that forced the Kerala government to **abandon dam construction across the Kunthri River in Palakkad** district during the **late 1970s and early 1980s.**

🕒 **Environmental Threats:**

- ⊙ Athirappally is home to some **rarest species of birds, animals and plant species** which will be impacted.
 - ⌘ Apart from being home to **hornbills**, tigers and leopards, the forests also host the Nilgiri langur, the **lion-tailed macaque** and the rare Cochin forest cane turtle.
- ⊙ **Fish varieties** in the Chalakudy river would be impacted.
- ⊙ Around 168 hectares of **biodiversity-rich forests in the Western Ghats** would be submerged.
- ⊙ **Kadar tribal settlements** in the forests will be dismantled and displaced. The move seems to be violative of the forest rights granted to the Kadars under the **Forest Rights Act, 2006**.
- ⊙ It would **sever** the only link between the **Peechi Vazhani Wildlife Sanctuary, Thrissur and the Idamalayar basin of the Periyar river**.
- ⊙ The vital **elephant corridor between the Parambikulam Sanctuary (also a tiger reserve) and the Pooyamkutty forests** would also be affected.
- ⊙ On the **tourism front**, the project would **wipe out the majestic Athirappally and Vazhachal waterfalls**, which draw 0.6 million domestic and foreign tourists every year.

Estimation Exercise of Indian Gaur in Nilgiris

Why in News

Recently, the **first population estimation exercise of the Indian Gaur (Bison)** was carried out in the Nilgiris Forest Division, Tamil Nadu.

- 🕒 **World Wide Fund for Nature India** assisted the exercise and highlighted that there are estimated 2,000 Indian gaurs across the division.

Key Points

- 🕒 It has been revealed that the **majority of the animals in conflict-prone areas** in the division live dangerously close to human habitations due to their habitat loss and fragmentation, exacerbating the probability of having problematic interactions with humans.

- 🕒 **Due to easy availability of food and lack of threat from predators**, gaurs prefer to inhabit tea estates and human settlements.
- 🕒 The **spread of invasive species of plants** in reserve forest have further degraded the Gaur's natural habitat.
- 🕒 The **changing land-use patterns like converting tea estates** into resorts and buildings has led to erection of more fences limiting the traditional pathways used by the gaurs to move between habitats.
- 🕒 In areas except for Nilgiri Forest Division, there are sizable populations of gaurs but interactions with humans were comparatively less due to native forests being largely free of invasive flora and land-use patterns also remaining relatively stable.

Indian Gaur

- 🕒 The Indian Gaur or Bison (*Bos gaurus*) is the largest and the tallest in the family of wild cattle and is a grazing animal.

Threats:

⊙ **Food Scarcity:**

- ⌘ The destruction in the grasslands has led to the decline in availability of food for these animals.



- ⌘ Due to the planting of commercially important trees, the lush grassland has diminished which is the prime source of fodder for this wild cattle.
- ⌘ They have to fight for their food due to indiscriminate grazing of domestic animals in the areas.

⊙ **Poaching:**

- ⌘ The illegal hunting of the Indian bison is done for their commercial value as well as due to the high demand of gaur meat in the illegal market of India-Nepal border.

🕒 **Conservation:**

- ⊙ **IUCN Red List:** Vulnerable.
- ⊙ **Wild Life Protection Act, 1972:** Schedule I.

- 🕒 Nowadays, this animal is kept well and protected in some of the famous national parks of India like Nagarhole, **Bandipur**, Kabini and Masinagudi (**Mudumalai**).

World Wide Fund for Nature India

- ⌚ It was established as a **charitable trust on 27th November, 1969** and today it is one of the leading conservation organizations in the country.
- ⌚ In 1987, it changed its name from the World Wildlife Fund to World Wide Fund for Nature India.
- ⌚ It is a science-based organization which addresses issues such as the conservation of species and its habitats, climate change, water and environmental education, among many others.
- ⌚ Mission Statement: To stop the degradation of the planet's natural environment and build a future in which humans live in harmony with nature, by:
 - ⦿ Conserving the world's biological diversity.
 - ⦿ Ensuring that the use of renewable natural resources is sustainable.
 - ⦿ Promoting the reduction of pollution and wasteful consumption.

Expansion of the Amery Ice Shelf

Why in News

The **National Centre for Polar and Ocean Research (NCPOR)** has predicted an increase in the expansion of **Amery Ice Shelf (AIS)** boundaries from its 2016 positions.

- ⌚ The AIS is **one of the largest glacier drainage basins** in the world, located on the **east coast of Antarctica**.
- ⦿ The AIS dynamics and mass balance help in understanding the **changes in the global climate scenario**.
- ⌚ The prediction made by NCPOR is expected to help to understand the **ongoing changes in the ocean and atmospheric forces better**.

Key Points

- ⌚ **Description:**
 - ⦿ The predictions are based on a **16-year-long satellite-based observation** that covered an area of 60,000 sq. km across the AIS.
 - ⦿ The study intends to analyze **AIS extension and the influence of ocean atmospheric forcing in East Antarctica**.
- ⌚ **Expansion of AIS:**

Ice Shelves

- ⌚ The floating sheets of ice are called '**ice shelves**'. It plays a multi-faceted role in maintaining the **stability of a glacier**.
- ⌚ The ice sheet mass balance, sea stratification, and bottom water formation are important parameters for the balancing of a glacier. Ice shelves **connect a glacier to the landmass**.
 - ⦿ The **ice sheet mass balance** of a glacier is the net balance between the mass gained by snow deposition, and the loss of mass by melting.
 - ⦿ **Sea stratification** takes place when water masses with different properties - salinity, oxygenation, density, temperature - form layers that act as barriers to water mixing.
 - ⦿ The **deep-ocean bottom water** is formed by the cooling and sinking of surface water at high latitudes.
- ⦿ It has been predicted that there would be a **24% increase** in the expansion of AIS boundaries by **2021** and another **24% expansion by 2026** from its 2016 positions.
- ⦿ The study has also observed a **spatio-temporal change** in the ice shelf as reflected by the **extension of the Prydz, Mackenzie and the Sandefjord Bays** which forms a part of the AIS.
- ⌚ **Significance:**
 - ⦿ In the background of the global warming scenario, the study reveals about the **advancement in the predicted ice shelf extent**, the future dynamism of ocean heat fluctuation and Antarctic Amery ice shelf mass shifting-extent.
 - ⦿ The study has also observed that the **critical cooling of the Sea Surface Temperature (SST)** is resulting in an **advancement of the ice shelf by 88%** in the past 15 years. These changes would contribute in a major way to **climate variability**.

Poaching Increased During Lockdown

Why in News

According to a report released by the **TRAFFIC**, there has been a significant increase in reported poaching of wild animals during the lockdown.

- ⌚ The report was named as ‘**Indian wildlife amidst Covid-19 crisis: An analysis of poaching and illegal wildlife trade trends**’.
- ⌚ The analysis was carried out by comparing media-reported instances of poaching during a six-week pre-lockdown period (February 10 to March 22) with those from six weeks during the lockdown (March 23 to May 3).

Key Points

- ⌚ **Incidences of poaching increased to more than double** during the lockdown period. The increase in poaching incidents was for **consumption and local trade**.
 - ⊙ Poaching of **ungulates** (a group of large mammals with hooves), hunted mainly for their meat, **saw the highest increase** during the lockdown period.
 - ⊙ Poaching of **small mammals such as hares, porcupines, pangolins, giant squirrels, civets, monkeys and smaller wild cats** also showed a marked increase.
 - ⊙ Among big cats, **nine leopards were reported to have been killed**, against four in the pre-lockdown period.
- ⌚ Several **protected Chinkaras** (*Gazella bennettii*), were reported to have been poached in Rajasthan.
 - ⊙ Chinkara is a protected species under the **Schedule 1** of the **Wildlife (Protection) Act, 1972**.
 - ⊙ IUCN Status: **Least Concern**.
- ⌚ Despite being linked to the **Covid-19** crisis, **Pangolins** were targeted by poachers in various parts of the country.
- ⌚ However, some species, like **tortoises and big cats, which need transportation of trafficked parts have not been poached** because there was no transportation available.
 - ⊙ **Seizures of wild pet-birds also reduced** due to lack of transportation and market.
- ⌚ **Issues Involved:**
 - ⊙ If poaching of ungulates and small animals remains unchecked **it will lead to depletion of prey base** for big cats like tigers and leopards.
 - ⊙ This in turn will lead to higher incidences of **human-wildlife conflicts**.
 - ⊙ It will lead to **depletion of the ecosystems** and undermine the significant successes that India has achieved in the field of wildlife conservation.

TRAFFIC

- ⌚ TRAFFIC is a leading **Wildlife Trade Monitoring Network** and **non-governmental organisation** working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.
- ⌚ It is a joint program of the **World Wildlife Fund (WWF)** and the **International Union for Conservation of Nature (IUCN)**, created in 1976.
- ⌚ TRAFFIC focuses on leveraging resources, expertise and awareness of the latest globally urgent species trade issues such as tiger parts, elephant ivory and rhino horn.

World Wildlife Fund

- ⌚ It is the world’s **leading conservation organization** and works in more than 100 countries.
- ⌚ It was established in 1961 and is headquartered at Gland, Switzerland.
- ⌚ Its **mission is to conserve nature** and reduce the most pressing threats to the diversity of life on Earth.
- ⌚ WWF collaborates at every level with people around the world to develop and deliver innovative solutions that protect communities, wildlife, and the places in which they live.

Malabar Gliding Frog

Why in News

Recently, a rare amphibian, **Malabar Gliding Frog (*Rhacophorus malabaricus*)** was spotted in Pullad, Kerala.



- ⌚ It is **endemic** to the rainforest of **western ghats**.
 - ⊙ **Endemic species** are those plants and animals that exist only in one geographical region.

Key Points

- ⌚ **Characteristics:**
 - ⊙ It is a **green frog with slender body, webbed feet, unusual body positions** and very well **camouflaged**.
 - ⌘ **Camouflage**, also called **cryptic coloration**, is a defense mechanism or tactic that organisms use to disguise their appearance, usually to blend in with their surroundings.

- ⌚ The fingers and toes are like sticks to attach and walk through tree branches.
- ⌚ It has a **high gliding abilities**, with the long skin between the fingers which helps to cover **10 to 12 feet** in one leap.
- ⌚ It has a **body length of 10 cm**, making it one of the **largest mossy frogs**.
 - ⌘ **Mossy Frogs:** These frogs have the skin which is green in colour and resembles moss growing on the rock.
- ⌚ The breeding period is during the monsoon and usually the females choose to spawn on the lush green leaves overhanging a waterbody.
- ⌚ As their body is so soft, they can live only in moist forests with streams.
- ⌚ Behaviour like **cannibalism** has been found among tadpoles.
- ⌚ **Foam Nests:**
 - ⌘ They built **foam nests** above small pools of water, into which the tadpoles drop after hatching.
- ⌚ **Concern:** The Malabar gliding frog population is declining **due to deforestation, climate change, developmental activities, and toxic chemicals**.
- ⌚ **Protection Status:** In the **International Union for Conservation of Nature (IUCN) Red List**, it is placed under the **Least Concern** category.

Western Ghats

- ⌚ These are the mountain ranges running parallel along the **western coast of India starting from Gujarat and ending in Tamil Nadu**.
- ⌚ **Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala** are the six Indian states covered by Western Ghats.
- ⌚ The mountain range is also a **'Hottest Hotspot' of biodiversity**.
- ⌚ The Ghats are often called the **Great Escarpment of India** and are also a **UNESCO World Heritage Site**.
- ⌚ **High Biodiversity and Endemism** are special features of Western Ghats along with the presence of **Evergreen Forests**.

Amphibia

- ⌚ They fall under the **Chordata phylum** of the kingdom Animalia. Examples: **Frogs, Salamanders**, etc.
- ⌚ These are **multicellular vertebrates** that live both on **land and water**.

- ⌚ They are the **first cold-blooded animals** to have appeared on land.
 - ⌚ **Cold-blooded animals** can be defined as the animals which cannot regulate their internal body temperature with the change in the environment.
- ⌚ They **respire through the lungs and skin**.
- ⌚ They have **three chambered hearts**.

Tropical Cyclone: Cristobal

Why in News

- ⌚ Recently, a **tropical Cyclone named Cristobal** has formed in the southern **Gulf of Mexico**.

Key Points

- ⌚ **Atlantic Hurricane Season:**
 - ⌚ Tropical cyclones in the **North Atlantic** are called **hurricanes, tropical storms, or tropical depressions**.
 - ⌚ The Atlantic hurricane season is the period in a year when hurricanes usually form in the Atlantic Ocean.
 - ⌚ In the **Northern Atlantic Ocean**, a distinct hurricane season occurs from June 1 to November 30, sharply peaking from late August through September.
 - ⌚ Worldwide, **tropical cyclone activity peaks in late summer**, when the difference between temperatures is large and sea surface temperatures is the greatest.
- ⌚ **Favourable Conditions in Gulf Of Mexico:**
 - ⌚ **Sea surface temperature** is generally very high in **southwestern Gulf of Mexico**, which is to allow the system to strengthen.
 - ⌚ **Wind shear** i.e. the increase in wind speed with height in the atmosphere, or a sharp change in wind direction, is low as the storm emerges over open water and begins its northward.



- ⌘ The **low wind shear** favors strengthening of the system even if interaction with Mexico first weakens the storm.

Gulf of Mexico

- ⌚ The Gulf of Mexico is an **ocean basin and a marginal sea of the Atlantic Ocean**, largely surrounded by the **North American continent**.
- ⌚ It is bounded on the northeast, north and northwest by the **Gulf Coast of the United States**, on the southwest and south by **Mexico**, and on the southeast by **Cuba**.

Tropical Cyclone

- ⌚ A Tropical cyclone is an intense circular storm that originates over **warm tropical oceans and is characterized by low atmospheric pressure, high winds, and heavy rain**.
- ⌚ A characteristic feature of tropical cyclones is the **eye**, a central region of clear skies, warm temperatures, and low atmospheric pressure.
- ⌚ Storms of this type are called **hurricanes in the North Atlantic and eastern Pacific and typhoons in South East Asia and China**. They are called **tropical cyclones in the southwest Pacific and Indian Ocean region**.
- ⌚ In the **southern hemisphere storms rotate clockwise and anticlockwise in the northern hemisphere**.
- ⌚ **Conditions Favourable for Tropical Cyclone Formation:**
 - ⌚ **Large sea surface with temperature higher than 27°C:** Ocean waters having temperatures of 27° C or more is the source of moisture which feeds the storm. The condensation of moisture releases enough latent heat of condensation to drive the storm.
 - ⌚ **Presence of the Coriolis force:** The Coriolis force is zero at the equator (no cyclones at equator because of zero Coriolis Force) but it increases with latitude.
 - ⌘ Coriolis force at 5° latitude is significant enough to create a storm.
 - ⌘ About 65% of cyclonic activity occurs between 10° and 20° latitude.
 - ⌘ The rotation of the earth about its axis affects the direction of the wind. This force is called the **Coriolis force**.

- ⌚ **Weak low-pressure area:** Small local differences in the temperature of water and of air produce various low pressure centers of small size.
 - ⌘ A weak cyclonic circulation develops around these areas.
- ⌚ **High humidity:** Such conditions exist over the equatorial doldrums, especially in western margins of oceans (this is because of east to west movement of ocean currents), which have great moisture carrying capacity because the trade winds continuously replace the saturated air.
 - ⌘ **Doldrums:** Known to sailors around the world as the doldrums, the **Inter-Tropical Convergence Zone, (ITCZ)** is a **belt around the Earth extending approximately five degrees north and south of the equator**. Here, the prevailing trade winds of the northern hemisphere blow to the southwest and collide with the southern hemisphere's driving northeast trade winds.

Cyclone Nisarga

Why in News

A fast-moving **depression in the Arabian Sea** has intensified **into a cyclone named 'Nisarga'**.

- ⌚ The name 'Nisarga' has **been suggested by Bangladesh**.

Key Points

- ⌚ As per the **India Meteorological Department**, the impact of the cyclone is likely to be felt in **Maharashtra and Gujarat**.
- ⌚ There is a **concern about the impact of the cyclonic storm on the battle against Covid-19**, as the rain and flooding may set back social distancing and other necessary measures at evacuation centres, and even at some Covid-19 facilities located in low-lying areas.
- ⌚ Few days back, **super cyclone Amphan** - one of the strongest cyclones the country has seen in the last few decades - hit West Bengal, Odisha and Bangladesh.
 - ⌚ **Cyclone Nisarga is expected to be weaker than Cyclone Amphan** in strength and intensity.
 - ⌚ However in case of both the cyclones, the **exceptional warm ocean temperatures** seem to be behind the intense storms.

🕒 **Cyclones in Arabian Sea:**

- ⊙ While cyclones have always been more frequent in Bay of Bengal, they have been **less frequent off of India’s western coast** — a trend that has been gradually changing, according to scientists.
- ⊙ Further, cyclones formed in the Bay of Bengal are stronger than those on the Arabian Sea side. The **relatively cold waters of the Arabian Sea discourage the kind of very strong cyclones** that are formed on the Bay of Bengal side.
- ⊙ The **year 2019 was slightly unusual** as the Arabian Sea saw the most frequent and intense cyclonic activity in more than 100 years. Five cyclones originated in the area in 2019 — **Vayu, Hikka, Kyarr, Maha** and Pavan – when normally only one or two are formed.
 - ⌘ The Arabian Sea saw more cyclonic storms than the Bay of Bengal during 2019. The Bay of Bengal reported less than normal number of cyclones. The three cyclones formed were — Cyclones **Pabuk, Fani, Bulbul**.
- ⊙ Post-monsoon cyclones have been seen in Arabian Sea. However, pre-monsoon cyclones, such as Nisarga, have so far been rare.

India Meteorological Department

- 🕒 IMD was established in 1875.
- 🕒 It is an agency of the **Ministry of Earth Sciences of the Government of India**.
- 🕒 It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

Lonar Crater

Why in News

Recently, the water in the **Lonar lake in the Buldhana district of Maharashtra** was found to be **turning reddish** over the past few days.

- 🕒 The local administration of the district has requested the **National Environmental Engineering Research Institute (NEERI), Nagpur**, to find out the reason behind it.

Key Points

- 🕒 The colour of water in Maharashtra’s Lonar lake, also known as **Lonar crater**, has changed to red.
- 🕒 It is said to be normal when the lake gets rainwater.
- 🕒 **Probable Reasons:**
 - ⊙ **Algal Bloom:**
 - ⌘ **An algal bloom or algae bloom** is a rapid increase or accumulation in the population of algae in freshwater or marine water systems, and is often recognized by the **discoloration in the water**.
 - ⌘ Change in colour is generally attributed to algal bloom in the lake around the time of monsoon.
 - ⊙ **Change in Salinity:**
 - ⌘ Due to the evaporation of water, the salinity in the water has increased. Hence, it is believed to be a factor behind the change in colour.
 - ⊙ **Biological Change:**
 - ⌘ The colour change seems to be a biological change in the Lonar crater as during the **lockdown phase**, there was no disturbance to the lake and naturally it has turned red.

Lonar Lake

- 🕒 Lonar Lake, also known as Lonar crater, is a notified **National Geo-heritage Monument**, saline, soda lake, located at **Lonar in Buldhana district, Maharashtra**.
- ⊙ Geo-heritage refers to the geological features which are inherently or culturally significant offering insight to earth’s evolution or history to earth science or that can be utilized for education.
- ⊙ **Geological Survey of India (GSI)** is the parent body which is making efforts towards identification and protection of geo-heritage sites.
- 🕒 It is situated inside the Deccan Plateau—a massive plain of volcanic basalt rock created by eruptions.
- 🕒 It is believed to have been created over 52,000 years ago when a meteorite hit the Earth.
- 🕒 It is formed in basaltic rock with a diameter of 1.85 km and depth of 500 feet.

Art & Culture

Highlights

⌘ NAIMISHA 2020

⌘ SPIC MACAY

NAIMISHA 2020

Why in News

The **National Gallery of Modern Art (NGMA)**, New Delhi will organise **online NAIMISHA 2020- Summer Art Program** from 8th June 2020 to 3rd July 2020, to reach its audiences during the **Covid-19** outbreak.

Key Points

- ⌚ **NAIMISHA 2020:**
 - ⊙ It is an initiative to provide a chance to participants and art enthusiasts to create and learn from practising artists.
 - ⊙ The programme includes online workshops sessions on painting, sculpture, printmaking and indrajaal (an interdisciplinary creative workshop).
 - ⊙ The exhibition of selected artworks from the program will be displayed on So'ham, the cultural media platform of NGMA.
- ⌚ **So'ham:**
 - ⊙ It is the first cultural media platform of India, under the banner of NGMA.
 - ⊙ The platform aims to develop a dialogue between NGMA, artists and art enthusiasts.
 - ⊙ It is inspired by the Vedic philosophy of So'ham, which stands for one's identity and its connection to the universe.

National Gallery of Modern Art

- ⌚ NGMA was established in 1954, at the Jaipur House, New Delhi.
- ⌚ It is run and administered as a subordinate office to the Ministry of Culture, Government of India.
- ⌚ The NGMA has two branches one at Mumbai and the other at Bengaluru.
- ⌚ One of its objectives is to acquire and preserve works of modern art from the 1850s onward.

SPIC MACAY

Why in News

Recently, the **Prime Minister of India addressed the SPIC MACAY's International Convention** via video conference.

- ⌚ He appreciated the new elements in the SPIC MACAY convention this year like nature walk, heritage walk, literature and holistic food along with Yoga and Naad Yoga.
- ⌚ He also stated that music is strengthening the ideal of '**Ek Bharat Shreshtha Bharat**'.

Key Points

- ⌚ **SPIC MACAY (Society for the Promotion of Indian Classical Music And Culture Amongst Youth)** is a non-political, nationwide, voluntary movement **founded in 1977 by Dr Kiran Seth**.
 - ⊙ He was awarded the **Padma Shri** for his contribution to the arts in 2009.
- ⌚ It is a participatory student movement **registered under the Societies Registration Act, 1860**.
- ⌚ In 2011, it was awarded the **Rajiv Gandhi Sadbhavana award** in recognition of its contribution to youth development.
- ⌚ Its **intention** is to enrich the quality of formal education by increasing awareness about different aspects of Indian heritage and inspiring the young mind to imbibe the values embedded in it.
- ⌚ It is **supported nationally** by the Ministry of Culture, Ministry of Youth Affairs and Sports, and the Ministry of Human Resource Development.
- ⌚ It has been organising national and international conventions for the last 35 years.
 - ⊙ **Anubhav**, a week-long online project, seeks to help youngsters indulge in mystical and diverse aspects of Indian art, culture and heritage. It is expected to reduce the stress triggered by **Covid-19**.

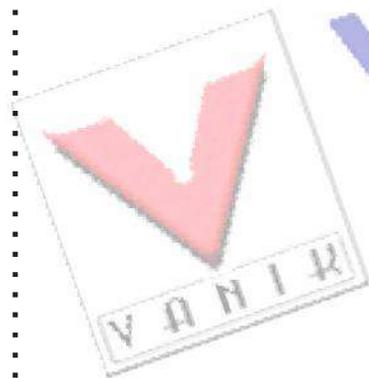
- ⌚ The movement has a **central executive body in New Delhi** and organises its programmes through a worldwide network of schools, colleges and educational institutions.

Rajiv Gandhi Sadbhavana Award

- ⌚ In 1992, a year after Rajiv Gandhi's assassination, the All India Congress Committee (AICC) of the Indian

National Congress (INC) instituted Rajiv Gandhi National Sadbhavana award in memory of the former Prime Minister Rajiv Gandhi.

- ⌚ This award is presented every year to those who have devoted their life in understanding and promoting social harmony. It constitutes a citation and cash Prize of Rs. 10 Lakh.



Social Issues

Highlights

⌘ Educational Complexes for Tribal Students: Odisha

⌘ World Day Against Child Labour 2020

Educational Complexes for Tribal Students: Odisha

Why in News

Recently, the Government of Odisha has announced the establishment of **three mega educational complexes exclusively for tribal students**, where both academic and sporting skills will be harnessed.

Key Points

🕒 Establishment:

- ⊙ The complexes will be established in **tribal dominated districts** such as **Keonjhar, Sundargarh and Mayurbhanj**.
 - ⌘ **Santal and Bhuyan** are two dominant tribal groups living in these districts.
- ⊙ Each complex will house **3,000 tribal students**, which is a unique initiative in the field of **tribal education**.
- ⊙ These complexes will have state of the art facilities to improve educational and sporting skills of tribal students from **Standard I to XII**.
 - ⌘ **State-of-the-art (cutting edge or leading edge)** refers to the **highest level of general development**, as of a device, technique, or scientific field achieved at a particular time.

🕒 Funding:

- ⊙ Funds required for mega complexes will be sourced from **Odisha Mineral Bearing Areas Development Corporation (OMBADC)**, which was formed for focused development of **mineral rich districts**. Incidentally, most mineral rich districts are tribal dominated.

🕒 Tribal Population in Odisha:

- ⊙ According to the 2011 Census, tribal people

constitute **8.6%** of the nation's total population i.e. over 104 million people.

- ⌘ **Tribe** has been defined as a **group of indigenous people** having common name, language and territory tied by strong kinship bonds, having distinct customs, rituals and beliefs etc.
- ⌘ **The President** under **Article 342** is empowered to declare communities as scheduled tribes. While **Parliament** by law can amend the list.
- ⊙ **Odisha's tribal population** constitutes **9.17%** of the country's tribal population.
- ⊙ In Odisha, tribal population is **22.85%** of State's total population.
 - ⌘ In terms of **percentage tribal population**, it occupies the **third position** in India.
 - ⌘ The First and Second are **Madhya Pradesh and Maharashtra** respectively.
- ⊙ Similarly, of India's total 75 **particularly vulnerable tribal groups**, 13 reside in Odisha.
- ⊙ With 62 tribal communities, Odisha has the most diverse tribes in India.
 - ⌘ Keonjhar, where tribes such as Sounti, Ho, Juang, Kharwar, Mahali, Oraon Kolha and Kora reside is the most mined district of the State.
 - ⌘ **Keonjhar** district contains **more than 70%** of the iron ore reserves of Odisha.

Educational Schemes for Tribals

- 🕒 **Eklavya Model School: Residential School** based on Navodaya Model to be opened in each tribal block by 2022.
- 🕒 **Rajiv Gandhi National Fellowship Scheme (RGNF):** RGNF was introduced in the year 2005-2006 with the objective to encourage the students belonging to ST community to pursue higher education.
- 🕒 **Vocational Training Center in Tribal Areas:** The aim of this scheme is to develop the skill of ST students

depending on their qualification and present market trends.

- ⌚ **National Overseas Scholarship Scheme:** The National Overseas Scholarship Scheme provides financial assistance to 20 students selected for pursuing higher studies abroad for Ph.D. and postdoctoral studies.
- ⌚ Pre and Post Matric Scholarship Schemes.

World Day Against Child Labour 2020

Why in News

Recently the World Day Against Child Labour has been observed on **June 12th 2020**.

Key Points

- ⌚ The **theme** for the year 2020 is **Covid-19: Protect children from child labour, now more than ever** which focuses on the impact of **Covid-19** crisis on child labour.
- ⌚ On 12th June 2002, the International Labour Organisation launched the **World Day Against Child Labour**.
- ⌚ Since then, every year, the day is marked to highlight the plight of child labourers worldwide and also to take required measures to eliminate it.

Data Across the World

- ⌚ **Absolute Numbers:** **152 million** children between the **ages of 5-17** were in child labour, almost half them, 73 million, in hazardous child labour.
- ⌚ **Age Specific:** Almost half (48%) of the victims of child labour were aged 5-11, 28% were 12-14 years old, and 24% were 15-17 years old.
- ⌚ **Sectors:** Child labour is concentrated **primarily in agriculture and allied activities (71%)**, 17% in services; and 12% in the industrial sector.

India and the Child Labour

- ⌚ In the age group of 15-18 years, India has around 23 million working children. This means **one in eleven children** between the **ages of 5-18 years** in the country are working.
- ⌚ Five states which are the India's biggest child labour employers- **Uttar Pradesh, Bihar Rajasthan, Madhya Pradesh and Maharashtra**.

Child Labour

- ⌚ The **International Labour Organisation (ILO)** defines **child labour as work that deprives children of their childhood, their potential and their dignity**, and that is harmful to their physical and mental development.
- ⌚ In the least developed countries, slightly more than one in four children (ages 5 to 17) are engaged in labour that is considered detrimental to their health and development.
- ⌚ The eradication of Child Labour is part of the **UN Sustainable Development Goal Target 8.7**.
- ⌚ **International Laws on Child Labour**
 - ⊙ **The UN Convention on the Rights of the Child, 1989:** It contains the idea that children are not just objects who belong to their parents and for whom decisions are made, or adults in training. Rather, they are human beings and individuals with their own rights.
 - ⊙ **International Labour Organizations Conventions on the minimum age for admission to employment of the year 1973** (ILO convention 138) and on the **worst forms of child labour of the year 1999** (ILO convention 182).
- ⌚ **Constitutional Provisions:**
 - ⊙ **Article 21A:** Right to Education
 - ⊙ **Article 24:** Prohibition of employment of children (below the age fourteen years) in factories, etc.
 - ⊙ **Article 39:** The State shall, in particular, direct its policy towards securing the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength.
- ⌚ **Initiatives by the Government of India:**
 - ⊙ **Gurupadswamy Committee: In 1979**, the central government formed the first statutory committee to analyse and research on the issue of child labour in India.
 - * One of their major observations was that the problem of child labour is inextricably linked to poverty.
 - * Taking into account the findings and recommendations of the committee, the Union Government enacted the **Child Labour (Prohibition and Regulation) Act in 1986**.

- ⊙ **National Policy on Child Labour (1987):** It focuses more on rehabilitation of children working in hazardous occupations and processes, rather than on prevention.
- ⊙ **Juvenile Justice (Care and Protection of Children) Act 2000 (the JJ Act) and amendment of the JJ Act in 2006:** It includes the working child in the category of children in need of care and protection, without any limitation of age or type of occupation.
- ⊙ **The Right to Education Act, 2009** has made it mandatory for the state to ensure that all children **aged 6 to 14 years** are in school and receive free education.
- ⊙ Another landmark step was the enactment of the **Child labour (Prohibition and Prevention) Amendment Act, 2016.**
 - * Initiatives like **Operation Smile, Operation Muskaan** to rescue and rehabilitation of childrens from an unorganised sector, manufacturing units and other factories.
 - * Recently, India has ratified **International Labour Organizations Convention (ILO) no 138 (minimum age for employment) and Convention no 182 (worst forms of child labour).**

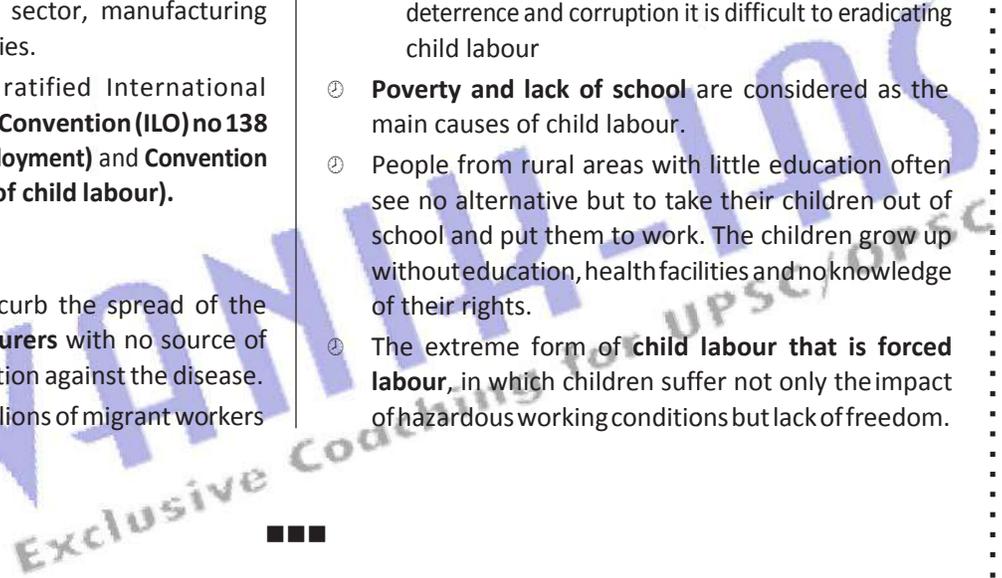
Impact of Covid-19

- ⌚ **In India,** the lockdown to curb the spread of the Covid-19 has left **child labourers** with no source of income, no means of protection against the disease.
- ⌚ The lockdown has forced millions of migrant workers

— facing long-term unemployment — to return to their villages without any jobs. Children of returnee migrants have been forced to become child labourers.

Concerns

- ⌚ The issue of child labour is still prevelant in India, despite the presence of several laws.
- ⌚ Child labour legislation to protect children has been inadequate and face the following challenges:
 - ⊙ **Definitional issue:** One of the biggest challenges in eradicating child labour is the confusion around the definition of a child, in terms of age, in various laws dealing with child labour.
 - ⊙ **Lack of identification:** Age identification of children is a difficult task in India due to the lack of identification documents E.g. Birth Certificates, School Certificates etc.
 - ⊙ **Weakenforcement of law:** Due to lack of adequate deterrence and corruption it is difficult to eradicating child labour
- ⌚ **Poverty and lack of school** are considered as the main causes of child labour.
- ⌚ People from rural areas with little education often see no alternative but to take their children out of school and put them to work. The children grow up without education, health facilities and no knowledge of their rights.
- ⌚ The extreme form of **child labour that is forced labour**, in which children suffer not only the impact of hazardous working conditions but lack of freedom.



Security

Highlights

⌘ 36th Anniversary of Operation Blue Star

⌘ Internal Displacement Caused by Disasters

36th Anniversary of Operation Blue Star

Why in News

Recently, the 36th anniversary of Operation Blue Star was observed by the country.

Key Points

⌚ Operation Blue Star:

- ⊙ It is a **code name given to an Indian Military Operation** to remove the separatists who were hidden inside the Golden Temple at Amritsar on 5th June 1984.
- ⊙ The operation was ordered by the then Prime Minister Indira Gandhi, primarily to take control of the Harmandir Sahib Complex in Amritsar (popularly known as the Golden Temple).
- ⊙ The Indian military entered into the premises of the temple to drive out the Sikh extremist religious leader, Jarnail Singh Bhindranwale and his armed followers.
- ⊙ The operation had two components to it, Operation Metal which was the invasion on the temple complex and Operation Shop which was confined to the countryside of the state.
- ⊙ This Operation helped in eliminating Khalistani terrorism.

⌚ Background:

- ⊙ Jarnail Singh Bhindranwale wanted the Indian government to pass the Anandpur Resolution, and thereby agree to the formation of a separate state of Khalistan for Sikhs.
- ⊙ Since 1982, this radical leader of Sikhism had managed to gain enough support for his cause and by mid-1983 had set up a base inside the

Golden Temple complex, with ammunition and his followers.

- ⊙ Hence, Operation Blue Star was launched between 1st June and 6th June 1984, with the aim of getting rid of Bhindranwale and his demands.
- ⊙ The operation resulted in the death of Bhindranwale.
- ⌚ Few months post-Operation Blue Star, Indira Gandhi was assassinated by her Sikh bodyguards, followed by severe anti-Sikh riots in Delhi.

National Security Guard

- ⌚ The **National Security Guard (NSG)** is a counter-terrorism unit that formally came into existence in 1986 by an act of Parliament- 'National Security Guard Act, 1986'.
- ⌚ Its headquarters is located in Manesar, Gurugram.
- ⌚ The idea behind raising such force came in the aftermath of Operation Blue Star, Akshardham Temple attack and the assassination of former PM Indira Gandhi, for combating terrorist activities with a view to protect states against internal disturbances.

Internal Displacement Caused by Disasters

Why in News

Recently, the 'State of India's Environment 2020 in Figures' report was published by the **Centre for Science and Environment (CSE)**.

- ⌚ It states that India had **around 50 lakh internal displacements** caused by disasters and extreme weather conditions like **floods, cyclones and drought** in 2019.

Key Points

- ⌚ **Major Findings related to Internal Displacement:**

- ⊙ According to it, the **internal displacements** in India were the highest in the world in 2019.
 - ⊗ **Internal Displacement** refers to the **forced movement of people** within the country they live in, **due to conflict, violence, development projects, natural disasters and climate change.**
 - ⊗ It refers to the number of movements, not people, as individuals can be displaced several times.
- ⊙ **Natural Disasters:** Displacements due to the flooding caused by the **south-west monsoon** and followed by **Cyclone Fani, Vayu, Bulbul** and **drought** conditions.
- ⊙ **Forced Migration:** It has also caused many **migrants** to move for work from one state to another.
- ⊙ **Impact of Covid-19:** Due to the impact of **lockdown** which was imposed to contain the **Covid-19 pandemic**, many workers migrated to their homes because of lack of employment and food.
- ⊙ **2011 Census Data on Migrant Populations:**
 - ⊗ There were over **45 crore migrants** in the country at the time, with the vast majority migrating within their own state.
 - ⊗ In 2011, over **1.7 crore new migrants** had moved for employment purposes, mostly from rural to urban areas.
- ⌚ **Other Findings:**
 - ⊙ The **report outlines** the status of **sustainable development, livestock, forests, water, waste, air, land, wildlife and other natural resources, environmental crimes and global economic risk.**
 - ⊙ **Sustainable Development Goals (SDGs):**
 - ⊗ India faces major **challenges in achieving** all of the 17 SDGs, especially SDG1 (No Poverty) and SDG 6 (Clean Water and Sanitation).
 - ⊙ **Forest Cover and Water Resources:**
 - ⊗ Forest cover has shrunk in **38% of districts**, while **five out of 21 river basins** are now in a state of **absolute water scarcity.**
 - ⊗ Only **Punjab** managed to get an average national ranking in the **management of water resources.**
 - ⊙ **Status of Tigers:**

- ⊗ It notes that there were **747 tigers more in 2018 than in 2014.**
- ⊗ However, the **net area meant for tiger conservation** shrunk by 179 square kilometres.
- ⊙ **Environmental Crime:**
 - ⊗ The report found that in 2018, total 35,196 environmental crimes were recorded in the country.
 - ⊗ Majority of those **cases are pending for police verification and in various courts.**
- ⊙ **Global Risk:**
 - ⊗ The **global risk** is determined as an **uncertain event or condition** that can cause **significant negative impact** on several countries or industries in the next ten years.
 - ⊗ The **top 4 global risks in terms of likelihood** are all found to be environment related as **extreme weather, climate action failures, natural disaster and biodiversity loss.**
 - ⊗ Under the **top 4 risks in terms of impact**, three were found to be environment related as **climate action failure, biodiversity loss, extreme weather.**
 - ⊗ In terms of the severity of impact over the next 10 years the top risk is failure of **climate change mitigation and adaptation.**

Way Forward

- ⌚ The report is an eye opener in terms of issues related to environment and biodiversity, development, poverty and internal migration and will help to understand their impacts.
- ⌚ It would further facilitate better decision making in mitigating the related problems.
- ⌚ There is an urgent need to take efforts towards conservation of environment, disposition of cases related to environmental crimes, providing livelihood to the migrants and achieving SDGs.
- ⌚ For the same, the centre and all the states must collaborate to prevent any loss to the environment and humans as well.

Miscellaneous

Highlights

- ⌘ Kohala Hydropower Project
- ⌘ Statehood Day of Telangana
- ⌘ Payments Infrastructure Development Fund
- ⌘ Nagar Van Scheme
- ⌘ iCommit Initiative
- ⌘ Airborne Rescue Pod for Isolated Transportation: ARPIT
- ⌘ Aditya: India's First Solar Ferry
- ⌘ Dropping Water levels in Germany's Rhine River
- ⌘ IFLAWS-Mumbai: Flood Warning System
- ⌘ Renaming of Kolkata Port Trust
- ⌘ Central Institute of Medicinal and Aromatic Plants
- ⌘ AarogyaPath: CSIR
- ⌘ Digital Initiatives by WCL
- ⌘ World Food Prize 2020

Kohala Hydropower Project

Why in News

China will be setting up a Kohala hydropower project in **Pakistan-occupied Kashmir (PoK)** under China-Pakistan Economic Corridor (CPEC).

- ⌚ India has already objected to the construction of the hydropower project.

China-Pakistan Economic Corridor

- ⌚ The China-Pakistan Economic Corridor (CPEC) is a part of the **One Belt One Road (OBOR)**, intended to improve infrastructure within Pakistan for better trade with China and to further integrate the countries of the region.

- ⌚ OBOR has two main components, One Belt - the land-based belt, and One Road refers to the ocean going 'Maritime Silk Road', which aims to connect the East Asian economic region with the European economic circle and runs across the continents of Asia, Europe and Africa.

- ⌚ India has boycotted the Belt and Road Forum organised by China. China's insistence on establishing the CPEC project through PoK is seen by India as a deliberate disregard of its territorial claims.

Key Points

- ⌚ **Description:**
 - ⌚ The **Kohala hydropower** project will be **built on the Jhelum river**.

- ⌚ It is a 1,124-megawatt power project intended to provide more than five billion units of clean and low-cost electricity annually for consumers in Pakistan.

India's Stand:

- ⌚ India has opposed the move on the grounds that the entire territory of the Union Territories of Jammu and Kashmir and Ladakh are integral and inalienable parts of India.
 - ⌘ Earlier **India had also objected to the construction of the Diamer-Bhashadam** in the Gilgit-Baltistan region of the PoK.
 - ⌘ In the past too, India has opposed projects jointly taken up by Pakistan and China in PoK as part of the CPEC.
- ⌚ India has **consistently conveyed her protest and shared concerns** with both China and Pakistan on all such projects in the **Indian territories under Pakistan's illegal occupation**.

Statehood Day of Telangana

Why in News

The Prime Minister of India greeted the people of **Telangana on Statehood Day (2nd June)**.

Key Points

- ⌚ On **2nd June, 2014** the **northwestern part of Andhra Pradesh** was separated and 29th state Telangana was created with Hyderabad as its capital.

- ⌚ **The Andhra State Act (1953)** formed the first linguistic state of India, known as the state of Andhra, by taking out the Telugu speaking areas from the State of Madras (now Tamil Nadu).
- ⌚ **The States Reorganisation Act (1956)** merged the Telugu-speaking areas of Hyderabad state with the Andhra state to create the enlarged Andhra Pradesh state.
- ⌚ The **Andhra Pradesh Reorganisation Act (2014)** bifurcated Andhra Pradesh into two separate states, namely, the Andhra Pradesh (residuary) and the Telangana.

Note:

- ⌚ **Four icons of Telangana are:**
 - ⊙ State Bird - Palapitta (Indian Roller or Blue Jay).
 - ⊙ State Animal - Jinka (Deer).
 - ⊙ State Tree - Jammi Chettu (Prosopis Cineraria).
 - ⊙ State Flower - Tangedu (Tanner's Cassia).
- ⌚ These icons reflect the culture and tradition of Telanganastate and three of them - Tangedu flowers, Palapitta and Jammi Chettu are associated with the popular festivals of **Bathukamma** and Dasara, while Jinka reflects the mindset of the people of Telangana as it is very sensitive and innocent.

Payments Infrastructure Development Fund

Why in News

Recently, the **Reserve Bank of India (RBI)** has announced the creation of a Rs 500-crore **Payments Infrastructure Development Fund (PIDF)**.

Key Points

- ⌚ **Aim:** PIDF has been created to **encourage deployment of Point of Sale (PoS) infrastructure**, both physical and digital, in **tier-3 to tier-6 centres and north eastern states**.
 - ⊙ The setting of PIDF is in line with the measures proposed by the **vision document on payment and settlement systems in India 2019-2021**.
 - ⊙ It is also in line with the **RBI's proposal to set up an Acceptance Development Fund** which will be used to develop card acceptance infrastructure across small towns and cities.

- ⌚ **Corpus:** It has a corpus of Rs 500 crore in which **the RBI has made an initial contribution of Rs 250 crore**. The remaining will come from the card-issuing banks and card networks operating in the country.
- ⌚ **Recurring contributions:** The PIDF will also receive recurring contributions to cover operational expenses from card-issuing banks and card networks. RBI will also contribute to yearly shortfalls, if necessary.
- ⌚ **Governance:** The fund will be **governed through an advisory council** but will be managed and administered by the RBI.
- ⌚ **Need:** Most of the PoS terminals in the country are concentrated in tier 1 and 2 cities because of the high cost of merchant acquisition and merchant terminalisation.
 - ⊙ The **merchant onboarding and training** is a key challenge for enhancing the reach of digital payments in smaller towns and cities.
 - ⊙ Merchant onboarding means adding the new merchant in a payment gateway system.
- ⌚ **Benefit:**
 - ⊙ Push to digital payments across India.
 - ⊙ Reduce demand for cash over time.

Nagar Van Scheme

Why in News

The government has announced implementation of the **Nagar Van Scheme** on the occasion of the **World Environment Day (5th June)**.

Key Points

- ⌚ **Description:**
 - ⊙ The Nagar Van (Urban Forests) aims to develop **200 Urban Forests across the country** in the next **five years**.
 - ※ **Warje Urban Forest in Pune (Maharashtra)** will be considered as a role model for the Scheme.
 - ⊙ The Scheme enforces **people's participation and collaboration** between the Forest Department, Municipal bodies, NGOs, Corporates and local citizens.
 - ⊙ These urban forests will primarily be on the **existing forest land in the City or any other vacant land** offered by local urban local bodies.

🕒 **Finances:**

- ⊙ The finances for the scheme will be paid for by the **CAMPA (Compensatory Afforestation Fund (CAF) Act, 2016)** funds.
 - ⌘ The CAF Act was enacted to manage the funds collected for **compensatory afforestation** which till then was managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
 - ⌘ Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
 - ⌘ As per the rules, **90% of the CAF money** is to be given to the **states** while **10%** is to be **retained by the Centre**.

iCommit Initiative

Why in News

Recently, the **iCommit initiative** was launched on the occasion of the **World Environment day** (5th June).

- 🕒 The initiative is driven by **Energy Efficiency Services Limited (EESL)**, under the administration of the **Ministry of Power**, Government of India .

Key Points

- 🕒 iCommit initiative is centred around the idea of **building an energy resilient future**.
 - ⊙ It is a clarion call to all stakeholders and individuals to continue moving towards energy efficiency, renewable energy, and sustainability to create a robust and resilient energy system in the future.
 - ⊙ The prerequisite for this goal is to create a **flexible and agile power system**.
 - ⌘ A healthy power sector can help the nation in meeting the objective of energy access and security for all.
- 🕒 It seeks to bring together a diverse spectrum of government and private players to build a new energy future for India.
- 🕒 The initiative will also celebrate and promote key undertakings of Government of India such as:

National Electric Mobility Mission 2020

- ⊙ **FAME 1 and 2**
- ⊙ **Deendayal Upadhyaya Gram Jyoti Yojana**
- ⊙ **Saubhagya Scheme**
- ⊙ **Ujwal DISCOM Assurance Yojna (UDAY)**
- ⊙ **Atal Distribution system Improvement Yojna (AJAY)**
- ⊙ **Smart Meter National Programme**
- ⊙ **Pradhanmantri Kisan Urja Suraksha evam Utthan Maha abhiyan (KUSUM)**
- ⊙ **Solar Parks, Grid Connected Rooftop,**
- ⊙ **Unnat Jyoti by Affordable LED for All (UJALA),** amongst others.

Airborne Rescue Pod for Isolated Transportation: ARPIT

Why in News

Recently, the **Indian Air Force (IAF)** has designed, developed and inducted an **Airborne Rescue Pod for Isolated Transportation** i.e. **ARPIT**.

- 🕒 This pod will be **utilised for evacuation of critical patients with infectious diseases** including **Covid-19** from high altitude areas, isolated and remote places.
- 🕒 Supporting the **Atmanirbhar Bharat Initiative**, only indigenous materials have been used to fabricate this pod.
- 🕒 Requirement of an air evacuation system with facility to prevent spread of infectious **aerosol** from a Covid-19 patient during air travel was felt by IAF when the disease was declared as a **pandemic**.

Key Points

- 🕒 **Lightweight Isolation System:**
 - ⊙ The pod has a **transparent and durable cast perspex (transparent plastic that is sometimes used instead of glass)** for enhanced patient visibility which is larger, higher and wider than the existing models.
 - ⊙ The isolation system caters for a suitable number of air exchanges, integration of medical monitoring instruments, and ventilation to an intubated patient.
 - ⊙ In addition, it generates high constant negative pressure in the isolation chamber for prevention of infection risk to aircrew, ground crew and health care workers involved in air transportation.

🕒 **High Efficiency Particulate Air:**

- ⊙ It utilises **High Efficiency Particulate Air (HEPA)** H-13 class filters and supports invasive ventilation using transport ventilators.
- ⊙ HEPA: It is an air-filtration system designed to capture at least 99.97% of fine airborne particles, dust, pollen, mold, bacteria, with a size of at least 0.3 micrometre.

🕒 **Cost Effective:**

- ⊙ It has been developed at a **cost of Rs. 60,000 only**, as compared to the imported systems costing up to Rs. 60 lakh.

Aditya: India's First Solar Ferry

Why in News

Recently, **India's first solar-powered ferry**, Aditya has been shortlisted for the Gustave Trouvé Award as the only **entrant from Asia**.

- 🕒 Aditya, is among 12 such ferries that have been shortlisted for the award across the world.

Gustave Trouvé Awards

- 🕒 Gussies Electric Boat Awards were instituted in memory of Gustave Trouvé, a French electrical engineer and pioneer in electric cars and boats.
- 🕒 Trouvé was a prolific inventor with over 75 patents. He had also developed a 5-m-long prototype electric boat in 1881.

Key Points

🕒 **Description:**

- ⊙ Aditya is operating between **Vaikkom and Thavanakkadavu in Kerala**. It was launched in November 2016 and started its services in 2017.
- ⊙ It is India's first solar-powered ferry and the largest solar-powered boat.
 - ⌘ It is operated by the Kerala State Water Transport Department (KSWTD) and built by Navalt Solar and Electric Boats, Kochi.
- ⊙ It is powered by a motor that can source energy from solar panels, batteries, and generators.
 - ⌘ Solar vessels do not create air and noise pollution.

🕒 **Significance:**

- ⊙ Aditya has a very low per km energy cost and it

operates 22 trips a day, covering a total of 66 km, carrying 75 passengers per trip.

- ⊙ It needs just Rs. 180 per day in energy cost, compared to about Rs. 8,000 for a diesel-run ferry of similar size, which is unusual for a high technology product to have such a low energy cost.
- ⊙ It has a high financial viability with zero pollution vessels.

Dropping Water levels in Germany's Rhine River

Why in News

Recently, a **part of the Rhine River** flowing through Germany has been experiencing its lowest water levels in two decades.

- 🕒 The lowest water levels have prompted fears of shipping disruption on Europe's most important inland waterway.
 - ⊙ **Rhine** waters in **Germany** have dropped 40% since April 2020.

Key Points

🕒 **Reduced Water Levels:**

- ⊙ Germany has not received the spring showers and subsequently, the water level dropped to around 1 meter in the month of June which is the lowest for the time of year in at least two decades.
 - ⌘ Usually, a mix of glacial run-off and rain feeds the river, but contributions from glaciers have been disturbed in recent years due to **global warming**.

- ⊙ Germany had experienced dropped water levels in 2018 which had disrupted industrial ships, severing downriver factories from North Sea ports.

🕒 **Impacts:**

- ⊙ The water drop levels in 2018 were severe enough to affect German economic growth.
- ⊙ Further, groundwater levels have reduced after record-breaking heat waves recorded in 2019 which have consequently dried out soil and wilted vegetation from consecutive years of drought.
- ⊙ Additionally, if the low water levels are sustained, refineries using the river's water will have reduced output compared to 2018.

Rhine River

- ⌚ The Rhine River is the **second-longest river in Central and Western Europe** after the Danube and originates in the Swiss Alps (in Switzerland).
- ⌚ The **Rhine river is called by different names** depending on the country it flows through. It is called **Rhein in Germany**; Rhine in France and Rijn in the Netherlands.
- ⌚ The **Rhine flows through six countries-Switzerland, Principality of Liechtenstein, Austria, Germany, France and the Netherlands** before flowing into the North Sea at Rotterdam.



IFLOWS-Mumbai: Flood Warning System

Why in News

Recently, an integrated **flood warning system - known as IFLOWS-Mumbai** was launched making Mumbai the second city in India after Chennai to have such a system.

Key Points

- ⌚ **Developed by:** It is developed by the Ministry of Earth Sciences (MoES), in coordination with the Municipal Corporation of Greater Mumbai (MCGM).
- ⌚ **Working/ Features:** The IFLOWS-Mumbai comprises seven modules, namely **data assimilation, flood, inundation, vulnerability, risk, dissemination and decision support system.**
 - ⊙ It incorporates weather models from **National Centre for Medium Range Weather Forecasting (NCMRWF), India Meteorological Department (IMD)** and field data from the rain gauge network stations.
 - ⊙ This **Geographic Information System (GIS)**-based decision support system has all relevant details - such as land topography, land use, infrastructure, population, lakes, creeks and data on river **bathymetry (study of the beds or floors of water**

bodies) of all rivers namely Mithi, Dahisar, Oshiwara, Poisar and Ulhas.

- ⊙ The system has provisions to capture the urban drainage within the city and predict the areas of flooding in advance so that the civic body can issue alerts in advance.
- ⌚ **Benefits:** This will boost the city’s resilience by providing early warning for flooding specially during high rainfall events and cyclones. Bengaluru and Kolkata may also get such a system by 2021.
- ⌚ **Need:**
 - ⊙ Mumbai has the history of flooding during extreme rainfall events. It had faced massive floods in July 2005, and recently in 2017.
 - ⊙ Rise in extreme rainfall events in India that are **driven by warming temperatures** and changes in the monsoon due to climate change.
 - ⊙ According to the **Global Report on Internal Displacement 2020**, nearly five million people were displaced in India in 2019 because of disasters related to Southwest Monsoon and Cyclones.
 - ⊙ According to the **‘State of India’s Environment 2020 in Figures’** the internal displacements in India caused by disasters and extreme weather conditions were the highest in the world in 2019.

Renaming of Kolkata Port Trust

Why in News

The Union Cabinet has given its approval to **rename Kolkata Port as Syama Prasad Mookerjee Port.**

- ⌚ Earlier, the announcement was made on the 150th anniversary celebration of the trust.

Key Points

- ⌚ The Kolkata Port is the **oldest operating port in India**, and was constructed by the **British East India Company.**
- ⌚ It is the **only riverine Major Port.** Its navigational channel is **one of the longest** in the world.
- ⌚ **Gateway to Eastern India:**
 - ⊙ It is the guiding factor to trade and commerce of vast hinterland comprising the entire Eastern India including **Bihar and Eastern Uttar Pradesh** and the **two land-locked Himalayan Kingdoms of Nepal and Bhutan.**

Shyama Prasad Mookerjee (1901-1953)

- ⌚ Born in a Bengali Family
- ⌚ Leader of Hindu Mahasabha.
- ⌚ Served as a minister in the Bengal government in 1937.
- ⌚ Member of Constituent Assembly and later, the first Lok Sabha.
- ⌚ Minister in Nehru’s first cabinet after independence; resigned in 1950 due to differences over relations with Pakistan.
- ⌚ Founder of Bharatiya Jana Sangh (The Bharatiya Janata Party -BJP is the successor of BJS).
- ⌚ Was opposed to India’s policy of autonomy to Jammu & Kashmir; arrested during Jana Sangh’s agitation against Kashmir policy; died during detention.
- ⌚ **Governance:** The Kolkata Port Trust is an **autonomous body** under the Ministry of Shipping, administered through the **Major Port Trusts Act, 1963**.

Central Institute of Medicinal and Aromatic Plants

- ⌚ **Established:** Central Institute of Medicinal and Aromatic Plants, popularly known as **CIMAP**, was established originally as **Central Indian Medicinal Plants Organisation (CIMPO)** in **1959**. It was rechristened as Central Institute of Medicinal and Aromatic Plants (CIMAP) in 1978.
- ⌚ **Objectives:** It is a frontier plant research laboratory of **Council of Scientific and Industrial Research (CSIR)**. It focuses on high quality research in biological and chemical sciences and extending technologies and services to the farmers and entrepreneurs of Medicinal and Aromatic Plants (MAPs).
- ⌚ **Headquarters:** Lucknow, Uttar Pradesh.
 - ⦿ CIMAP, Lucknow houses the **National Gene Bank of Medicinal and Aromatic Plants**, in addition to seed gene bank, tissue and DNA bank.
- ⌚ **Research Centres:** Bangalore (Karnataka), Hyderabad (Telangana), Pantnagar (Uttarakhand) and Purara (Uttarakhand).
- ⌚ CIPAM is presently accredited by **International Centre for Science and High Technology-United Nations Industrial Development Organization (ICS-UNIDO)** and **Indian-Ocean Rim Association (IORA)** as a focal

point for research and training on Medicinal Plants among participating member countries.

International Centre for Science and High Technology

- ⌚ It was **established in 1988** and operates under the **legal framework of the United Nations Industrial Development Organization (UNIDO)**. It focuses on the transfer of know-how and technology from industrialized to developing countries.
- ⌚ The Centre focuses its activities on **four core scientific programmes:**
 - ⦿ Rational drug design and development.
 - ⦿ Next generation biofuels and bio-based chemicals.
 - ⦿ Geothermal energy.
 - ⦿ Nanotechnologies.
- ⌚ **Headquarters:** Trieste, Italy.

AarogyaPath: CSIR

Why in News

Recently, the government has launched an **information platform ‘AarogyaPath’ to provide real-time availability of critical healthcare supplies** for manufacturers, suppliers and customers.

- ⌚ It is a **Council of Scientific and Industrial Research (CSIR)** National Healthcare Supply Chain Portal.

Key Points

- ⌚ It is an integrated public platform that provides single-point availability of key healthcare goods such as medical equipment, drugs, apparel, etc.
- ⌚ **Vision:**
 - ⦿ To set up an information management and forecasting database platform at national level to capture demand and supply scenarios for key healthcare needs items.
 - ⦿ CSIR expects AarogyaPath to become the national healthcare information platform of choice in the year to come, filling a critical gap in last-mile delivery of patient care within India through improved availability and affordability of healthcare supplies.
- ⌚ **Beneficiaries:** Hospitals, pathology laboratories, research institutes, medical colleges and individual patients. It will also create **opportunities for business**

expansion due to an expanded network of buyers and visibility of new requirements for products.

- ⌚ **Importance in Situations like a Pandemic:**
 - ⊙ Anticipated shortages can be addressed and met at national level.
 - ⊙ Opportunistic Pricing, hoarding and over-forecasting can be checked.
 - ⊙ Over-production can be avoided. This would help to reduce wastage of resources.

Council of Scientific and Industrial Research

- ⌚ It was established by the Government of India in **September 1942 as an autonomous body**. It comes under the **Ministry of Science and Technology**.
- ⌚ It is known for its cutting edge research and development knowledge base in diverse science and technology areas.
- ⌚ It has been ranked first in the **Nature Ranking Index-2020**.
 - ⊙ The Nature Index provides close to a real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

Digital Initiatives by WCL

Why in News

Recently, the Coal India Subsidiary - Western Coalfields Ltd (WCL) has launched a surveillance system called **WCL EYE** for monitoring its mining operations and a mobile application named **SAMVAAD** to connect with its employees and stakeholders.

Key Points

- ⌚ **WCL EYE:**
 - ⊙ It is a **digital surveillance system** that will monitor operations of 15 major mines of the company, accounting for 70% of the company's coal production.
 - ⊙ It will monitor coal stocks and availability of coal at sidings.
 - ⊙ It will also monitor placement of rakes and loading at railway sidings and ensure accountability.
- ⌚ **SAMVAAD:**
 - ⊙ It is a **mobile and desktop app** for employees & stakeholders.

- ⊙ It will provide a virtual platform for suggestion/feedback/experience sharing.
- ⊙ The Quick Response Teams will respond to the queries and feedback in a 7 days mandated period.

Coal India Limited

- ⌚ CIL is a **Maharatna Central Public Sector Enterprise (CPSE)** that came into being in November 1975.
- ⌚ It is the world's single largest **coal** producer.
- ⌚ It produces around 83% of India's overall coal production and provides for 40% of primary commercial energy requirement.
- ⌚ In pursuance to initiatives towards development of **clean coal technology**, CIL is planning to set-up a coal based Methanol plant in the premises of Dankuni Coal Complex (DCC) near Kolkata.

Coal Sector under Atmanirbhar Bharat Abhiyan

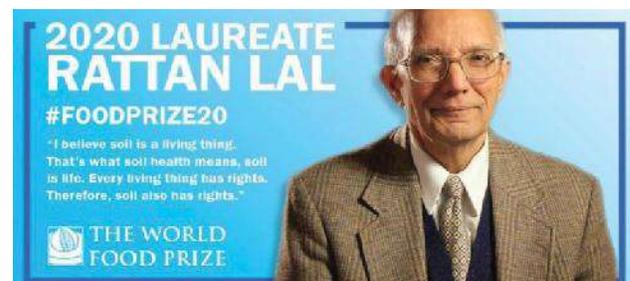
- ⌚ Commercial mining has been introduced on the basis of a revenue-sharing mechanism, ending the government monopoly in coal mining.
- ⌚ Coal Gasification or Liquefaction will be incentivised.
- ⌚ Infrastructure investment worth Rs. 50,000 crores will be done to boost production.
- ⌚ Mining plan simplification will be undertaken to incentivise production.

World Food Prize 2020

Why in News

Indian-American soil scientist - **Dr. Rattan Lal** - has been declared the winner of the World Food Prize 2020.

- ⌚ He played a major role in developing and mainstreaming a **soil-centric approach** to increasing food production that conserves natural resources and mitigates climate change.
- ⌚ Three separate United Nations Climate Change Conferences have adopted his strategy of restoring soil health as a means to sequestering carbon.



- ⌚ In 2007, he was among those recognised with a **Nobel Peace Prize Certificate** for his contributions to the **Intergovernmental Panel on Climate Change (IPCC)** reports, when the IPCC was named co-recipient of the **Nobel Prize**.

Key Points

- ⌚ **Objective:** The World Food Prize is the foremost international honor recognizing the achievements of individuals who have advanced human development by improving the **quality, quantity or availability of food in the world**.
- ⌚ **Field Covered:** It is an **annual award** that recognizes contributions in any field involved in the world food supply including plant, animal and soil science; food science and technology; nutrition, rural development, etc.
- ⌚ **Eligibility:** It is open for any individual without regard to race, religion, nationality or political beliefs.
- ⌚ **Cash Prize:** In addition to the cash award of \$2,50,000, the laureate receives a sculpture designed by the noted artist and designer, Saul Bass.

⌚ Presentation of the Award:

- ⌚ The Prize is presented each October on or around **UN World Food Day (16th October)**.
- ⌚ It is presented by the **World Food Prize Foundation** which has over 80 companies, individuals, etc. as donors.
- ⌚ The World Food Prize Foundation is located in Des Moines, USA.

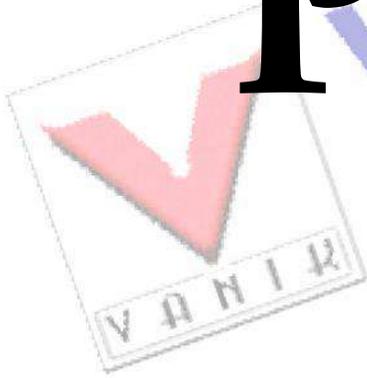
⌚ Background:

- ⌚ **Dr. Norman E. Borlaug**, winner of the **Nobel Peace Prize in 1970** for his work in global agriculture, conceived the Prize. He is also known as the **Father of the Green Revolution**.
- ⌚ The World Food Prize was created in 1986 with sponsorship by General Foods Corporation.
- ⌚ It is also known as the **“Nobel Prize for Food and Agriculture”**.
- ⌚ **Dr. M.S. Swaminathan**, the father of India’s green revolution, was the **first recipient of this award in 1987**.

■■■



PART-2



VANIR IAS
Exclusive Coaching for UPSC/OPSC

Polity and Governance

Highlights

- ⌘ *Secrecy of Ballot*
- ⌘ *Amendments in Postal Ballot System*
- ⌘ *Speaker and Anti-Defection Law*
- ⌘ *National People's Party*
- ⌘ *Custodial Violence*
- ⌘ *Civil Services Board*
- ⌘ *Garib Kalyan Rojgar Abhiyaan*
- ⌘ *Increased Funding for Panchayats*
- ⌘ *Assessment of Saansad Adarsh Gram Yojana*
- ⌘ *Extension to OBC Sub-Categorisation Commission*
- ⌘ *BharatNet Project*
- ⌘ *National Statistics Day*
- ⌘ *Navigating the New Normal: NITI Aayog*
- ⌘ *R&D Portal for Mining: SATYABHAMA*
- ⌘ *First Bell: Kerala*
- ⌘ *YUKTI 2.0: Platform for Higher Education Institutes*
- ⌘ *Global Education Monitoring Report 2020: UNESCO*

Secrecy of Ballot

Why in News

In a recent judgement, the **Supreme Court** has held that **secrecy of ballot** is the cornerstone of free and fair elections.

- 🕒 The choice of a voter should be free which is ensured by the secret ballot system in a democracy.

Key Points

🕒 Highlights of the Judgement:

- ⊙ The SC held that the principle of secrecy of ballots is an important postulate of **constitutional democracy** and referred to **Section 94 of the Representation of People Act (RPA) 1951**.
 - ⌘ The section upholds the **privilege of the voters to maintain confidentiality** about their choice of the vote.
- ⊙ The law must protect the right of voters to the secrecy of the ballot. Even a remote or distinct possibility that a voter can be forced to disclose for whom she/he has voted would act as a positive constraint and a check on the freedom to exercise the franchise.
- ⊙ However, a voter can also **voluntarily waive the privilege of non-disclosure**.

- ⌘ The privilege ends when the voter decides to waive it and decides voluntarily to disclose their vote.
- ⌘ The court held that voters can neither be prevented from disclosing nor can be subjected to a complaint by anyone.

🕒 Background:

- ⊙ The judgment came on an appeal against the **Allahabad High Court** decision, setting aside the voting of a **no-confidence motion** in a Zila panchayat in Uttar Pradesh in 2018.
 - ⌘ A **no-confidence motion** or **vote of no-confidence** or a **no-trust vote** can be sought to express that there is no longer confidence in the government.
- ⊙ Allahabad HC found that some of the panchayat members had violated the rule of secrecy of the ballot.
- ⊙ The SC referred to **Section 28(8) of the Uttar Pradesh Kshettra Panchayat and Zila Panchayat Adhiniyam, 1961** and ordered a re-vote of the motion within the next two months, by the secret ballot system.
 - ⌘ This provision states that a motion of no confidence shall be put to vote in the prescribed manner by secret ballot.
- 🕒 **Restoring Secrecy of Ballot:**
 - ⊙ Secrecy of ballot has become a **notional concept** after the introduction of **Electronic Voting Machines (EVMs)**.

Representation of the People Act 1951

- ⌚ The holding of **free and fair elections** is the sine-qua-non of democracy. To ensure the conduct of elections in free, fair and in an impartial manner, the constitution-makers incorporated **Part XV (Articles 324-329)** in the constitution and empowered Parliament to make laws to regulate the electoral process.
- ⌚ The **Election Commission of India (ECI)** is the watchdog of free and fair elections in the country and **Article 324** of the Constitution provides for its establishment.
- ⌚ In this context, the Parliament has enacted the **Representation of the People Act (RPA), 1950** and **Representation of the People Act, 1951**.
- ⌚ **Key provisions of the RPA 1951:**
 - ⦿ It regulates the actual conduct of elections and by-elections.
 - ⦿ It provides administrative machinery for conducting elections.
 - ⦿ It deals with the registration of political parties.
 - ⦿ It specifies the qualifications and disqualifications for membership of the Houses.
 - ⦿ It provides provisions to curb corrupt practices and other offences.
 - ⦿ It lays down the procedure for settling doubts and disputes arising out of elections.
- ⌘ Since voters believe that only they themselves and their trusted ones know who they voted for which is not true actually because **EVMs give a near accurate idea of voting patterns**.
- ⌘ Each EVM is used for about 1,400 electors and votes cast in the **EVMs are individually counted and tallied booth-wise**.
- ⌘ Before the introduction of EVMs, **ballot papers were often mixed** to prevent intimidation of voters by disclosure of voting patterns.
- ⌚ The idea of voting patterns gives an **advantage to political parties** which can be neutralised if **totalisers** are deployed to count votes in a constituency.
- ⌚ **Totaliser:**
 - ⌘ It is a mechanism which **allows votes from 14 booths to be counted together**.

- ⌘ This result obtained is **without disclosure of votes polled by candidates at particular voting booths/stations**, which will allay the fears of voters against any pre-poll intimidation or post-poll victimisation by any candidate.

Amendments in Postal Ballot System

Why in News

Recently, the Law Ministry has **reduced the age limit for senior citizens** who opt for postal ballot in the Lok Sabha and Assembly elections.

Key Points

- ⌚ Now, the **voters aged above 65 years or a Covid-19 suspect** can opt for postal ballot.
- ⌚ Earlier, in 2019, the Law Ministry had **amended the Conduct of Election Rules to allow persons with disabilities** and those **who are 80 years of age** or above to opt for postal ballot during Lok Sabha and Assembly elections.
- ⌚ Voters of Bihar will be the first to benefit from the amended rules, since Bihar will be the first state to have assembly polls after the coronavirus outbreak in India.

Postal Ballots System

- ⌚ Ballot papers are **distributed electronically** to electors and are returned to the election officers via post.
- ⌚ Currently, only the following voters are allowed to cast their votes through postal ballot:
 - ⦿ **Service voters** (armed forces, the armed police force of a state and government servants posted abroad),
 - ⦿ **Voters on election duty,**
 - ⦿ **Voters above 80 years of age or Persons with Disabilities (PwD),**
 - ⦿ Voters under **preventive detention**.
- ⌚ The exception to the above-mentioned category of voters is provided under Section 60 of the **Representation of the People Act, 1951**.

Speaker and Anti-Defection Law

Why in News

The ruling party crisis in Manipur has raised questions on the **Speaker's powers to disqualify** under the Constitution.

Key Point

🕒 Background:

- ⊙ In 2017, Bharatiya Janata Party (BJP) formed the government in Manipur after seven legislators of Congress joined the BJP.
- ⊙ The Congress party asked the Speaker to disqualify these seven, but the petitions were kept pending.
 - ⌘ According to **paragraph 2(1)(a) of the Tenth Schedule** of the **Constitution, an elected member of the house shall be disqualified from being a member if they win the election as a candidate of one party and then join another.** The power for this disqualification is vested in the Speaker, who is usually a nominee of the ruling party.
- ⊙ Recently, a crisis in the ruling party emerged because **the four MLAs (out of seven MLAs, who had in 2017 jumped to BJP)** once again pledged their votes to the Congress and the rest three were disqualified.

🕒 Role of Supreme Court:

- ⊙ Citing the 2016 **SA Sampath Kumar vs Kale Yadaiah and Others case** relating to the disqualification of a Telangana MLA, the Supreme Court directed the Speaker of Manipur to rule on the **disqualification within three months.**
- ⊙ The Supreme Court also questioned, “why a Speaker- who is a member of a particular political party and an insider in the House, should be the sole and final arbiter in the cases of disqualification of a political defector”.
- ⊙ The Speaker did not take a call on the disqualifications.
- ⊙ After, the Manipur High Court also passed similar orders relying on the SC verdict, the Speaker finally ruled on the petitions.
 - ⌘ The High Court also reasoned that since the remedy under Tenth Schedule is an alternative to moving courts and if the remedy is found

to be ineffective due to deliberate inaction or indecision on the part of the Speaker, the court will have jurisdiction.

🕒 Speaker and Issue of Impartiality:

- ⊙ The **office of Speaker** has been criticised time and again for being an **agent of partisan politics** especially in context of **power for the disqualification.**
- ⊙ The Supreme Court in **Jagjit Singh versus State of Haryana (2006)** highlighted the similar allegations about the confidence on the **role of Speaker** in the matters of impartiality.
- ⊙ In the **Kihoto Hollohan versus Zachillhu case (1992)**, one of the judges observed that the suspicion of bias on the Speaker's role could not be ruled out as his/her election and tenure depends on the majority will of the House (or specifically of the ruling party).

🕒 Suggestions:

- ⊙ The Supreme Court has held that the **Parliament** consider taking a relook at the powers of the Speakers citing instances of partisanship.
 - ⌘ It has suggested independent **tribunals** to decide on disqualification.
- ⊙ In Britain, the Speaker is strictly a non-party person. There is a convention that the Speaker has to resign from his party and remain politically neutral.
 - ⌘ Hence, this mechanism can be adopted whereby Speakers need to renounce all political affiliations, membership and activity once they have been elected to the office.

Disqualification under the Tenth Schedule

- 🕒 The **Anti-Defection Law** was passed in **1985 through the 52nd amendment** to the Constitution. It added the **Tenth Schedule to the Indian Constitution.** The main intent of the law was to combat ‘the evil of political defections’.
- 🕒 According to it, **a member of a House belonging to any political party** becomes disqualified for being a member of the House, if:
 - ⊙ he voluntarily gives up his membership of such political party; or
 - ⊙ he votes or abstains from voting in such House contrary to any direction issued by his political party without obtaining prior permission of such party and such act has not been condoned by the party within 15 days.

Exceptions to the

Disqualification on the Ground of Defection

- ⌚ If a member **goes out of his party as a result of a merger of the party** with another party. A merger takes place **when two-thirds of the members** of the party have agreed to such merger.
- ⌚ If a member, after **being elected as the presiding officer of the House, voluntarily** gives up the membership of his party or rejoins it after he ceases to hold that office. This exemption has been provided in view of the dignity and impartiality of the office.

Powers of Speaker

with regard to Anti-Defection Law

- ⌚ Any question **regarding disqualification** arising out of defection is to be decided by the presiding officer of the House.
- ⌚ After the **Kihoto Hollohancase (1992)**, the Supreme Court declared that the decision of the presiding officer is not final and can be questioned in any court. It is subject to judicial review on the grounds of malafide, perversity, etc.

Way Forward

- ⌚ **Impartiality, fairness and autonomy in decision-making** are the hallmarks of a robust institution. It is the freedom from interference and pressures which provide the necessary atmosphere where one can work with an absolute commitment to the cause of neutrality (as a Constitutional value).
- ⌚ At a time when India's rank has fallen in the latest **Democracy Index (2019)**, it is expected from Parliament to take steps to **revamp and strengthen** the institution of the **Speaker**.
- ⌚ Further, the structural issues regarding the manner of appointment of the Speaker and his tenure in office needs an urgent redressal.

National People's Party

Why in News

Political troubleshooting is going on in Manipur after the four MLAs of **National People's Party (NPP)** along with few others had withdrawn support from the ruling government recently.

Key Points

⌚ **National People's Party:**

- ⌚ The NPP got the status of national party in 2019, after it was **recognised as a state party in four states** — Arunachal Pradesh, Manipur, Nagaland and Meghalaya.
- ⌚ It is the **eighth party to get the recognition** — after INC, BJP, BSP, NCP, CPI, CPI(M) and Trinamool Congress. It is also the **first party from Northeast India** to be recognised as a national party.

⌚ **Types of Parties:**

- ⌚ The **Election Commission of India** lists political parties as **“national party”, “state party” or “registered (unrecognised) party”**.
- ⌚ The conditions for being listed as a national or a state party are specified under the **Election Symbols (Reservation and Allotment) Order, 1968**.

⌚ **National Party:**

- ⌚ **For recognition as a national party**, a party has to satisfy these conditions:
 - ⌘ 6% valid votes polled in any four or more states at a general election to the Lok Sabha or to the State legislative assembly; and, in addition, it wins four seats in the Lok Sabha from any state or states.
 - ⌘ 2% of all Lok Sabha seats in the last such election, with MPs elected from at least three states.
 - ⌘ Recognition as a **state party in at least four states**.

⌚ **State Party:**

- ⌚ **For recognition as a state party**, any **one of five conditions** needs to be satisfied:
 - ⌘ Two seats plus a 6% vote share in the last Assembly election in that state.
 - ⌘ One seat plus a 6% vote share in the last Lok Sabha election from that state.
 - ⌘ 3% of the total Assembly seats or 3 seats, whichever is more.
 - ⌘ One of every 25 Lok Sabha seats (or an equivalent fraction) from a state.
 - ⌘ An 8% state-wide vote share in either the last Lok Sabha or the last Assembly polls.

⌚ **Loss of Recognised Status:**

- ⌚ Once recognised as a national or a state party, a political party loses its given status **only if it fails**

to fulfil any of the conditions for two successive Assembly and two successive Lok Sabha elections.

- ⌘ That means a party retains that status irrespective of its performance in the next elections.

Sl. No.	Name of the Party (Abbreviation)	Symbol Reserved
1.	Bahujan Samaj Party (BSP)	Elephant (<i>In all States/U. T. s except in Assam</i>)
2.	Bharatiya Janata Party (BJP)	Lotus
3.	Communist Party of India (CPI)	Ears of Corn and Sickle
4.	Communist Party of India (Marxist) (CPM)	Hammer, Sickle and Star
5.	Indian National Congress (INC)	Hand
6.	Nationalist Congress Party (NCP)	Clock
7.	All India Trinamool Congress (AITC)	Flowers and Grass
8.	National People's Party (NPP)	Book

Custodial Violence

Why in News

The recent death of a father-son duo from Tamil Nadu, allegedly **due to custodial violence**, has sparked anger across India.

- ⌚ Custodial violence primarily refers to violence in police and judicial custody. It includes death, rape and torture.

Key Points

- ⌚ **Data Related to Violence in Custody:**
 - ⊙ According to **National Crime Records Bureau (NCRB)** data, between 2001 and 2018, only 26

policemen were convicted of custodial violence despite 1,727 such deaths being recorded in India.

- ⌘ Only 4.3% of the 70 deaths in 2018 were attributed to injuries during custody due to physical assault by police.
- ⊙ Except in Uttar Pradesh, Madhya Pradesh, Chhattisgarh and Odisha, no policeman was convicted for such deaths across the country.
- ⊙ Apart from custodial deaths, **more than 2,000 human rights violation cases were also recorded** against the police between 2000 and 2018. And only 344 policemen were convicted in those cases.
- ⌚ **Reasons for Low Conviction:** Most of custodial deaths were attributed to reasons other than custodial torture, which included suicide and death in hospitals during treatment.
- ⌚ **Reasons Behind Custodial Violence:**
 - ⊙ **Absence of Strong Legislation:** India does not have an anti-torture legislation and is yet to criminalise custodial violence, while action against culpable officials remains illusory.
 - ⌘ The Indian state either denies the existence of torture in the country or defends its resistance to enact a law by claiming there are sufficient provisions in the domestic legal framework to prohibit and penalise torture.
 - ⌘ These claims however remain superficial and without any such protections.
 - ⊙ **Institutional Challenges:** The entire prison system is inherently opaque giving less room to transparency.
 - ⌘ Prison access is not provided without prior permission such as depositing “Rs. 1 lakh in the name of the superintendent of the concerned jail” before entry.
 - ⌘ Excessive scrutiny is done of all recorded or documented material in the prison.
 - ⌘ India also fails in bringing the much **desired Prison Reforms** and prisons continue to be affected by poor conditions, overcrowding, acute manpower shortages and minimal safety against harm in prisons.
 - ⊙ **Excessive Force:** The use of excessive force including torture to target marginalised communities and control people participating in movements or propagating ideologies which the state perceives as opposed to its stature.

- ⌚ **Not Adhering to International Standard:** Although India has signed the **United Nations Convention against Torture** in 1997 its ratification still remains.
 - ⌘ While Signing only indicates the country's intention to meet the obligations set out in the treaty, Ratification, on the other hand, entails bringing in laws and mechanisms to fulfil the commitments.
- ⌚ **Constitutional and Legal Provisions:**
 - ⌚ **Protection from torture** is a fundamental right enshrined under Article 21 (Right to Life) of the Indian constitution.
 - ⌚ The **right to counsel** is also a fundamental right under Article 22(1) of the India constitution.
 - ⌚ Section 41 of **Criminal Procedure Code (CrPC)** was amended in 2009 to include safeguards under 41A, 41B, 41C and 41D, so that arrests and detentions for interrogation have reasonable grounds and documented procedures, arrests are made transparent to family, friends and public, and there is protection through legal representation.

Suggestions

- ⌚ **India should ratify the UN Convention Against Torture:** It will mandate a systematic review of colonial rules, methods, practices and arrangements for the custody and treatment of persons subjected to any form of arrest, detention or imprisonment.
 - ⌚ It will also mean that exclusive mechanisms of redress and compensation will be set up for the victim besides institutions such as the Board of Visitors.
- ⌚ **Police Reforms: Guidelines should also be formulated** on educating and training officials involved in the cases involving deprivation of liberty because torture cannot be effectively prevented till the senior police wisely anticipate the gravity of such issues and clear reorientation is devised from present practices.
- ⌚ **Access to Prison:** Unrestricted and regular access to independent and qualified persons to places of detention for inspection should also be allowed.
 - ⌚ CCTV cameras should be installed in police stations including in the interrogation rooms.
 - ⌚ Surprise inspections by Non-Official Visitors (NOVs) should also be made mandatory which would act as a preventive measures against custodial torture which has also been suggested by Supreme Court

in its landmark judgment in the *DK Basu Case* in 2015.

- ⌚ **Implementation of Law Commission of India's 273rd Report:** The report recommends that those accused of committing custodial torture – be it policemen, military and paramilitary personnel – should be criminally prosecuted instead of facing mere administrative action establishing an effective deterrent.

Civil Services Board

Why in News

Recently, Punjab government has set up a three-member **Civil Services Board (CSB)** for transfers and postings of the Indian Administrative Service (IAS) officers in the state.

Key Points

- ⌚ **CSB:**
 - ⌚ The **CSB is headed by the Chief Secretary of a state** and has senior most additional chief secretary or chairman, Board of Revenue, Financial Commissioner or an officer of equivalent rank and status as member.
 - ⌚ The CSB **provides for the state to follow Centre's guidelines on giving a fixed tenure of at least two years** for cadre officers.
 - ⌚ If anyone recommends the transfer of the officers before the completion of tenure, then the board will examine and effect it. The **final authority** in this regard is **the Chief Minister**.
- ⌚ **Benefits:**
 - ⌚ If the officials have a fixed tenure they **will be able to provide better administration**.
 - ⌚ They will also **feel safe and try to stick to the rules** instead of pleasing political bosses.
 - ⌚ Every official requires 3-6 months to get into the routine at his/her new place of posting. If they stay there for two years, it would mean **better delivery and stable tenure to people**.
- ⌚ **Issues Involved:**
 - ⌚ If the tenure of bureaucrats is fixed, it **may create functional and administrative problems**.
 - ⌘ The officers may overstep the authority and jurisdiction of the state government.

- ⌚ It may make them less answerable and accountable to legislators.
- ⊙ With the fixed tenure rule, **the political executives feel their influence has been reduced to nothing**, since all the powers to examine a recommendation for a transfer lies with the CSB.
- ⊙ The bureaucrats feel the urge to go to courts for effective implementation of guidelines **in letter and spirit**.
 - ⌚ E.g. Haryana had the CSB in place but the guidelines are not followed there.
- ⌚ **Background:**
 - ⊙ The Punjab government's notification is based on a 2014 order issued by the Central government. The order was aimed at **providing stability of tenure and checking political interference**.
 - ⌚ Punjab is the 20th state to adopt the CSB.
 - ⊙ In October 2013, the **Supreme Court had also mandated minimum tenure for bureaucrats**, to insulate the bureaucracy from political interference and to put an end to frequent transfers of civil servants by political bosses.
 - ⌚ Frequent and arbitrary transfers of officers before completion of a reasonable tenure on any post have always been considered as a major reason for the **declining standards of administration**.
 - ⌚ IAS officers like Ashok Khemka, Durga Sakthi Nagpal and Kuldip Narayan, among others, have allegedly been victims of arbitrary suspensions and transfers.

Garib Kalyan Rojgar Abhiyaan

Why in News

The Government of India has decided to launch a rural public works scheme 'Garib Kalyan Rojgar Abhiyaan' through video-conferencing from village **Telihar** in **Khagaria district of Bihar** on 20th June 2020.

Key Points

- ⌚ **Beneficiaries:** The scheme will empower and provide livelihood opportunities to the **returnee migrant workers and rural citizens** who have returned to their home states due to the **Covid-19** induced **lockdown**.
- ⌚ **Duration and Outlay:** This campaign will work in **mission mode for 125 days** with an outlay of **Rs. 50,000 crore**.

- ⌚ **Coverage:** A total of **116 districts** across **six states**, namely **Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Jharkhand** and **Odisha** (where maximum migrant workers have returned) have been chosen for the campaign.
 - ⊙ These districts are estimated to **cover about 2/3 of such migrant workers**.
 - ⊙ The chosen districts **include 27 Aspirational Districts**.
 - ⊙ **Aspirational Districts** are those districts in India which are **affected by poor socio-economic indicators**. These are aspirational in the context, that improvement in these districts can lead to the overall improvement in human development in India. It is a **NITI Aayog's Programme**.
- ⌚ **Implementation:** It will involve **intensified and focused implementation of 25 different types of works** to **provide employment** to the migrant workers on one hand and **create infrastructure in the rural regions** of the country on the other hand.
 - ⊙ The workers will help build gram panchayat bhawans and **anganwadi centres**, national highway works, railway works and water conservation projects, among others across six states.
- ⌚ **Participants:** **12 different Ministries/Departments**, namely, Rural Development, Panchayati Raj, Road Transport and Highways, Mines, Drinking Water and Sanitation, Environment, Railways, etc. will be coordinating for the implementation of the scheme.
- ⌚ **Connectivity:** The villages will join this programme through the **Common Service Centres (CSCs)** and **Krishi Vigyan Kendras (KVKs)** maintaining the norms of **social distancing** in the wake of the **pandemic**.

Common Service Centres

- ⌚ Common Services Centres are a strategic cornerstone of the **National e-Governance Plan (NeGP)**.
- ⌚ It was approved in **May 2006** to introduce e-governance on a massive scale under the **National Common Minimum Programme**.
- ⌚ **Objective:** To provide high quality and cost-effective video, voice and data content and services, in the areas of e-governance, education, health, telemedicine, entertainment as well as other private services.
- ⌚ A **highlight** of the CSCs is that it **offers web-enabled e-governance services in rural areas**, including application forms, certificates and utility payments such as electricity, telephone and water bills.

Krishi Vigyan Kendras

- ⌚ It is an integral part of the **National Agricultural Research System (NARS)**.
 - ⊙ India has **one of the largest** national agricultural research systems in the world. It consists of **scientists, technical staff, administration support staff** and auxiliary staff.
 - ⊙ Such a large number of research and other personnel are required because India is blessed with a **variety of agro-climatic conditions** and it **conducts research on all aspects of agriculture** to suit these diversified conditions.
- ⌚ The first KVK was established in **1974 at Puducherry**.
- ⌚ **Aim:** Assessment of location specific technology modules in agriculture and allied enterprises, through technology assessment, refinement and demonstrations.
- ⌚ KVKs also produce quality technological products (seed, planting material, bio-agents, livestock) and make it available to farmers.
- ⌚ The KVK scheme is **100% financed by the Government of India** and **funds are sanctioned** to Agricultural Universities, **Indian Council of Agricultural Research (ICAR)** institutes, related Government Departments and **Non-Government Organizations (NGOs)** working in Agriculture.
- ⌚ These are crucial to fulfilling the target of **doubling farmers' income by 2022**.

Increased Funding for Panchayats

Why in News

Recently, in a meeting with the **15th Finance Commission**, the **Panchayati Raj Ministry** has pitched for a **fivefold increase in funding** for rural local bodies.

- ⌚ The Ministry asked for Rs 10 lakh crore to be allocated for the 2020-21 to 2025-26 period, in comparison to the Rs 2 lakh crore allocated under the 14th Finance Commission.

Key Points

- ⌚ **Allocations had tripled** between the 13th and 14th Commissions and the **utilisation rate** for FC grants between 2015 and 2019 stands at **78%**.

Finance Commission

- ⌚ It is a **constitutional body**, that **determines the method and formula for distributing the tax proceeds between the Centre and states and among the states** as per the constitutional arrangement and present requirements.
- ⌚ Under **Article 280 of the Constitution**, the **President of India** is required to constitute a **Finance Commission** at an interval of **five years or earlier**.
- ⌚ The **1st Finance Commission** was set up in **1951** and there have been fifteen so far.
- ⌚ The **15th Finance Commission** was constituted by the President of India on **27th November 2017**, against the backdrop of the **abolition of the Planning Commission** and the **introduction of the Goods and Services Tax (GST)**.
 - ⊙ The 15th Finance Commission is **headed by N.K. Singh**.
- ⌚ In **November 2019**, the Union Cabinet approved the 15th Finance Commission to submit its **first report for the first fiscal year 2020-21** and to **extend its tenure** to provide for the presentation of the final report covering Financial Years 2021-22 to 2025-26 by **30th October, 2020**.
- ⌚ The 2.63 lakh panchayats across the country have **29 functions under their ambit**, according to the **11th Schedule of the Constitution**.
 - ⊙ **Road construction, its maintenance and drinking water supply** are the major projects carried out by panchayats using FC grants.
 - ⊙ **Seventy-Third Amendment Act, 1992:**
 - ⌘ Granted constitutional status and protection to the **Panchayati Raj** institutions.
 - ⌘ For this purpose, the Amendment added a new **Part-IX** entitled as 'the panchayats' and a new 11th Schedule containing 29 functional items of the panchayats.
- ⌚ During the **Covid-19**, panchayats gained importance as crucial nodal points as they **ran isolation centres, medical camps and contact tracing**.
 - ⊙ However, a major challenge during the **pandemic and lockdown** was that most panchayats could not provide cooked food at short notice.
 - ⊙ The Ministry has proposed to set up **community kitchens** in each panchayat, operated by local **self-help groups (SHGs)**.

- ⌚ The role of panchayats also becomes important because now the **Garib Kalyan Rojgar Abhiyan** will also depend on them to generate employment for newly returned migrant workers.

Assessment of Saansad Adarsh Gram Yojana

Why in News

Recently, a study by the Ministry of Rural Development has observed that the **Saansad Adarsh Gram Yojana (SAGY)** has not been able to achieve the desired objectives and has failed to make a significant impact.

- ⌚ The study was conducted as part of the **Fifth Common Review Mission (CRM)** for 'independent assessment' of the progress of various programmes and schemes of the Ministry of Rural Development.

Key Points

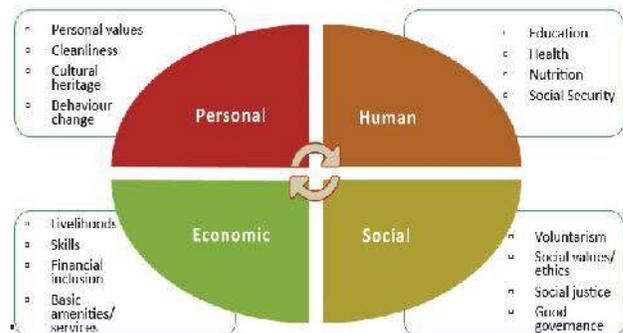
- ⌚ **Study/Assessment:** The study was conducted by a team comprising retired bureaucrats, academics and research organisations etc. The team visited around 120 villages, in 21 districts across eight states.
- ⌚ **Major Findings:**
 - ⊙ **Low selection of Panchayats:** Since the launch of the scheme only 1,855 gram panchayats have been selected across five phases, with only seven in Phase 5.
 - ⊙ **Lack of Interest and Funds:** Model villages under the scheme are hit by lack of interest and funds. In many of SAGY villages, the MPs did not give any significant fund from **Members of Parliament Local Area Development Scheme (MPLADS)**. For example,
 - ⌘ In Arood village of Khandwa district in Madhya Pradesh, out of 118 activities planned in 2014, only about 60% have been achieved and the rest are pending for lack of funds.
 - ⊙ **Lack of Political Will:** The concept of SAGY has not percolated down to field officials due to lack of accountability and political will.
 - ⊙ **Issues with Declaration:** Even villages declared as Adarsh Grams in some districts were found yet to be declared **Open Defecation Free**.
 - ⊙ **Limited Impact:** In some cases, where MPs have been proactive, some infrastructure development has taken place but the scheme has not made any perceptible impact.

- ⊙ **Low Convergence of MGNREGA with MPLAD:** Lesser convergence of **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** with MPLAD was observed in few villages.
- ⊙ **Rural Roads:** The study expressed concern over the quality of roads constructed under schemes of state governments and maintenance of rural roads under central **Pradhan Mantri Gram Sadak Yojana (PMGSY)**.

Saansad Adarsh Gram Yojana

- ⌚ SAGY is a village development project which was launched on **11th October, 2014** on the birth anniversary of **Jai Prakash Narayan**.
- ⌚ **Goal:**
 - ⊙ Under the Yojana, Members of Parliament (MPs) are responsible for developing the socio-economic and physical infrastructure of **three villages each by 2019** and a total of **eight villages each by 2024**.
- ⌚ **Process:**
 - ⊙ **Gram Panchayat:** The basic unit for development.
 - ⊙ **Lok Sabha MP:** Chooses a Gram Panchayat from within his/her constituency.
 - ⊙ **Rajya Sabha MP:** Chooses a Gram Panchayat from the rural area of a district of his/her choice in the State from which he/she is elected.
 - ⊙ **Nominated MPs:** Choose a Gram Panchayat from the rural area of any district in the country.
 - ⊙ The MPs engage with the community, facilitate the Village Development Plan and mobilise the necessary resources particularly from **Corporate Social Responsibility (CSR)** and philanthropies.
 - ⊙ MPs also fill up critical gaps in the plan using the Member of Parliament Local Area Development Scheme (MPLADS) funds.

Holistic development through SAGY



⊙ **Positive Impact:** Progress of work was better in the Gram Panchayats where the MP has taken keen interest and allocated substantial amounts from MPLAD. **For example:**

⊗ A village in Bhilwara, Rajasthan was found to be very urbanised due the various development schemes taken up at the initiative of the Ex-MP.

⌚ **Recommendations:**

⊙ **Need to Enhance Impact:** The report recommended that the Ministry of Rural Development may review the scheme for enhancing its impact.

⊙ **Uniform Norms:** It has urged the Centre to frame a '**National Rural Road Policy**' to ensure uniform norms of construction and maintenance, irrespective of whether the road belongs to a state scheme or PMGSY.

⊙ **Additional Funds:** The Centre should examine if the **Finance Commission** can provide funds for maintenance of rural roads, as many states have requested that the Centre should share the cost of maintenance.

Extension to OBC Sub-Categorisation Commission

Why in News

Recently, the Union Cabinet has approved a six-month extension to the commission appointed to examine **sub-categorisation of Other Backward Classes (OBCs)**, up to 31st January 2021.

Key Points

⌚ **Commission:**

⊙ **Headed by Justice (Retd.) G Rohini**, the commission was constituted under **Article 340 of the Constitution** with the approval of the President on **2nd October 2017**.

⊗ Article 340 deals with the **appointment of a commission** to investigate the conditions of backward classes.

⊙ It had been constituted to **complete the task of sub-categorising 5000-odd castes in the central OBC list** so as to **ensure more equitable distribution of opportunities** in central government jobs and educational institutions.

⊙ The **National Commission for Backward Classes (NCBC)** had recommended that OBCs should be **categorised into extremely backward classes, more backward classes and backward classes**.

⊗ The benefits of the **reservation** in OBCs are being cornered mostly by the dominant OBC groups over the years so there is a need to recognise sub-quotas for the extremely backward classes within the OBCs.

⊗ NCBC has the authority to examine complaints and welfare measures regarding socially and educationally backward classes.

⊙ **Mandate:**

⊗ **Examine the uneven distribution of reservation benefits** among different castes in the central OBC list. For example, certain castes were left out of the ambit because of a difference in spelling in a State.

⊗ **Work out mechanism and parameters for sub-categorisation of OBCs**, to identify castes, sub-castes and communities and classify them into sub-categories.

⊗ **Submit a comprehensive report** after consultation with various stakeholders so that **Census 2021** can include comprehensive data on OBCs.

⊙ **Work Done:**

⊗ It has met representatives of state governments, state backward classes commissions, community associations etc. apart from obtaining caste-wise data of OBCs in higher educational institutions and recruits in central departments, public sector banks and financial institutions.

⊙ **Expenditure:**

⊗ The expenditure related to the administration costs will be continued to be borne by the **Department of Social Justice and Empowerment**.

⌚ **Reasons for Extension:**

⊙ The Commission would **require more time to submit its report** since the repetitions, ambiguities, inconsistencies and errors of spelling or transcription etc. appearing in the existing Central List of OBCs need to be cleared.

⊙ Apart from that, the **nationwide lockdown** and restrictions on travel imposed in the wake of **Covid-19 pandemic** slowed down the commission's performance.

🕒 Possible Outcomes:

- ⊙ The commission may make recommendations which will benefit the communities in the existing list of OBCs which have not been able to get any major benefit of the OBCs reservation scheme for appointment in central government posts and for admission in central government educational institutions.

Article 340 of the Indian Constitution

- 🕒 The President may by order appoint a Commission consisting of such persons as he thinks fit to investigate the conditions of socially and educationally backward classes within the territory of India.

OBC Reservation

- 🕒 The Kalkar Commission, set up in 1953, was the first to identify backward classes other than the Scheduled Castes (SCs) and Scheduled Tribes (STs) at the national level.
- 🕒 The Mandal Commission Report, 1980 estimated the OBC population at 52% and classified 1,257 communities as backward.
 - ⊙ It recommended increasing the existing quotas, which were only for SC/ST, from 22.5% to 49.5% to include the OBCs.
- 🕒 The central government reserved 27% of seats in union civil posts and services for OBCs [Article 16(4)]. The quotas were subsequently enforced in central government educational institutions [Article 15 (4)].
 - ⊙ In 2008, the Supreme Court directed the central government to exclude the creamy layer (advanced sections) among the OBCs.
- 🕒 The 102nd Constitution Amendment Act, 2018 provided constitutional status to the National Commission for Backward Classes (NCBC), which was previously a statutory body under the Ministry of Social Justice and Empowerment.

BharatNet Project

Why in News

Recently, the Department for Promotion of Industry and Internal Trade (DPIIT) ordered the scrapping of a Rs 1,950 crore tender for the BharatNet project in Tamil Nadu.

Department for Promotion of Industry and Internal Trade

- 🕒 It comes under the aegis of the Ministry of Commerce and Industry.
- 🕒 It was established in 1995 and has been reconstituted in the year 2000 with the merger of the Department of Industrial Development.
- 🕒 In February 2019, it was renamed to the existing one from the previous name, Department of Industrial Policy & Promotion (DIPP).

Key Points

- 🕒 BharatNet is a flagship mission implemented by Bharat Broadband Network Ltd. (BBNL).
 - ⊙ It is a Special Purpose Vehicle (SPV) set up by the Government of India under the Companies Act, 1956 with an authorized capital of Rs 1000 crore.
 - ⌘ Initially, it was under the Ministry of Communications and Information Technology, which was bifurcated into the Ministry of Communications and the Ministry of Electronics and Information Technology in July 2016.
 - ⊙ Currently, it is being implemented by the Department of Telecommunication under the Ministry of Communications.
- 🕒 National Optical Fibre Network (NOFN) was launched in October 2011 and was renamed as Bharat Net Project in 2015.
- 🕒 National Optical Fibre Network:
 - ⊙ It was envisaged as an information superhighway through the creation of a robust middle-mile infrastructure for reaching broadband connectivity to Gram Panchayats.
 - ⌘ The Ministry of Communications has launched the National Broadband Mission that will facilitate universal and equitable access to broadband services across the country, especially in rural and remote areas.
 - ⊙ Aim:
 - ⌘ To facilitate the delivery of e-governance, e-health, e-education, e-banking, Internet and other services to rural India.
 - ⌘ To connect all the 2,50,000 Gram panchayats in the country and provide 100 Mbps connectivity to all gram panchayats.

- ⌚ To achieve this, the existing unused fibres (**dark fibre**) of public sector undertakings (PSUs) (BSNL, Railtel and Power Grid) were utilised and incremental fibre was laid to connect to Gram Panchayats wherever necessary.
- ⌚ **Non-discriminatory access** to the NOFN was provided to all the service providers like Telecom Service Providers (TSPs), Cable TV operators and content providers to launch various services in rural areas.
- ⌚ The entire project is being **funded by the Universal Service Obligation Fund (USOF)**, which was set up for improving telecom services in rural and remote areas of the country.
- ⌚ **Implementation:**
 - ⌚ The project is a **Centre-State collaborative project**, with the states contributing **free Rights of Way for establishing the Optical Fibre Network**.
 - ⌚ The **three-phase implementation** of the BharatNet project is as follows:
 - ⌚ **First Phase:** Provide one lakh gram panchayats with broadband connectivity by laying underground **optic fibre cable (OFC)** lines by December 2017.
 - ⌚ **Second Phase:** Provide connectivity to all the gram panchayats in the country using an optimal mix of underground fibre, fibre over power lines, radio and satellite media. It is to be completed by March 2019.
 - ⌚ **Third Phase:** From 2019 to 2023, a state-of-the-art, future-proof network, including fibre between districts and blocks, with ring topology to provide redundancy would be created.

Dark fibre

- ⌚ It is an **unused optical fibre** that has been laid but is not currently being used in fibre-optic communications. Since fibre-optic cable transmits information in the form of light pulses, a 'dark' cable refers to one through which light pulses are not being transmitted.
- ⌚ Companies lay **extra optical fibres in order to avoid cost repetition** when more bandwidth is needed.
- ⌚ It is also known as **unlit fibre**.
- ⌚ The **participation of states became important in the second phase** which involved laying of OFC over electricity poles. This was a new element of the

BharatNet strategy as the mode of **connectivity by aerial OFC has several advantages**, including lower cost, speedier implementation, easy maintenance and utilization of existing power line infrastructure.

National Statistics Day

Why in News

This year, the **Statistics Day (29th June)** will be celebrated virtually, in view of the travel and safety advisories on account of the global **Covid-19 pandemic**.

Key Points

- ⌚ Every year, the Statistics Day is celebrated on 29th June, the **birth anniversary of Prof. Prasanta Chandra Mahalanobis**, to recognise his invaluable contribution in establishing the **National Statistical System**.
- ⌚ **Theme for 2020:**
 - ⌚ **SDG-3** (Ensure healthy lives and promote well-being for all at all ages) and **SDG-5** (Achieve gender equality and empower all women and girls).
 - ⌚ It carries forward the theme for 2019 which was '**Sustainable Development Goals (SDGs)**'.
- ⌚ **New Releases and Launch:**
 - ⌚ The updated version of the **Report on Sustainable Development Goals-National Indicator Framework (NIF) Progress Report 2020** will be released during the event.
 - ⌚ The **Indian Statistical Services Cadre Management Portal** will also be launched.
 - ⌚ The winners of **Prof. P C Mahalanobis National Award** and **Prof. P. V. Sukhatme Award 2020** will be declared during the event.
 - ⌚ In 2019, the **Ministry of Statistics and Programme Implementation** instituted Prof. P C Mahalanobis National Award in official statistics for recognizing outstanding achievement of official statisticians in central government, state governments and institutions.
 - ⌚ The Ministry also recognises the outstanding contribution for high-quality research work in the field of **applied and theoretical statistics benefitting the official statistical system** through the Prof. CR Rao and Prof. P V Sukhatme awards, awarded in alternate years.

Prasanta Chandra Mahalanobis (1893-1972)

⌚ He is considered the **father of modern statistics in India**, founded the **Indian Statistical Institute (ISI)**, shaped the **Planning Commission** (which was replaced by the **NITI Aayog** on 1st January 2015) and pioneered methodologies for large-scale surveys.



⌚ He introduced innovative techniques for conducting large-scale sample surveys, calculated acreages and crop yields, using the method of random sampling.

⌚ He also devised a **statistical method** called ‘**Fractile Graphical Analysis**’, used to **compare socio-economic conditions of varied groups**.

⌚ **Timeline:**

⌚ **1930:** Proposed the **Mahalanobis Distance** for the first time, which is a measure of comparison between two data sets.

⌚ The formula is used to find the distance between a point and a distribution, based on measurements in multiple dimensions. It is widely used in the field of cluster analysis and classification.

⌚ **1932:** Founded the ISI in **Kolkata (formerly Calcutta)** which was declared as an **institute of national importance in 1959**.

⌚ **1933:** Launched ‘**Sankhya: The Indian Journal Of Statistics**’.

⌚ **1950:** Established the **National Sample Survey** and set up the **Central Statistical Organisation** to coordinate statistical activities.

⌚ **1955:** Became a member of the Planning Commission and continued in that capacity till 1967.

⌚ He was instrumental in formulating **India’s second five-year-plan (1956-1961)**, which laid the blueprint for **industrialisation and development in India**.

⌚ **1968:** Honoured with the **Padma Vibhushan**.

⌚ He was also conferred a large number of awards by international organisations.

Navigating the New Normal: NITI Aayog

Why in News

The **National Institution for Transforming India (NITI Aayog)**, in partnership with several other stakeholders has launched a **behaviour change campaign** called ‘**Navigating the New Normal**’, and its website.



Key Points

⌚ The campaign has two parts:

⌚ **Covid-safe behavioural norms:** The first is a web portal, containing resources informed by **behavioural science and the use of nudge and social norms theory**, related to Covid-safe behavioural norms during the ongoing Unlock phase, and

⌚ **Wearing of Masks:** The second is a media campaign focused on the **wearing of masks**.

⌚ The portal focuses on easy implementation of **four key behaviours** in the unlock phase: mask-wearing (essential focus), social distancing, Hand hygiene, and not spitting in public.

⌚ **Citizens Role:** It aims at desired social behaviour in which the **enforcement burden shifts from the Government to the citizens**.

⌚ **Sector Specific:** The website will have sector-specific collaterals and guidelines for health, nutrition, and public transport (in metro cities).

⌚ **International Examples:** Japan and South Korea have made ‘mask-wearing’ a socially accepted norm.

⌚ **Recent Examples/Initiatives in India:**

⌚ Recently, **Meghalaya** has issued a new health protocol which also lays emphasis on the **Behaviour Change Model for living with Covid-19**.

ambitious agenda for behavioural change by applying the principles of behavioural economics to several issues, including gender equality, a healthy and beautiful India, savings, tax compliance and credit quality.

Behavioural Science

- ⌚ Behavioural science is a method of analysis that applies psychological insights into human behaviour to explain their decision-making
- ⌚ In reality, decisions made by people often deviate from the classical principles. Drawing on the psychology of human behaviour, science provides insights to ‘nudge’ people towards desirable behaviour.

Nudge Theory

- ⌚ According to Nudge theory, people, rather than being forced, can be **encouraged and influenced** to pursue or desist from certain actions through nudges.
- ⌚ It does not talk about penalizing people if they do not behave in a particular manner, rather it encourages them to make desirable decisions.
- ⌚ It believes that **Humans are not-so-rational and often need encouragement or intervention** — a nudge — to get going and do what’s best for the country or society at large.
- ⌚ American economist **Richard Thaler has won the 2017 Nobel Prize** in economics for his contributions to behavioural economics.

Limitations of Behavioural Science

- ⌚ **Continuous Efforts vs One-time Action** - Give It Up campaign for LPG subsidy was a comparatively easy policy as it requires only a one-time action of affluent households, whereas task is very difficult in case of living with Covid-19, Beti Bachao, Beti Padao and SBM, as **it requires continuous effort** to dislodge mind-sets that prevailed for decades.
- ⌚ **Specific Targeting is Required:** In order to make this campaign a success, focus must be on special areas of concern such as small factories and poor labourers, who comprise a large part of the vulnerable population. **Example:** Advertising campaigns such as the Beti Bachao Beti Padhao scheme did not target specific states where child sex ratios were already skewed (although it was effective in Haryana, which also has a very poor sex ratio).

- ⌚ **Case of Confirmation Bias:** The applications of behavioural insights appeared to be a result of **confirmation bias** (to the extent that past policies were viewed with a behavioural lens).

R&D Portal for Mining: SATYABHAMA

Why in News

The Ministry of Mines has launched a portal “**SATYABHAMA (Science and Technology Yojana for Atmanirbhar Bharat in Mining Advancement)**” with an aim to promote research and development in the mining and minerals sector.

Key Points

- ⌚ The Portal has been launched to increase efficiency and effectiveness of the **Science and Technology Programme Scheme**, under which the Ministry of Mines promotes research in applied geosciences, mineral exploration, mining and allied areas, mineral processing, optimum utilization and conservation of the mineral resources of the country.
- ⌚ This portal will allow **online submission of project proposals** along with **monitoring** of the same and utilisation of funds.
- ⌚ The portal has been designed, developed and implemented by the **National Informatics Centre (NIC)**.
- ⌚ The portal is also integrated with **NGO Darpan Portal of NITI Aayog**.
 - ⦿ NGO-DARPAN is a platform that provides space for interface between Non-Government organizations (NGOs)/Voluntary Organizations (VOs) in the country and key Government Ministries/Departments/ Government Bodies.

First Bell: Kerala

Why in News

- Recently, the Kerala Government has started a **virtual class initiative** called ‘**First Bell**’.
- ⌚ The **virtual classes** for state school students are being organised so that education is imparted amid Covid-19 crisis.

Key Points

- ⌚ Classes are being streamed on **Kerala Infrastructure and Technology for Education (KITE) VICTERS channel** which is a free, public-run television channel available on cable networks, direct-to-home services and over the internet.
- ⌚ The **modules** for different classes have been prepared by agencies under the General Education Department such as the State Council of Educational Research and Training, KITE, **Samagra Shiksha Kerala (SSK)**, and the State Institute of Educational Technology.
- ⌚ **Challenges:** The classes were **started on trial mode from 1st June, 2020**. The online classes brought to focus the **digital divide** in the state.
 - ⊙ Kerala has around 45 lakh students following state board syllabus. However, a survey revealed that **2.61 lakh students don't have access to TV or smartphone**, making them out of the network of online classes. Such students were in most destitute families mainly in remote villages and tribal areas.

YUKTI 2.0: Platform for Higher Education Institutes

Why in News

The **Ministry of Human Resource Development** has launched an initiative '**YUKTI 2.0**' to help systematically assimilate technologies having commercial potential and information related to incubated startups in higher education institutions.

- ⌚ YUKTI 2.0 is an **extension of 'YUKTI (Young India combating Covid with Knowledge, Technology and Innovation) Portal'** which was launched to identify ideas relevant in **Covid pandemic**.

Key Points

- ⌚ **Creation of Database:** The Ministry has invited students, faculty members, startups and other stakeholders of higher education institutions to register on the YUKTI portal and share their technologies and innovations.
- ⌚ **Importance of Database:**
 - ⊙ Database shared will be showcased to the investor community such as businessmen, farmers and industrialists i.e. students will be able to sell their ideas.

- ⊙ It will help the government to identify bottlenecks and formulate appropriate policies to strengthen the innovation ecosystem in the country.
- ⊙ Further, it will offer solutions to the problems faced by the country.
- ⌚ **In Line with Atmanirbhar Bharat:** YUKTI 2.0 will also help in fostering the culture of innovation and entrepreneurship in academic institutions.
- ⌚ **Other Initiatives to Boost Innovation:**
 - ⊙ **Institutions of Eminence (IoE) Scheme** is a government's scheme to provide the regulatory architecture for setting up or upgrading of 20 Institutions (10 from public sector and 10 from the private sector) as world-class teaching and research institutions.
 - ⊙ Various amendments have been made in the **Prime Minister's Research Fellowship Scheme** to boost research in the country.
 - ⊙ Through the **Atal Innovation Mission**, the government has established Atal Tinkering Laboratories (ATLs) in schools across the country. The objective of this scheme is to foster curiosity, creativity and imagination in young minds.

Global Education Monitoring Report 2020: UNESCO

Why in News

Recently, the **Global Education Monitoring Report, 2020** was released by the **United Nations Educational, Scientific and Cultural Organization (UNESCO)**.

- ⌚ It highlighted that **Covid-19** has worsened the inequalities in education systems worldwide.

Key Points

- ⌚ **Global Findings:**
 - ⊙ During the height of school closures in April 2020, almost 91% of students around the world were out of school.
 - ⊙ About 40% of low and lower middle income countries have not supported learners at risk of exclusion during this crisis, such as the poor, linguistic minorities and learners with disabilities.
 - ⊙ Education systems responded with distance learning solutions, all of which offered less or more imperfect substitutes for classroom instruction.

- ⊙ Poorer countries opted for radio and television (TV) lessons, 55% of low-income, 73% of lower-middle-income and 93% of upper-middle-income countries adopted for online learning platforms for primary and secondary education.
- ⊙ Combating the situation, 17% of low and middle-income countries are planning to recruit more teachers, 22% to increase class time and 68% to introduce remedial classes when schools reopen.
- 🕒 **India Specific Findings:**
 - ⊙ India has used a mix of all three systems (radio, TV and online platforms) for educational continuity.
- 🕒 **Challenges:**
 - ⊙ **Governments increasingly rely on technology** but the **digital divide limits** the approach because not all students and teachers have access to an adequate internet connection, equipment, skills and working conditions to take advantage of available platforms.
- ⊙ **School closures interrupt support mechanisms for various disadvantaged students.**
 - ⌘ Resources for **blind and deaf students** may not be available outside schools.
 - ⌘ **Children with learning disabilities** or those who are on the **autism** spectrum may struggle with independent work in front of a computer or the disruption of daily school routines.
 - ⌘ **Poor students** who depend on school for free meals or even free sanitary napkins have suffered.
- ⊙ Cancellation of examinations in many countries, including India, may result in scoring dependent on teachers' judgements of students instead, which could be affected by stereotypes of certain types of students.
- ⊙ Higher drop-out rates are also a concern because, during an earlier **Ebola** epidemic in Africa, many older girls never returned to school once the crisis was over.

■■■



Economic Scenario

Highlights

- ⌘ *Co-operative Banks Under RBI Supervision*
- ⌘ *Liquidity Measures Extended for Banks*
- ⌘ *Increase in Money Supply*
- ⌘ *Rise in Net Financial Assets*
- ⌘ *Electricity (Amendment) Bill 2020*
- ⌘ *Indian Gas Exchange: IGX*
- ⌘ *World Investment Report: UNCTAD*
- ⌘ *4% Contraction in Growth: ADB*
- ⌘ *New Purchasing Power Parities: ICP 2017*
- ⌘ *Country of Origin Made Mandatory on GeM*
- ⌘ *Initial Public Offer: LIC*
- ⌘ *Turant Customs*
- ⌘ *Interest Subvention Scheme for Shishu Loan Accounts*
- ⌘ *PM Formalization of Micro Food Processing Enterprises Scheme*
- ⌘ *Anti-dumping Duty on Steel Imports*
- ⌘ *National Institute of Public Finance and Policy*

Co-operative Banks Under RBI Supervision

Why In News

Recently, the Central government approved an **Ordinance** to bring all urban and multi-state co-operative banks under the direct supervision of the **Reserve Bank of India (RBI)**.

Key Points

⌚ Reason:

- ⊙ The decision comes after several instances of **fraud and serious financial irregularities**, including the major scam at the **Punjab and Maharashtra Co-operative (PMC) Bank** in 2019.
- ⊙ Till now, all the co-operative banks **came under dual regulation of the RBI and the Registrar of Co-operative Societies**, resulting in regulatory and supervisory lapses at many of these banks.
 - ⌘ The RBI had no power to draw up an enforceable scheme of reconstruction of a co-operative bank.
 - ⌘ However, from now onwards the urban and multi-state co-operative will come under the direct supervision of RBI.

⌚ Benefit:

- ⊙ The move will **empower the RBI to regulate** all urban and multi-state co-operative banks **on the lines of commercial banks**.
 - ⌘ Earlier, the **Supreme Court pronounced** that co-operative banks come within the definition of 'Banks' under the Banking Regulation Act, 1949 for the purposes of the Sarfaesi Act, 2002.
 - ⌘ The Sarfaesi Act is an effective tool for bad loans (**Non-Performing Assets**) recovery.
- ⊙ It will also provide **more security to depositors**.
 - ⌘ In India there are 1482 urban co-operatives banks and 58 multi-state co-operative banks.
 - ⌘ These banks have a depositor base of 8.6 crore, who have saved a huge amount of Rs. 4.84 lakh crore with these banks.

⌚ Issues Involved:

- ⊙ The **rural co-operative banks will continue to remain under the dual regulation** of RBI and Registrar of Co-operative Societies.
- ⊙ The rural co-operative banks face the same issue of misgovernance and fraud, like urban co-operatives banks.

Co-operative Banking

- ⌚ A **Co-operative bank** is a financial entity which belongs to its members, who are at the same time the owners and the customers of their bank. It is **distinct from commercial banks**.

- ⌚ They are broadly **classified into Urban and Rural co-operative banks** based on their region of operation.
- ⌚ They are registered under the **Co-operative Societies Act of the State concerned** or under the **Multi State Co-operative Societies Act, 2002**.
- ⌚ The Co-operative banks are also **governed by the**
 - Ⓞ Banking Regulations Act 1949.
 - Ⓞ Banking Laws (Co-operative Societies) Act, 1955.
- ⌚ **Features of Co-operative Banks:**
 - Ⓞ **Customer Owned Entities:** Co-operative bank members are both customer and owner of the bank.
 - Ⓞ **Democratic Member Control:** These banks are owned and controlled by the members, who democratically elect a board of directors. Members usually have equal voting rights, according to the cooperative principle of “one person, one vote”.
 - Ⓞ **Profit Allocation:** A significant part of the yearly profit, benefits or surplus is usually allocated to constitute reserves and a part of this profit can also be distributed to the co-operative members, with legal and statutory limitations.
 - Ⓞ **Financial Inclusion:** They have played a significant role in the financial inclusion of unbanked rural masses. They provide cheap credit to masses in rural areas.

Liquidity Measures Extended for Banks

Why in News

Recently, the **Reserve Bank of India (RBI)** has extended the relaxation relating to **Marginal Standing Facility (MSF) scheme** till 30th September 2020.

- ⌚ It has also extended the relaxation relating to maintenance of **Cash Reserve Ratio (CRR)** up to 25th September 2020.
- ⌚ This was done in view of the hardships being faced by banks in terms of social distancing at work and consequent strain on reporting requirements.

Key Points

- ⌚ **Marginal Standing Facility:**
 - Ⓞ The RBI, as a temporary measure, had increased the borrowing limit of scheduled banks under the

MSF scheme from 2% to 3% of their deposits with effect from 27th March 2020.

⌘ Earlier, the above relaxation was granted till 30th June 2020.

- Ⓞ **MSF is a window for scheduled banks to borrow overnight** from the RBI in an emergency situation when interbank liquidity dries up completely.
 - ⌘ Under interbank lending, banks lend funds to one another for a specified term.
- Ⓞ Banks borrow from the RBI by pledging government securities at a rate higher than the **repo rate** under **Liquidity Adjustment Facility (LAF)**.
 - ⌘ Repo rate is the rate at which the **RBI lends money to commercial banks** against the securities in the event of any shortfall of funds.
 - ⌘ Loans provided at repo rate are provided for a specified period with an obligation that the bank will repurchase the securities back at a predetermined rate.
- Ⓞ **Differences between Repo Rate and MSF:**
 - ⌘ Repo rate is the rate at which RBI lends money to **commercial banks**, while MSF is a rate at which RBI lends money to **scheduled banks**.
 - ⌘ The repo rate is given to banks that are looking to meet their short-term financial needs. While, the MSF is meant for lending **overnight to banks**.
 - ⌘ Lending at repo rates involves a **repurchase agreement** of securities. While it is not so in MSF.
 - ⌘ Under MSF, banks are also allowed to use the securities that come under **Statutory Liquidity Ratio (SLR)** in the process of availing loans from RBI.
 - Under SLR, **commercial banks are mandated by RBI to maintain a stipulated proportion of their deposits in the form of liquid assets** like cash, gold and unencumbered (free from debt) securities.
- ⌚ **Cash Reserve Ratio:**
 - Ⓞ On 27th March 2020 the minimum daily maintenance of the CRR was reduced from 90% of the prescribed CRR to 80%.
 - ⌘ The above facility was available till 26th June 2020.
 - Ⓞ CRR is the amount of **liquid cash that banks have to maintain with the RBI**, as a percentage of their total deposits.

Scheduled Banks

- ⌚ Any bank which is listed in the **2nd schedule of the RBI Act, 1934** is considered a scheduled bank.
- ⌚ The banks included in this category **should fulfil two conditions:**
 - ⊗ The paid up capital and collected fund of the bank should not be less than Rs 5 lakh.
 - ⊗ Any activity of the bank shall not adversely affect the interests of the depositors.

Commercial Banks

- ⌚ It refers to both scheduled and non-scheduled commercial banks which are regulated under the **Banking Regulation Act, 1949**.

Liquidity Adjustment Facility

- ⌚ It is a tool used in monetary policy by the RBI, that allows banks to borrow money through repurchase agreements (repos) or for banks to make loans to the RBI through reverse repo agreements.
- ⌚ **Reverse repo rate** is the rate at which the RBI borrows money from commercial banks within the country.

Increase in Money Supply

According to recent **Reserve Bank of India (RBI)** data, the uncertainty caused by the **Covid-19 pandemic** has led to a surge in money supply.

Key Points

⌚ RBI Data:

- ⊗ Since the end of March, 2020 **currency held by the public** increased by 8.2%.
- ⊗ **M3 money supply (refer explanation below)** increased by 6.7% in the first five months of 2020 compared with the same period last year. This is the highest growth in seven years.
- ⊗ **Currency in circulation**, which measures money with the public and in banks, has also surged.
- ⊗ However, the **savings and current account deposits decreased** by 8%. Gross capital formation also fell by 7% in the March, 2020 quarter.

⌚ Reason:

- ⊗ The recent increase reflects **higher cash withdrawals** by depositors to meet needs during the lockdown period and also to safeguard themselves against salary cuts or job losses.

⌚ Impact:

- ⊗ A rise in money supply usually is seen as a leading indicator of growth in consumption and business investments, but due to Covid-19 pandemic, the rise this time is unlikely to bolster either.
- ⊗ People have curtailed their discretionary spending as they're not sure of their permanent income.
- ⊗ Lenders too are unwilling to take risks as slowing discretionary spending slows demand for manufactured and industrial goods.

⌚ Money Supply:

- ⊗ The **total stock of money in circulation among the public** at a particular point of time is called **money supply**.
 - ⊗ It needs to be noted that total stock of money is different from total supply of money.
 - ⊗ Supply of money is only that part of total stock of money which is held by the public at a particular point of time.
- ⊗ The circulating money involves the **currency, printed notes, money in the deposit accounts** and in the **form of other liquid assets**.
- ⊗ RBI publishes figures for four alternative measures of money supply, viz. M1, M2, M3 and M4.
 - ⊗ **M1 = CU + DD**
 - ⊗ **M2 = M1 + Savings deposits with Post Office savings banks**
 - ⊗ **M3 = M1 + Net time deposits of commercial banks**
 - ⊗ **M4 = M3 + Total deposits with Post Office savings organisations (excluding National Savings Certificates)**
- ⊗ CU is **currency (notes plus coins)** held by the public and **DD is net demand deposits held by commercial banks**.
- ⊗ The word 'net' implies that only deposits of the public held by the banks are to be included in money supply.
 - ⊗ The interbank deposits, which a commercial bank holds in other commercial banks, are not to be regarded as part of money supply.
- ⊗ M1 and M2 are known as **narrow money**. M3 and M4 are known as **broad money**.
- ⊗ These gradations are in **decreasing order of liquidity**.
 - ⊗ M1 is **most liquid and easiest for transactions** whereas M4 is least liquid of all.

Key Terms

- ⌚ **Gross capital formation** refers to the ‘aggregate of gross additions to fixed assets (that is fixed capital formation) plus change in stocks during the counting period.’
 - ⊙ Fixed asset refers to the construction, machinery and equipment.
- ⌚ **Currency in circulation** includes notes in circulation, rupee coins and small coins.
- ⌚ **Currency with the public** is arrived at after deducting cash with banks from total currency in circulation.

⌘ M3 is the most commonly used measure of money supply. It is also known as **aggregate monetary resources**.

Rise in Net Financial Assets

Why in News

According to the Reserve Bank of India’s recent **Quarterly Estimates of Households’ Financial Assets and Liabilities**, net financial assets of Indian households rose to 7.7% of the **Gross Domestic Product (GDP)** in the Financial Year (FY) 2019-20.

Key Points

- ⌚ **Net Financial Assets:**
 - ⊙ **Net Financial Assets** are the difference between **Gross Financial Assets (GFA)** (deposits and investments) and **Financial Liabilities** (borrowings).
 - ⌘ The net financial assets jumped from Rs. 13.73 lakh crore in FY 2018-19 (7.2% of GDP) to Rs. 15.62 lakh crore (7.7% of the GDP) in FY 2019-20.
 - ⌘ The GFA rose marginally from Rs. 21.23 lakh crore in FY 2018-19 to Rs. 21.63 lakh crore in FY 2019-20.
 - ⌘ The **financial liabilities witnessed a sharp decline** from Rs. 7.5 lakh crore to Rs. 6.01 lakh crore in the same period, thereby contributing to the rise in net financial assets.
 - ⊙ In the first quarter of FY 2020-21, RBI also expects a **spike in net financial assets of households** on account of a **sharp drop in lockdown induced consumption**.

⌘ Studies show households tend to save more during a slowdown and income uncertainty.

Decline in Borrowing:

- ⊙ The rise in net financial assets was **accompanied by decline in bank borrowings by households**.
- ⊙ The decline in bank borrowing by households is a **reflection of slowdown in the economy and risk aversion of banks**.

⌚ Savings:

- ⊙ In value terms GFA has increased marginally from Rs. 21.23 lakh crore in FY 2018-19 to Rs 21.63 lakh crore FY 2019-20.
- ⊙ The overall savings have not grown in proportion. However, the **household savings in bank deposits as a percent of GDP declined** to 3.4% in FY 2019-20 compared to FY 2018-19 where it stood at 3.8%.

⌘ The decline in household savings is because banks reduced their interest rates following sharp cut in repo rate by the RBI over the last 18 months.

- A repo rate is the rate at which RBI lends to commercial banks.
- Between January 2019 and March 2020, RBI cut the repo rate by 210 basis points from 6.5% to 4.4%. In May, 2020 RBI reduced it further to 4%.

⌘ **Small saving instruments** that continued to offer higher rates than bank deposits witnessed a higher deployment of household savings as their share as percent of GDP increased from 1.1% to 1.3% in the same period.

- ⊙ Savings into life insurance funds and mutual funds as a percent of GDP also declined from 2.2% in FY 2018-19 to 1.9% in FY 2019-20.

⌚ Issues Involved:

- ⊙ There is a possibility that households may use their savings due to lags in the pickup of economic activity post Covid-19 lockdown.
 - ⌘ This may cause the financial surplus (savings) of households to decrease in coming days.
 - ⌘ This may decrease the investment, which may further add to the economic slowdown.

Electricity (Amendment) Bill 2020

Why in News

Recently, the Central government has introduced the **Electricity (Amendment) Bill 2020** to amend various provisions in the Electricity Act 2003.

Key Points

⌚ Rationale Behind Amendment:

- ⊙ To address critical issues weakening the commercial and investment activities in the electricity sector.
 - ⌘ The current challenges plaguing the Indian power sector is derived from negligence in addressing the structural issues.
 - ⌘ These include operational and financial inefficiencies of power generation, transmission and distribution utilities, access and quality of power supply, political interference, lack of private investments, inadequate public infrastructure and lack of consumer participation.
- ⊙ **Bringing transparency and accountability** to protect the interest of consumers and ensuring healthy growth of the power sector.

⌚ Key Objectives:

- ⊙ Ensure consumer centricity,
- ⊙ Promote Ease of Doing Business,
- ⊙ Enhance sustainability of the power sector,
- ⊙ Promote green power,

⌚ Key Amendments:

- ⊙ **National Selection Committee:** Instead of the separate Selection Committee (for appointment of Chairperson and members of State Electricity Regulatory Commissions-SERCs), there is a proposal to set up a National Selection Committee.
 - ⌘ However, the Central Government is also considering to continue with the existing separate Selection Committees for each state – but make them Standing Selection Committees so that there is no need for constituting them afresh every time a vacancy occurs.
 - ⌘ The only difference is that it will now be proposed to be presided by the Chief Justice of the High Court of the state.

⊙ **Introduction of Direct Benefit Transfer:** Direct Benefit Transfer will be beneficial for both the State Governments and as well as Distribution Companies.

- ⌘ It will be beneficial for the State Government because it will ensure that the subsidy reaches the people who are actually entitled and the State Government gets clear accounts of the amount given as subsidy.
- ⌘ It will benefit the distribution company by making sure that the subsidies due are received as per the number of beneficiaries.

⊙ **National Renewable Energy Policy:** India is a signatory to the **Paris Climate Agreement**. It is therefore proposed to have a separate policy for the development and promotion of generation of electricity from renewable sources of energy.

- ⌘ The policy prescribes a minimum percentage of purchase of electricity from renewable sources of production. It seeks to give special attention to hydro power.

⊙ Sustainability:

- ⌘ **Cost Reflective Tariff:** There had been the issue of lazy attempts from the commissions in adopting the tariffs determined, causing issues of cost escalation.
 - To address this problem, the Amendment has prescribed a period of 60 days to adopt the determined tariffs. Failing such a timeline of 60 days, the tariff would be deemed to be accepted.

⌘ **Payment Security:** It is proposed to empower Load Dispatch Centres to oversee the establishment of adequate payment security mechanisms before dispatch of electricity, as per contracts.

- Late payment of dues of generating and transmission companies have reached unsustainable levels. This impairs the finances of the Gencos and Transcos and also increases the **Non Performing Assets** of the Banks.

⊙ Ease of Doing Business:

- ⌘ **Establishment of Electricity Contract Enforcement Authority (ECEA):** It is an Authority headed by a retired Judge of the High Court with powers to execute their orders as decree of a civil court.
 - The Authority will enforce performance of contracts related to purchase or sale or

transmission of power between a generating company, distribution licensee or transmission licensee.

- Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERCs) do not have powers to execute their orders as decree of a civil court.

⌘ **Cross Subsidy:** The Bill provides for the SERCs to reduce cross subsidies as per the provisions of the Tariff Policy.

⌚ **Miscellaneous:**

⌘ **Strengthening of the Appellate Tribunal (APTEL):** It is proposed to increase the strength of APTEL to at least seven to facilitate quick disposal of cases.

- To be able to effectively enforce its orders, it is also proposed to give it the powers of the High Court under the provisions of the Contempt of Courts Act.

⌘ **Penalties:** In order to ensure compliance of the provisions of the Electricity Act and orders of the Commission, section 142 and section 146 of the Electricity Act are proposed to be amended to provide for higher penalties.

⌘ **Cross Border Trade in Electricity:** Provisions have been added to facilitate and develop trade in electricity with other countries.

⌘ **Distribution sub-licensees:** To improve quality of supply, an option is proposed to be provided to Discoms to authorise another person as a sub-license to supply electricity in any particular part of its area, with the permission of the State Electricity Regulatory Commission.

⌚ **Issues Involved:**

- ⌚ Cost reflective tariff has been a concern for states like Telangana which provide free electricity to the farming sector.
- ⌚ Formation of ECEA has also been criticized as a move towards centralization of power.
- ⌚ Recognition of franchisees and sub- licensees might open the sector to private players.

Indian Gas Exchange: IGX

Why in News

Recently, India launched its **first gas exchange** which has been named as the **Indian Gas Exchange (IGX)**.

Key Points

⌚ **IGX:**

⌚ The IGX is a **digital trading platform** that will allow buyers and sellers of natural gas to trade both in the **spot market and in the forward market for imported natural gas** across three hubs—Dahej and Hazira in Gujarat, and Kakinada in Andhra Pradesh.

⌘ The **spot market** is a public financial market in which financial instruments or commodities are traded for immediate delivery.

⌘ A **forward market** is an over-the-counter marketplace that sets the price of a financial instrument or asset for future delivery.

⌚ However, domestically produced natural gas will not be sold on the exchange.

⌘ The price of domestically produced natural gas is decided by the government.

⌚ **Benefits:**

⌚ IGX is expected to facilitate transparent price discovery in natural gas, and facilitate the growth of the share of natural gas in India's energy basket. It removes the requirement for buyers and sellers to find each other to ensure a fair price deal.

Shorter and longer contracts period will allow buyers and sellers greater flexibility.

⌘ The exchange allows much shorter contracts. i.e. for delivery on the next day, and up to a month. Ordinarily contracts for natural gas supply are as long as six months up to a year.

⌚ **India's Import Dependence:**

⌚ The natural gas imports are set to become a larger proportion of domestic gas consumption as India moves to **increase the proportion of natural gas** in the energy basket from 6.2% in 2018 to 15% by 2030.

⌚ Also, India's **domestic production of gas has been falling** over the past two fiscals as current sources of natural gas have become less productive.

⌚ Domestically produced natural gas **currently accounts for less than half of India's natural gas consumption**. While imported natural gas accounts for the other half.

⌚ **Regulations:**

⌚ Currently, the pipeline infrastructure necessary for the transportation of natural gas is controlled by the companies that own the network.

- ⊙ State-owned **Gas Authority of India Limited (GAIL)** owns and operates India's largest gas pipeline network, spanning over 12,000 km.
- 🕒 **Government Initiatives:**
 - ⊙ The Indian gas market has multiple price bands for assets including **pre-NELP (New Exploration Licensing Policy)**, **NELP**, High Temperature and High Pressure (HTHP) and Deepwater and Ultra Deep Water blocks.
 - ⊙ India has **long-term gas contracts with many countries** like Qatar, Australia, Russia and the US, and has **made investments abroad in strategic assets** in Mozambique, Russia and other countries.
 - ⊙ India has taken **various ongoing projects** to strengthen the gas infrastructure in the country like **Urja Ganga, Eastern India grid, Indradhanush project** in the North-east, **Dhamra-Dahej pipeline**, coal gasification and the Coal Bed Methane (CBM) policy.

World Investment Report: UNCTAD

Why in News

Recently, the **United Nations Conference on Trade and Development (UNCTAD)** released the **World Investment Report 2020**.

- 🕒 The World Investment Report focuses on **trends in Foreign Direct Investment (FDI)** worldwide, at the regional and country levels and emerging measures to improve its contribution to development.

Key Points

- 🕒 **Global Scenario:**
 - ⊙ According to the report, global FDI flows are forecast **to decrease by up to 40% in 2020**, from their 2019 value of \$1.54 trillion.
 - ⊙ This would **bring global FDI below \$1 trillion for the first time since 2005**. The FDI is projected to decrease by a further 5% to 10% in 2021.
 - ⊙ **Developing economies are expected to see the biggest fall** in FDI because they rely more on investment in Global Value Chain (GVC) based industries, which have been severely hit due to **Covid-19 pandemic**.

- ⊙ They have **also not been able to put in place the same economic support measures as developed economies**.
- 🕒 However, the investment flows are **expected to slowly recover by the start of 2022**.
- 🕒 Global FDI flows rose modestly in 2019, following the sizable declines registered in 2017 and 2018.
 - ⊙ The rise in FDI was due to the waning of impact of the 2017 tax reforms in the United States.
- 🕒 **India's Investment Scenario:**
 - ⊙ India jumped from **12th position in 2018 to 9th position in 2019** among the world's largest FDI recipients.
 - ⌘ In 2019, the FDI inflows into India jumped over 20% to \$51 billion.
 - ⊙ The report also observed that FDI into **India may decline sharply in 2020** because of the impact of the **Covid-19 pandemic** and the consequent **lockdown** measures, supply chain disruptions and economic slowdown.
 - ⌘ In India the number of greenfield investment announcements declined by 4% in the first quarter of financial year 2020-21. The Mergers and acquisitions (M&A) also contracted by 58%.
 - ⌘ A greenfield investment is a type of FDI in which a parent company creates a subsidiary in a different country, building its operations from the ground up.
 - ⊙ However, the report mentioned that **India's large market will continue to attract market-seeking investments to the country**.

UNCTAD

- 🕒 The United Nations Conference on Trade and Development (UNCTAD) was established in 1964 to promote development-friendly integration of developing countries into the world economy.
- 🕒 UNCTAD is a **permanent intergovernmental body headquartered at Geneva in Switzerland**.
- 🕒 Some of the **reports** published by it are:
 - ⊙ Trade and Development Report
 - ⊙ World Investment Report
 - ⊙ The Least Developed Countries Report
 - ⊙ Information and Economy Report
 - ⊙ Technology and Innovation Report
 - ⊙ Commodities and Development Report

- ⌘ India's professional services and the digital economy could see a faster rebound as global **venture capital firms and technology companies continue to show interest in India's market through acquisitions.**
- ⌘ Investors concluded deals worth over \$650 million in the first quarter of 2020, mostly in the digital sector.

4% Contraction in Growth: ADB

Why in News

According to the **Asian Development Outlook (ADO)** released by the **Asian Development Bank (ADB)**, the Indian economy is expected to contract by 4% during the current financial year (2020-21).

- ⌚ Earlier, in April 2020, ADB had projected India's economy to grow at 4% in 2020-21.
- ⌚ The ADO analyzes economic and development issues in developing countries in Asia. This includes forecasting the inflation and growth rates of countries throughout the region, including China and India.

Key Points

⌚ Reasons for Contraction:

- ⊙ Global health emergency created by the **Covid-19 pandemic.**
- ⌘ After the introduction of lockdowns in late March 2020, economic activity in South Asia came to standstill.
- ⌘ The lockdown also disrupted the supply chain.
- ⊙ The **Gross Domestic Product (GDP)** slowed to 3.1% in the last quarter (Jan-March) of the financial year 2019-20. It is the slowest since early 2003.
- ⊙ The overall economic growth slowed to 4.2% in 2019-20 as both exports and investment started to contract.
- ⊙ The **Purchasing Managers' Index** fell to all-time lows in April 2020.

THE PROJECTIONS

for India's economy during 2020-21 (%), unless specified

OECD	-3.7 to -7.3
Bernstein	-7.0
Goldman Sachs (for '20)	-5.0
Nomura	-5.0
Fitch Ratings	-5.0
ICRA	-5.0
CRISIL	-5.0
India Ratings	-2.1 to 1
CII	-0.9 to 1
Moody's Investors Service	-4.0
World Bank	-3.2
IMF	1.9
Asian Development Bank	-4.0

Source: Respective entities

- ⊙ Migrant workers have gone home to their villages after losing their jobs in the cities and will be slow to return to cities to work again.

⌚ Growth Projections for Developing Asia:

- ⊙ Developing Asia refers to a group of over 40 countries, including India, that are members of the ADB. Growth of 0.1% is expected.
- ⌘ This is down from the 2.2% forecast in April 2020 and would be the slowest growth for the region since 1961.
- ⌘ However, China is expected to record a positive growth of 1.8% in 2020-21.

⌚ No V-shaped Recovery:

- ⊙ Even as lockdowns are slowly eased and select economic activities restart, economies in Asia and the Pacific will continue to feel the blow of the Covid-19 pandemic this year.
- ⊙ Despite a higher growth outlook for the region in 2020-21, there will not be a **V-shaped recovery.**

⌚ Issues Involved:

- ⊙ The Covid-19 pandemic may see multiple waves of outbreaks in the coming period. This may lead to an increase in sovereign debt and worse to a financial crisis.
- ⊙ There is also the risk of renewed escalation in **trade tensions** between the United States and China.

Asian Development Bank

- ⌚ ADB is a regional development bank established on 19th December 1966.
- ⌚ It has 68 members. India is a **founding member.**
- ⌚ As of 31 December 2019, ADB's five largest shareholders are **Japan and the United States (each with 15.6% of total shares), the People's Republic of China (6.4%), India (6.3%), and Australia (5.8%).**
- ⌚ It aims to promote social and economic development in Asia and the Pacific.
- ⌚ It is headquartered in **Manila, Philippines.**

New Purchasing Power Parities: ICP 2017

Why in News

Recently, the **World Bank** has released new **Purchasing Power Parities (PPPs)** for the **reference year 2017**, under

International Comparison Program (ICP) that adjusts for differences in the cost of living across economies of the world.

International Comparison Program

- ⌚ It is the **largest worldwide data-collection initiative**, under the guidance of the **United Nations Statistical Commission (UNSC)**.
- ⌚ The **main objectives** of the ICP are to:
 - ⊙ Produce PPPs and comparable **Price Level Indices (PLIs)** for participating economies.
 - ⊙ Convert volume and per capita measures of **Gross Domestic Product (GDP)** and its expenditure components into a common currency using PPPs.

Purchasing Power Parities

- ⌚ It is the rate at which the currency of one country would have to be converted into that of another country to buy the same amount of goods and services in each country.
- ⌚ The PPP exchange rates are constructed to ensure that the same quantity of goods and services are priced equivalently across countries.
- ⌚ PPP exchange rates are used to convert the national **poverty** lines from some of the poorest countries in the world to determine the **Global Poverty Line**.
 - ⊙ For **poverty estimation in India**, the **Tendulkar committee** computed **poverty lines** for 2004-05 at a level that was equivalent, in PPP terms, to Rs 33 per day.
 - ⌘ **Poverty Line:** The conventional approach to measuring poverty is to specify a minimum expenditure (or income) required to purchase a basket of goods and services necessary to satisfy basic human needs and this minimum expenditure is called the poverty line.

Price Level Indices

- ⌚ It is the ratio of a PPP to its corresponding market exchange rate.
- ⌚ It is used to compare the price levels of economies.

Gross Domestic Product

- ⌚ It is the single standard indicator used across the globe to indicate the health of a nation's economy.
- ⌚ It is the sum of private consumption, gross investment in the economy, government investment, government spending and net foreign trade (difference between exports and imports).

Key Points

- ⌚ **India is a co-chair of the ICP Governing Board** along with Statistics Austria **for the ICP 2017 cycle**.
 - ⊙ India has participated in almost all ICP rounds **since its inception in 1970**.
 - ⊙ The **Ministry of Statistics and Programme Implementation** is the **National Implementing Agency (NIA)** for India, which has the **responsibility of the planning, coordinating and implementing** national ICP activities.
- ⌚ The ICP 2017 results, revised results for 2011 and estimates of annual PPPs for the period 2012-2016 are **available on the ICP website and the World Bank's Databank and Data Catalog**.
- ⌚ The **next ICP comparison** will be conducted for the **reference year 2021**.

Global Status:

Values:

- ⌘ Globally, **176 economies participated** in the 2017 cycle of ICP.
- ⌘ The PPPs of Indian Rupee per USD at the GDP level is now 20.65 in 2017 from 15.55 in 2011.
- ⌘ The Exchange Rate of USD to Indian Rupee is 65.12 from 46.67 during the same period.
- ⌘ The PLI of India is 47.55 in 2017 from 42.99 in 2011.
- ⊙ **Rankings:**
 - ⌘ In 2017, India retained and consolidated its global position, as the third-largest economy and accounted for 6.7% of global GDP in terms of PPPs.
 - ⌘ China was in first position with 16.4% and the USA at the second position with 16.3%.
 - ⌘ India is also the third-largest economy in terms of its PPP-based share in Global Actual Individual Consumption (AIC) and **Global Gross Fixed Capital Formation (GCF)**.
- ⊙ **Regional Status (Asia-Pacific):**
 - ⌘ Regionally, **22 economies participated** in the Asia-Pacific.
 - ⌘ In 2017, India retained its regional position as the second-largest economy and accounted for 20.83% of Regional GDP in terms of PPPs.
 - ⌘ China stands first with 50.76% and Indonesia is in third position with 7.49%.

Actual Individual Consumption

- ⌚ It consists of goods and services actually consumed by individuals, irrespective of whether these goods and services are purchased and paid for by households, by government or by non-profit organisations.

⌘ India is also the second-largest economy in terms of its PPP-based share in Regional AIC and Regional GFCF.

Country of Origin Made Mandatory on GeM

Why in News

Recently, **Government e-Marketplace (GeM)**, a Special Purpose Vehicle under the **Ministry of Commerce and Industry**, has made it mandatory for sellers to enter the **Country of Origin** while registering all new products on GeM.

- ⌚ GeM has taken this significant step to promote **Make in India** and **Atmanirbhar Bharat** initiatives.

Key Points

- ⌚ **Provisions:**
 - ⊙ **Indication of the Local Content:** GeM has enabled a provision for the indication of the percentage of local content in products.
 - ⌘ Now, the **Country of Origin** as well as the **local content percentage** is visible in the marketplace for all items.
 - ⊙ **Make in India Filter:** This new filter has been enabled on the portal so that the **buyers** can choose to buy only those products that meet the minimum 50% local content criteria.
 - ⌘ They can also switch on a new Make in India filter to see products that match their preferences on local content.
- ⌚ **Significance of GeM:**
 - ⊙ **Promotion of the 'Make in India' Initiative:** Since its inception, GeM has continuously worked towards promotion of the **'Make in India'** initiative.
 - ⊙ **Entry of Small Local Sellers:** The Marketplace has facilitated entry of small local sellers in public procurement, while implementing 'Make in India' and **MSME** purchase preference policies of the Government in the true sense. ⊙

Government e-Marketplace

- ⌚ GeM is a **one-stop National Public Procurement Portal to facilitate online procurement** of common use Goods and Services required by various Central and State Government Departments/Organizations/Public Sector Undertakings (PSUs).
- ⌚ It was launched in **2016 to bring transparency and efficiency** in the government buying process.
- ⌚ It operates under the **Ministry of Commerce and Industry**.
- ⌚ The procurement of goods and services by Ministries and the **Central Public Sector Enterprises (CPSEs)** is mandatory for goods and services available on GeM.
- ⌚ It also provides the **tools of e-bidding and reverse e-auction to facilitate** the government users achieve the best value for their money.
- ⌚ At present, GeM has more than 15 lakh products, around 20,000 services and more than 40,000 government buyer organizations.

- ⊙ **Transparent and Cost-effective Procurement:** GeM is enabling quick, efficient, transparent and cost-effective procurement, especially when government organizations require products and services urgently to fight against the Covid-19 pandemic.
- ⊙ **Promotion of Atmanirbhar Bharat:** GeM has been promoting the Atmanirbhar Bharat policy, introduced in the wake of the **Covid-19 pandemic**, meant to encourage self-reliance and boost small Indian manufacturers.

Initial Public Offer: LIC

Why in News

The Central government has started the process to launch the Initial Public Offer (IPO) of Life Insurance Corporation (LIC).

- ⌚ LIC is **fully owned by the government**. It was set up in 1956.
- ⌚ It has the **biggest share in India's insurance business**.

Key Points

- ⌚ **LIC IPO:**
 - The IPO is **expected to be the biggest in the Indian capital markets** given the size and scale of LIC.

Initial Public Offer

- ⌚ IPO is the selling of securities to the public in the **primary market (a type of capital market)**.
 - ⊙ **Primary market** deals with new securities being issued for the first time. It is also known as the new issues market.
 - ⊙ It is **different from the secondary market** where existing securities are bought and sold. It is also known as the stock market or stock exchange.
- ⌚ Under IPO, an unlisted company makes **either a fresh issue of securities** or an **offer for sale of its existing securities** or **both for the first time to the public**.
 - ⊙ Through an IPO, an unlisted company can get listed on the stock exchange.
- ⌚ It is generally used by new and medium-sized firms that are looking for funds to grow and expand their business.
 - ⊙ The LIC's total assets had touched an all-time high of Rs. 31.11 lakh crore in 2018-19.
 - ⊙ The government is seeking some exemption related to the LIC IPO from the **Securities and Exchange Board of India (SEBI)**.
- ⌚ **Benefit:**
 - ⊙ It will help the government **to meet its rising fiscal deficit**.
 - ⌘ The rating agency S&P has estimated India's government (centre and states) fiscal deficit to rise to 11% of GDP in FY21 from 7.8% in FY20.
 - ⊙ An IPO **will bring transparency into affairs of LIC** since it will be required to inform its value and other market-related developments on time to the stock exchanges.
 - ⊙ It also **gives an opportunity for retail investors to participate** in the wealth creation of LIC.
 - ⊙ Listing of companies on stock exchanges **disciplines the company** since it comes under greater scrutiny. It also **provides access to financial markets**, thus raising the company's value.
- ⌚ **Issues Involved:**
 - ⊙ LIC is currently dealing with huge non-performing assets.
- ⌚ **Background:**
 - ⊙ In the Budget 2020-21, the government had **announced plans for IPO of LIC** and a proposal to **sell the government's equity in the stressed IDBI**

Bank to private, retail and institutional investors through the stock exchange.

- ⌘ LIC is also a majority shareholder in IDBI Bank.
- ⊙ The government expects to raise Rs. 90,000 crore through stakesale in LIC and IDBI Bank, and another Rs. 1.2 lakh crore through other **disinvestments**.
- ⊙ Earlier, in 2017, the government had listed the shares of General Insurance Corporation and New India Assurance through IPOs.

Turant Customs

Why in News

The **Central Board of Indirect Taxes and Customs (CBIC)** unveiled a Secure QR coded Shipping Bill that would be electronically sent to exporters.

- ⌚ This will enable end to end paperless exports under **'Turant Customs'**.

Key Points

- ⌚ This step has been taken by CBIC for fulfilling its commitment to a **Faceless, Paperless, and Contactless Customs** under the umbrella of its **"Turant Customs"** programme.
 - ⊙ The launch of paperless documentation on exports is a sequel to a similar initiative that was begun for imports w.e.f. 15th April 2020.
- ⌚ **Benefits:** These reforms are based on enhanced use of digital technology to reduce the time and costs for the importers, exporters and other stakeholders, thereby improving India's ranking in the **World Bank's "Trading Across Borders" parameter of its Ease of Doing Business (EoDB) index**.
 - ⊙ India improved to rank 80 on **"Trading Across Borders"** parameter as compared with 146 in 2018.
 - ⊙ This was possible due to reforms like **Single Window Interface for Facilitating Trade, e-Sanchit (e-Storage and computerised handling of indirect tax documents)**, and **Direct Port Delivery**.
- ⌚ **Other Recent Initiatives:** Ministry of Finance (Central Board of Indirect Taxes and Customs) also launched two Information Technology (IT) initiatives - **ICEDASH and ATITHI**.
 - ⊙ **ICEDASH** – For improved monitoring of customs clearance of imported goods.
 - ⊙ **ATITHI** – For facilitating arriving international passengers.

Central Board of Indirect Taxes and Customs

- ⌚ CBIC is a part of the Department of Revenue under the Ministry of Finance.
- ⌚ The Central Board of Excise and Customs (CBEC) was **renamed as the Central Board of Indirect Taxes and Customs (CBIC) in 2018** after the roll out of **Goods and Services Tax (GST)**.
- ⌚ CBIC deals with the tasks of formulation of policy concerning levy and collection of Customs, Central Excise duties, Central Goods & Services Tax and Integrated GST, prevention of smuggling.

Interest Subvention Scheme for Shishu Loan Accounts

Why in News

The government has approved a **2% interest subsidy scheme for Shishu loan account holders** under the **Pradhan Mantri Mudra Yojana (PMMY)**.

- ⌚ The Scheme will help small businesses tide over difficulties created by the lockdown following **Covid-19 outbreak**.

Pradhan Mantri Mudra Yojana

- ⌚ PMMY is a scheme launched by the government in **2015** for providing **loans up to Rs. 10 lakh to the non-corporate, non-farm small/micro enterprises**.
- ⌚ **MUDRA**, which stands for **Micro Units Development & Refinance Agency Ltd.**, is a financial institution set up by the Government to provide funding to the non-corporate small business sector through various last mile financial institutions like Banks, **Non-Banking Financial Companies (NBFCs)** and Micro Finance Institutions (MFIs).
 - ⌚ MUDRA does not lend directly to micro entrepreneurs / individuals.
- ⌚ Under the aegis of PMMY, **MUDRA has created three products** i.e. 'Shishu', 'Kishore' and 'Tarun' as per the stage of growth and funding needs of the beneficiary micro unit.
 - ⌚ **Shishu:** Covering loans upto Rs. 50,000/-
 - ⌚ **Kishore:** Covering loans above Rs. 50,000/- and upto Rs. 5 lakh
 - ⌚ **Tarun:** Covering loans above Rs. 5 lakh and upto Rs. 10 lakh
- ⌚ Loans under this scheme are **collateral free loans**.

Key Points

- ⌚ **In Line with Atmanirbhar Abhiyan:**
 - ⌚ The **2% Interest Subsidy Scheme** is in line with the measures announced relating to Micro, Small and Medium Enterprises (MSMEs) under the **Atmanirbhar Bharat Abhiyan**.
- ⌚ **Eligibility:**
 - ⌚ The scheme will be extended to loans which meet the following criteria: **outstanding as on 31st March, 2020; and not in Non-Performing Asset (NPA) category**, as per the **Reserve Bank of India (RBI)** guidelines on 31st March 2020 and during the period of operation of the Scheme.
 - ⌚ The interest subsidy would be payable for the months in which the accounts are not in NPA category including for the months that the account becomes a performing asset again, after turning NPA.
 - ⌚ The scheme will incentivize people who will make regular repayments of loans.
- ⌚ **Implementation:**
 - ⌚ The Scheme will be implemented through the **Small Industries Development Bank of India (SIDBI)** and will be in **operation for 12 months**.
 - ⌚ SIDBI was set up on 2nd April, 1990 under an Act of the Parliament.
 - ⌚ It acts as the Principal Financial Institution for Promotion, Financing and Development of the Micro, Small and Medium Enterprise (MSME) sector as well as for coordination of functions of institutions engaged in similar activities.
 - ⌚ For borrowers, who have been allowed a **moratorium** by their respective lenders, as permitted by RBI under the '**Covid-19 Regulatory Package**', the Scheme would commence post completion of the moratorium period till a period of 12 months i.e. from 1st September 2020 till 31st August, 2021. For other borrowers, the scheme would commence w.e.f. 1st June, 2020 and will last till 31st May, 2021.
- ⌚ **Cost to the Government:** The estimated cost of the Scheme would be approximately **Rs. 1,542 crore**.
- ⌚ **Background:**
 - ⌚ The ongoing Covid-19 crisis and the consequent lockdown has led to severe disruption of business for micro and small enterprises which are funded through Shishu Mudra loans.
 - ⌚ Small businesses typically function on thin operating margins, and the current lockdown has had a

severe impact on their cash flows, jeopardizing their ability to service their loans.

- ⊙ This could lead to default in repayment and have a resultant impact on access to institutional credit in future.
- ⊙ As on 31st March 2020, about 9.37 crore loan accounts under the Shishu category of PMMY with a total loan amount of about Rs 1.62 Lakh crore, were outstanding.

PM Formalization of Micro Food Processing Enterprises Scheme

Why in News

Recently, the **Ministry of Food Processing Industries (MoFPI)** has launched the **PM Formalization of Micro Food Processing Enterprises (PM FME)** scheme as a part of **'Atmanirbhar Bharat Abhiyan'**.

- ⌚ The Scheme is expected to generate a total investment of Rs. 35,000 crore and 9 lakh skilled and semi-skilled employment.

Key Points

⌚ Features:

- ⊙ **One District One Product (ODOP) Approach:**
 - ⌘ The States would identify food products for districts keeping in view the existing clusters and availability of raw material.
 - ⌘ The ODOP could be perishable produce based or cereal-based or a food item widely produced in an area. **E.g.** mango, potato, pickle, millet-based products, fisheries, poultry, etc.
- ⊙ **Other Focus Areas:**
 - ⌘ Wastetowealth products, minor forest products and **Aspirational Districts.**
 - ⌘ **Capacity building and research:** Academic and research institutions under MoFPI along with State Level Technical Institutions would be provided support for training of units, product development, appropriate packaging and machinery for micro-units.
- ⊙ **Financial Support:**
 - ⌘ Existing individual micro food processing units desirous of upgrading their units can avail credit-linked capital subsidy at 35% of the eligible

project cost with a maximum ceiling of Rs.10 lakh per unit.

- ⌘ Support would be provided through credit-linked grants at 35% for development of common infrastructure including common processing facility, lab, warehouse, etc. through FPOs/SHGs/cooperatives or state-owned agencies or private enterprise.
- ⌘ A seed capital (initial funding) of Rs. 40,000-per **Self Help Group (SHG)** member would be provided for working capital and purchase of small tools.
- ⌚ **Duration:** It will be implemented over a period of **five years from 2020-21 to 2024-25.**
- ⌚ **Funding Details:**
 - ⊙ It is a **centrally sponsored scheme** with an **outlay of Rs.10,000 crore.**
 - ⊙ The expenditure under the scheme would be shared in **60:40 ratio between Central and State Governments**, in **90:10 ratio with North Eastern and the Himalayan States**, **60:40 ratio with UTs with the legislature** and **100% by Centre for other UTs.**
- ⌚ **Need:**
 - ⊙ The unorganized food processing sector comprising nearly 25 lakh units contributes to **74% of employment** in the **food processing sector.**
 - ⊙ Nearly **66% of these units are located in rural areas** and about **80% of them are family-based enterprises** supporting livelihood of rural households and minimizing their migration to urban areas. These units largely fall within the category of micro-enterprises.
 - ⊙ The unorganised food processing sector faces a number of challenges which limit their performance and their growth. The **challenges** include lack of access to modern technology & equipment, training, access institutional credit, lack of basic awareness on quality control of products; and lack of branding & marketing skills etc.

Anti-dumping Duty on Steel Imports

Why in News

Recently, India imposed anti-dumping duty on imports of certain types of **steel products** from China, Vietnam and South Korea.

Key Points

🕒 **Dumping:**

- ⦿ In international trade practise, dumping happens when a country or a firm **exports an item at a price lower than the price of that product in its domestic market.**
- ⦿ Dumping **impacts the price of that product in the importing country**, hitting margins and profits of local manufacturing firms.
- ⦿ **Anti-dumping duty is imposed to rectify the situation** arising out of the dumping of goods and its trade distortive effect.

🕒 **Imposition of Anti-dumping Duty:**

- ⦿ The anti-dumping duty was imposed after the **Directorate General of Trade Remedies (DGTR)**, in its probe, found that the steel products imported in India from these three countries were below its associated normal value, which resulted in dumping.
 - * The duty has been **imposed for five years** with a view to guard domestic manufacturers from cheap imports from these countries.
 - * Earlier, a provisional duty was imposed in October 2019 on these products from these three countries, which expired in April 2020.
- ⦿ According to global trade norms, including the **World Trade Organization (WTO)** regime, a country is allowed to impose tariffs on such dumped products **to provide a level-playing field to domestic manufacturers.**
 - * The duty is imposed only after a thorough investigation by a quasi-judicial body, such as DGTR, in India.

🕒 **Different from Countervailing Duty:**

- ⦿ Anti-dumping duty is different from countervailing duty. The latter is imposed in order **to counter the negative impact of import subsidies** to protect domestic producers.
- ⦿ Countervailing Duties (CVDs) are tariffs levied on imported goods to offset subsidies made to producers of these goods in the exporting country.

- ⦿ CVDs are meant to level the playing field between domestic producers of a product and foreign producers of the same product who can afford to sell it at a lower price because of the subsidy they receive from their government.

Directorate General of Trade Remedies

- 🕒 It is the **apex national authority** under the **Ministry of Commerce and Industry** for administering all trade remedial measures including anti-dumping, countervailing duties and safeguard measures.
- 🕒 It provides trade defence support to the domestic industry and exporters in dealing with increasing instances of trade remedy investigations instituted against them by other countries.

National Institute of Public Finance and Policy

- 🕒 It is **India's premier economic think tank** and a centre for research in public economics and policies.
- 🕒 **Formation:** NIPFP is an **autonomous body** set up jointly by the Ministry of Finance, the erstwhile Planning Commission, and several state governments. It was founded in **1976**. It is registered under the Societies Registration Act, 1860.
- 🕒 **Governing Body:**
 - ⦿ It includes the Revenue Secretary, Economic Affairs Secretary and the Chief Economic Advisor from the Union Finance Ministry and representatives from NITI Aayog, RBI and three state governments.
 - ⦿ It also includes three distinguished economists, members of sponsoring agencies and other invitees.
 - ⦿ It is involved in **appointing the Chairman and the Director.**
 - * The usual **tenure of a chairman is four years**, which can be extended.
- 🕒 **Location:** New Delhi.
- 🕒 **Urjit Patel**, former **Reserve Bank of India (RBI)** Governor, has been appointed as its chairman recently.

International Relations

Highlights

- * *AIIB Loan for India*
- * *Iran Blocking Sites Access: IAEA*
- * *China to Join UN Arms Trade Treaty*
- * *USA Sanctions Against the International Criminal Court*
- * *Russia-India-China Grouping*
- * *Financial Action Task Force*
- * *Victory Day Parade*
- * *Tariff Exemption on Bangladesh Exports: China*
- * *Senkaku Islands*
- * *70 Years of Korean War*
- * *UN 75 Declaration*
- * *Kholongchhu Hydropower Project*
- * *USA Extends Ban on Work Visas*
- * *36th ASEAN Summit*

AIIB Loan for India

Why in News

Recently, the **Asian Infrastructure Investment Bank (AIIB)** has approved a **\$750 million loan** to India to strengthen the country's battle against the adverse impact of **Covid-19 pandemic** on poor and vulnerable households.

- ⌚ Earlier, it had approved **\$500 million for 'Covid-19 Emergency Response and Health Systems Preparedness Project'** initiated by India.

Key Points

- ⌚ **\$750 million loan:** It is co-financed by the AIIB and the **Asian Development Bank**.
- ⌚ **Aim:**
 - ⊙ It aims to ensure **economic resilience** to prevent long-term damage to productive capacity, including human capital.
 - ⊙ The support will go towards **bolstering economic aid for businesses**, including for the **informal sector**, **expanding social safety nets** for the needy, and strengthening the **country's health care systems**.
- ⌚ **Loan by AIIB to India:**
 - ⊙ AIIB's sovereign loans to India amounts to **\$3.06 billion**.
 - ⊙ The current loan will be the **second** for India under **AIIB's Covid-19 Crisis Recovery Facility**.
 - * The Crisis Recovery Facility has been formed in response to urgent economic, financial and

public health pressures and to support a quick recovery after the current crisis (Covid-19).

- * It will offer **\$5-10 billion of financing** to public and private entities **over 18 months** i.e. from April 2020 to October 2021.
- * The funding is done either with the **World Bank or ADB**.

⌚ **Loan by ADB to India:**

- ⊙ It has assured Indian government of \$2.2 billion support to fight against the Covid-19 pandemic.
- ⊙ Earlier, it had provided a **\$1.5 billion loan** to India.

Asian Infrastructure Investment Bank

- ⌚ The Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank with a mission to improve social and economic outcomes in Asia.
- ⌚ It is established by the **AIIB Articles of Agreement (entered into force 25th December 2015)** which is a multilateral treaty.
- ⌚ **Headquarters: Beijing, China**
- ⌚ **Members:**
 - ⊙ 102 members.
 - ⊙ **India joined AIIB in 2016** as a regional member of the Bank.
 - ⊙ Further, fourteen of the **G-20 nations** are AIIB members including France, Germany, Italy and the United Kingdom.
- ⌚ China is the largest shareholder in AIIB with a 26.06% voting power, followed by India with a 7.62% voting power.

Iran Blocking Sites Access: IAEA

Why in News

In two unreleased reports, the **Vienna-based International Atomic Energy Agency (IAEA)** has expressed **serious concerns** after **Iran has been blocking inspections of two suspect locations** for more than four months.

Key Points

- ⌚ Although IAEA **did not publicly name these sites**, it held that **Iran's enriched uranium stockpile has exceeded the agreed limit.**
 - ⊙ According to the IAEA, Iran may have used the sites for **processing and converting uranium ore** in 2003.
- ⌚ Iran **denied** the reports and hinted that queries were **based on fabricated information from intelligence services.**
 - ⊙ Iran has **always denied** that it has ever sought to develop a nuclear weapon, insisting that its **programmes have been peaceful.**
- ⌚ It comes amid rising **tensions between Iran and the USA**, which pulled out of the 2015 international agreement.

Iran Nuclear Program and JCPOA

- ⌚ In **2015**, Iran with the **P5+1 group** of world powers - **the USA, UK, France, China, Russia, and Germany** agreed on a long-term deal on its nuclear programme.
- ⌚ The deal was named as **Joint Comprehensive Plan of Action (JCPOA)** and in common parlance as **Iran Nuclear Deal.**
- ⌚ Under the deal, Iran agreed to **curb its nuclear activity** in return for the **lifting of sanctions** and access to global trade.
- ⌚ The agreement **allowed Iran to accumulate small amounts of uranium for research** but it **banned the enrichment of uranium**, which is used to make reactor fuel and nuclear weapons.
- ⌚ Iran was also required to **redesign a heavy-water reactor** being built, whose spent fuel would **contain plutonium suitable for a bomb** and to **allow international inspections.**
- ⌚ In May 2018, the **USA abandoned the deal** criticising it as flawed and **reinstated and tightened its sanctions.**

- ⊙ The USA held that it would attempt to force all countries to stop buying Iranian oil and put pressure on Iran to negotiate a new nuclear accord.
- ⊙ The top Iranian general **Qassem Soleimani** (the commander of the Al-Quds Force of Iran's Islamic Revolutionary Guard Corps, IRGC) **was assassinated** by the USA during his visit to Iraq. This escalated tensions in the international arena.
- ⌚ Amid rising tensions, Britain, France and Germany declared that Iran was violating the 2015 pact and launched a **dispute mechanism** that could eventually see the matter referred back to the Security Council and the reimposition of UN sanctions.
- ⌚ Since sanctions were tightened, Iran has been **steadily breaking some of its commitments to pressure** the remaining signatories to find a way to **provide sanctions relief.**

China to Join UN Arms Trade Treaty

Why in News

Recently, **China** has decided to join the **United Nations Arms Trade Treaty (UN-ATT)** to regulate its arms sales.

Key Points

- ⌚ China held that it has always strictly controlled the export of military products and joining the treaty is an important step towards its **efforts to enhance peace and stability** in the world and **support multilateralism.**
 - ⊙ China said that it only exports military products to sovereign countries and not to non-state actors.
- ⌚ **Background:**
 - ⊙ China's move comes after the **USA announced to pull out of the ATT in 2019.**
 - ⌘ The reason given was that the **treaty amounts to international gun control** which is a **threat to the USA's second amendment right to bear arms.**
 - ⌘ The USA also held that the **treaty fails to truly address the problem of irresponsible arms transfers** because other **top arms exporters like Russia and China were not signatories** to it that time (till now, Russia has neither signed it nor made any announcement to sign it).

United Nations Arms Trade Treaty

- ⌚ The UN-ATT regulates the international trade in **conventional arms**, from small arms to battle tanks, combat aircraft and warships, and **control the flow of weapons into conflict zones**.
- ⌚ It entered into force on **24th December 2014**.
- ⌚ The treaty **requires member countries to keep records of international transfers of weapons** and to **prohibit cross-border shipments** that could be used in human rights violations or attacks on civilians.
- ⌚ **State parties to the treaty may seek assistance** in its implementation and the **UN Trust Facility Supporting Cooperation on Arms Regulation (UNSCAR)** was launched to help in that.
 - ⊙ UNSCAR is a **voluntary, flexible multi-donor trust fund** to kick-start advocacy, universalisation and implementation of the ATT.
 - ⊙ **It aims to:**
 - ⌘ Mobilize resources to support the ratification/ accession and implementation of relevant international instruments on arms regulations.
 - ⌘ Improve the effectiveness of assistance through coordination, monitoring and matching of resources.
 - ⌘ Promote increased sustainability through more predictable sources of funding.
 - ⌘ In **May 2020**, USA announced to exit the **Open Skies Treaty (OST)**.
 - ⌘ In **August 2019**, the USA along with Russia withdrew from the **Intermediate-Range Nuclear Forces Treaty, 1987**.
- ⌚ The **Stockholm International Peace Research Institute (SIPRI)** in its annual report '**Trends in World Military Expenditure, 2019**' highlighted that **China is the second-largest arms producer** in the world after the USA.

India's Stand on ATT

- ⌚ **From the beginning** of the ATT process, India has maintained that such a treaty would make a real **impact on illicit trafficking in conventional arms and their illicit use** especially by terrorists and other unauthorised and unlawful non-state actors.
- ⌚ India has been an **active participant in the ATT negotiations** and **stressed** consistently that the ATT

should ensure a **balance of obligations between exporting and importing states**.

- ⊙ For India, the underlying principle is that member states have a legitimate right to self-defence and its own belief that there is no conflict between the pursuit of national security objectives and the aspiration of the ATT.
- ⌚ **However, India has not signed the Treaty** on the grounds that it is **weak on terrorism and non-state actors** and these **concerns find no mention in the specific prohibitions** of the Treaty.
- ⌚ Further, India **cannot accept that the Treaty is used as an instrument in the hands of exporting states** to take unilateral **force majeure** measures against importing states parties without consequences.

USA Sanctions Against the International Criminal Court

Why in News

Recently, the **USA** has **authorised sanctions** against **International Criminal Court (ICC)** officials involved in investigations into possible war crimes by USA troops and its allies.

Key Points

- ⌚ **Sanction:**
 - ⊙ Under it, **any individual** who has been directly engaged in any effort by the ICC to **investigate, arrest, detain or prosecute any USA** personnel without the consent of the USA or have attempted the same against the USA ally, **may be subject to sanctions**.
 - ⊙ It has **broadened the visa restrictions on ICC officials** or anyone who has sponsored, or provided financial, material or technological support to them.
 - ⊙ The restrictions also extend to the **officials' family members**.
 - ⊙ The economic sanctions would be decided on a case-by-case basis.
 - ⊙ Israel supported the decision as it accused the ICC of fabricating charges against the country.
- ⌚ **USA's Stand:**
 - ⊙ The USA has considered the **ICC a threat to USA sovereignty** and announced the **strict punitive**

measures that are generally reserved for use against terror groups and those accused of abusing human rights.

- ⊙ It has called the 123 nations-strong tribunal a 'kangaroo court'.
- ⊙ It blamed the ICC office for financial corruption and maladministration.
- ⊙ It has also blamed Russia for manipulating the ICC in its favour.
- ⌚ **ICC's Stand:**
 - ⊙ The ICC supported its officials and called the sanction as an **unacceptable attempt to interfere with the rule of law.**
 - ⊙ It said the **sanction represents an attack against the interests of victims** of atrocity crimes.
- ⌚ **Reactions Against the Sanction:**
 - ⊙ The United Nations (UN) had taken serious note about the USA order.
 - ⊙ The European Union (EU) called the USA decision a matter of serious concern.
 - ⊙ **The international NGO Human Rights Watch** has observed that by penalising war crimes investigators, the USA is openly siding with those who commit and cover up human rights abuses.

Background

- ⌚ The Bill Clinton administration (1993-2001) was involved in **Rome Statute negotiations**, and signed the **document in 2000.**
- ⊙ **The Rome Statute** of the International Criminal Court (International Criminal Court Statute) is the **treaty** that established the ICC.
- ⌚ However, the next president, **George W. Bush in 2002 had unsigned** the Statute and signed into law the **American Service-Members' Protection Act** to protect the **USA nationals from the ICC's reach.**
- ⌚ The USA adopted a positive approach towards the forum during several instances– in 2005 it did not veto a **UN Security Council** request to the ICC to investigate crimes during the **Darfur crisis** (Sudan) and in 2011 voted for Libya's referral to the court.
 - ⊙ It also provided critical support in transferring suspects from Africa to the ICC for trial.
- ⌚ However, in the **UN General Assembly** in 2018, the USA decided that it would not support or recognize the **International Criminal Court.**

International Criminal Court

- ⌚ It is a **permanent judicial body** created by the **1998 Rome Statute of the International Criminal Court** (its founding and governing document) and began functioning on 1st July 2002 when the Statute came into force.
- ⌚ **Headquarter:** The Hague, Netherlands.
- ⌚ **Members:**
 - ⊙ 123 nations are States Parties to the Rome Statute and recognise the ICC's authority.
 - ⊙ The **USA, China, Russia and India** are not members.
- ⌚ The forum was **established as a court of last resort to prosecute offences** that would otherwise go unpunished and has jurisdiction over **four main crimes: genocide, crimes against humanity, war crimes and the crime of aggression.**
- ⌚ **Difference between ICC and ICJ:**
 - ⊙ Unlike the **International Court of Justice (ICJ)**, the **ICC is not part of the United Nations system**, with the UN-ICC relationship being governed by a separate agreement.
 - ⊙ The **ICJ**, which is among the UN's 6 principal organs, mainly **hears disputes between nations.** It was established in 1945 and is seated at The Hague (Netherlands). Judge Dalveer Bhandari (India) is a member of the Court.
 - ⊙ **The ICC**, on the other hand, **prosecutes individuals** and its authority extending to offences committed in a member state or by a national of such a state.
- ⊙ According to it, the ICC has no jurisdiction, no legitimacy, and no authority.
- ⌚ In 2020, **the ICC asked for a formal probe** into alleged **atrocities committed during the Afghanistan War between 2003 and 2014** leading to possible charges against the USA military and its **Central Intelligence Agency** officials.

Russia-India-China Grouping

Why in News

Recently, the Ministry of External Affairs has announced that it will participate in the virtual meeting of the **Russia-India-China (RIC) grouping** scheduled to be held on 23rd June 2020.

- ⌚ It can be noted that the RIC was also a platform for the first meeting between India and China in New Delhi after the end of **Doklam standoff**.

Key Points

- ⌚ **Special Session:** This special session of the RIC has been called by the current Chair- Russia to commemorate the **75th anniversary of the victory in the second world war over Nazism** and creation of the **United Nations (24th October, 2020)**.
 - ⦿ It will also discuss the current situation of the **global pandemic** and the challenges of global security, financial stability and RIC cooperation in that context.
- ⌚ **India's Stand:** Indian decision to go ahead with the ministerial level exchange has created an opening for de-escalation of tension along the **Line of Actual Control (LAC)**.
- ⌚ **China's Stand:** While confirming the participation in the meeting, China has also agreed to control the situation in the border areas.
- ⌚ **Russia's Stand:** Russia indicated that it would support '**constructive dialogue**' over the tension in eastern Ladakh as Russia is trusted by both India and China.
- ⌚ **Regional Connectivity:**
 - ⦿ Regional connectivity projects such as the **International North South Transport Corridor (INSTC)** involving India, Russia and Iran are expected to figure in the agenda.
 - ⌘ INSTC is a **multi-modal transportation** established in 2000 in St. Petersburg by Iran, Russia and India for the purpose of promoting transportation cooperation among the member states.
 - ⌘ This corridor **connects the Indian Ocean and the Persian Gulf to the Caspian Sea via the Islamic Republic of Iran** and then is connected to St. Petersburg and North Europe via the Russian Federation.
- ⌚ **No Bilateral Issues:** However, the focus of the meeting will be on global coronavirus pandemic and no bilateral issues will be discussed.

RIC Group

- ⌚ RIC is a strategic grouping that first took shape in the late 1990s under the leadership of Yevgeny Primakov, a Russian politician as **a counterbalance to the Western alliance**.

- ⌚ The group was founded on the basis of **ending its subservient foreign policy guided by the USA and renewing old ties with India and fostering the newly discovered friendship with China**.
- ⌚ Together, the RIC countries occupy over 19% of the global landmass and contribute to over **33% of global GDP**.

Relevance of RIC for India

- ⌚ **Strategic Balance:** Along with JAI, India would do well to give RIC the same importance. The groupings like the Quad and the JAI essentially revolve around the Indo Pacific and will confine India to being only a maritime power when it is actually both a maritime and continental power.
- ⌚ **Forum for Cooperation:** Even though India, China and Russia may disagree on a number of security issues in Eurasia, there are areas where their interests converge, like, for instance, on Afghanistan. RIC can ensure stable peace in Afghanistan and by extension, in Central Asia.
 - ⦿ Regular RIC interactions could also help the three countries **identify other issues** where they have congruent views like the volatile situation in West Asia.
- ⌚ **Creation of New Order:** Contribute to creating a new economic structure for the world. The USA apparently wants to break down the current economic and political order. While the existing structure is not satisfactory, the RIC could offer some suggestions which could be acceptable to the USA.
- ⌚ **Governance over Arctic:** With the Northern Sea Route opening up due to climate change, the RIC has a common interest in ensuring that it is not left to the West and Russia alone and that India and China also have major say in rules governing the Arctic route.
- ⌚ **Other Aspects:** They could work together on disaster relief and humanitarian assistance.

Concerns

- ⌚ India has traditionally avoided taking sides in international politics, especially between the great powers, preferring its traditional non-alignment. However, **China's hostile attitude towards India** in recent years is increasingly forcing India to confront.
- ⌚ This makes it difficult to see how engagements through platforms such as RIC, are going to alter the **basic conflictual nature of relations** between India and China.

- ⌚ Even though **Russia** has remained an old friend for India, it is increasingly under **stress to follow China's dictates**. For example, earlier it openly opposed the **Indo-Pacific concept at the Raisina Dialogue**.
- ⌚ On issues such as Jammu and Kashmir, which China raised at the UN Security Council, Russia preferred taking a middle position and not supporting India's stand entirely.

Way Forward

- ⌚ India is committed to protect its sovereignty and territorial integrity in the border areas and RIC would give the platform for resolution of differences (along the Indo-China Border) through dialogue.
- ⌚ Moreover, the RIC forms the core of both the **Shanghai Cooperation Organisation (SCO)** and the **BRICS** as greater cooperation between China, India and Russia would lead to strengthening of both SCO and BRICS.
- ⌚ The RIC is a significant multilateral grouping, because it brings together the three largest Eurasian countries which are also incidentally geographically contiguous. RIC, hence provides a worthwhile platform to discuss issues like West Asia, Afghanistan, climate change, terrorism, regional connectivity, tensions on Korean Peninsula, etc.

Financial Action Task Force

Why in News

Recently, India has attended the virtual 32nd special **Eurasian Group on Combating Money Laundering and Financing of Terrorism (EAG)** plenary meeting, under the aegis of the **Financial Action Task Force (FATF)**.

- ⌚ Officials of National Investigation Agency (NIA), Enforcement agencies submitted details on terror-funding.
- ⌚ The FATF's virtual plenary meet is scheduled to be held on 24th June 2020.

Key Points

- ⌚ **FATF'S View on Crime amid Covid-19:**
 - ⊙ The FATF which is actively monitoring the impact of the pandemic on measures to combat illicit financing, released a paper on "**Covid-19-related Money Laundering and Terrorist Financing Risks and Policy Responses**".

- ⊙ It observed an increase in the **Covid-19 related crimes, including fraud, cyber-crime, misdirection or exploitation of government funds** or international finance assistance.
- ⌚ **India and FATF:**
 - ⊙ Ahead of the crucial meet on 24th June, India plans to share more evidence with the key FATF members on the narco-terror cases linked to Pakistan-based syndicates, through which funds are allegedly being supplied to the terrorists operating in Jammu and Kashmir.
 - ⊙ The Enforcement Directorate and the National Investigation Agency have been probing several such cases.
- ⌚ **Status of Pakistan:**
 - ⊙ Pakistan, which **continues to remain on the 'grey list' of FATF**, had earlier been given the deadline till the June 2020 to ensure compliance with the 27-point action plan against terror funding networks and money laundering syndicates, or face 'black listing'.
 - ⊙ However, owing to the **Covid-19 pandemic**, the deadline has been shifted to October 2020.

Eurasian Group on Combating Money Laundering and Financing of Terrorism

- ⌚ It is a **regional body** comprising nine countries: India, Russia, China, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Belarus.
- ⌚ It is an **associate member of the FATF**.

Financial Action Task Force

- ⌚ It is an **inter-governmental body** established in 1989 during the **G7 Summit** in Paris.
- ⌚ The objectives of the FATF are to **set standards and promote effective implementation** of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.
- ⌚ Its **Secretariat** is located at the **Organisation for Economic Cooperation and Development (OECD)** headquarters in Paris.
- ⌚ **Member Countries:** it consists of **thirty-seven** member jurisdictions.
 - ⊙ **India** is one of the members.
- ⌚ **FATF has two lists:**

- ⊙ **Grey List:** Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.
- ⊙ **Black List:** Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries.
- ⌚ The **FATF Plenary is the decision making body of the FATF**. It meets three times per year.

Victory Day Parade

Why in News

India has decided to send a contingent of 75 personnel from its three armed forces to participate in Russia's **75th World War II Victory Day Parade** on 24 June, 2020.

Key Points

- ⌚ The Russian parade is held every year on **Victory Day (May 9)**, which marks the **surrender of Nazi Germany in 1945**.
 - ⊙ This year it was delayed because of the **Covid-19**.
- ⌚ The victory day parade honours the heroism and sacrifices made by the Russian and other friendly people.
- ⌚ India's participation in the parade will be a mark of tribute and solidarity with the people of Russia.
- ⌚ Earlier in January 2020, Russia had invited India to take part in the victory day parade.

India-Russia Defence Cooperation

- ⌚ Defence remains the most significant aspect of India's relations with Russia with both sides looking to **encourage joint manufacturing of equipment** under India's **Make-in-India programme** and **through transfer of technology**.
- ⌚ After the **Vladivostok summit in 2019**, both the countries had recognized the requirement of an institutional arrangement for **reciprocal provision of logistic support and services for the armed forces**.
 - ⊙ They had also agreed to prepare a framework for cooperation on it.

- ⌚ During the **5th India Russia military industry conference** held during the **Defexpo 2020 in Lucknow (Uttar Pradesh)**, companies from both the countries signed various Memorandum of Understanding(MoUs) to develop a range of defence equipment.
- ⌚ In 2019, despite the threat of U.S. sanctions, India went ahead with the decision to purchase the **S-400 missile defence system**, worth over \$5 billion.
- ⌚ Both the countries continue to **encourage military to military cooperation** through **military political dialogue and joint military exercises**.
 - ⊙ In 2019, India and Russia carried out a second **joint tri-service exercise INDRA**.
 - ⊙ In 2019, India also took part in **Exercise TSENTR 2019** of the Russian Armed Force.
- ⌚ Despite Russia's deep military and political ties with China, and its own relations with the U.S., India continues to look at Russia as a key partner.

World War II

- ⌚ World War II, started in **Europe in 1939** and assumed the character of a world war. It was fought between **Allied and Axis powers**.
- ⌚ The **Allied powers** were represented by Great Britain, USA, France etc. While the **Axis powers were led by Germany, Italy and Japan**.
- ⌚ The war came to an end in **September 1945**.
- ⌚ **Cause of War:**
 - ⊙ Treaty of Versailles of 1920.
 - ⊙ Aggressive Policy of expansion by the fascist powers (Germany and Italy).
 - ⊙ Appeasement policy by Western powers towards fascist powers to fight against Communist Soviet Union.
 - ⊙ Rise of Japan as imperialist power.
 - ⌘ Rome-Berlin-Tokyo Axis.
- ⌚ **Consequences of the War:**
 - ⊙ **Killing of Jews** in concentration camps.
 - ⊙ **Atomic attacks** on the Japanese cities of **Hiroshima and Nagasaki in 1945**.
 - ⊙ Division of the world into **two power blocs** – the Communist Bloc headed by Soviet Union and the Western Bloc headed by the USA.
 - ⊙ Beginning of the **Cold War** which continued till the disintegration of Soviet Union in 1991.
 - ⊙ Foundation of **United Nation Organisations** in 1945.

Tariff Exemption on Bangladesh Exports: China

Why in News

Recently, China has announced tariff exemption for 97% of exports from Bangladesh.

Key Points

- ⌚ **Background:** Bangladesh had written to China to exempt its export items from tariffs in the background of the economic hardship triggered by the **Covid-19 pandemic**.
- ⌚ **The Latest Move:**
 - ⊙ China considered Bangladesh's request and has granted the tariff exemption to Bangladesh on account of its **Least Developed Countries (LDCs)** status.
 - ⊙ The Chinese move has been described as a major success in the China-Bangladesh relationship.
- Benefits to Bangladesh:**
 - ⊙ The move will help Bangladesh to remove the economic impact of the pandemic and also emerge as a possible beneficiary alongside Vietnam and Chile of the **U.S.-China trade war**.
 - ⌘ The supply chain disruption caused by the U.S.-China trade war is likely to be filled by a boost in export of tariff-exempted goods from Bangladesh.
 - ⊙ It will also help Bangladesh to reduce its trade deficit with China.
 - ⊙ As a result of the latest announcement, a total of 8256 goods from Bangladesh will be exempted of Chinese tariffs.
 - ⌘ Earlier, Bangladesh used to receive tariff-exemption for 3095 items under the **Asia Pacific Trade Agreement (APTA)**.
- ⌚ **Concerns for India:**
 - ⊙ China's heavy investment in India's neighbourhood has increased its dominance in the Indian Ocean.
 - ⊙ Despite having cultural and historical relations with India, its neighbours are siding with China on diplomatic issues.
 - ⊙ Nepal is redrawing its map to include some Indian territories, presumably under a nudge from China.
 - ⊙ Earlier, Maldives and Sri Lanka have also expressed anti-India sentiment under the influence of China.

Asia Pacific Trade Agreement

- ⌚ Asia Pacific Trade Agreement (APTA), previously the Bangkok Agreement, is a **preferential tariff arrangement** that aims at promoting **intra-regional trade** through the exchange of mutually agreed concessions by member countries.
- ⌚ Its current Members are Bangladesh, China, India, Republic of Korea, Lao PDR and Sri Lanka.

Least Developed Countries

- ⌚ LDCs are low-income countries designated by the **United Nations**, confronting severe structural impediments to sustainable development.
- ⌚ They are highly vulnerable to economic and environmental shocks and have low levels of human assets.

India-China Rivalry and Bangladesh

- ⌚ Bangladesh has benefitted from the India-China rivalry. It has used the rivalry to increase its investment and strengthen its security.
- ⌚ **Trade:**
 - ⊙ In 2015, China became Bangladesh's top trading partner, knocking India out of the position it had held for 40 years.
 - ⊙ As a member of **China's Belt and Road Initiative**, Bangladesh has seen an influx of Chinese investment in recent times.
 - ⊙ To counter Chinese dominance in Bangladesh, India announced \$5 billion in loans for Bangladesh in 2017, which is the largest amount ever invested by India in Bangladesh.
- ⌚ **Security:**
 - ⊙ China has become Bangladesh's top source for arms imports; and Bangladesh likewise is China's second-largest arms export destination in the world, behind Pakistan.
 - ⊙ Most recently, in 2017 the Bangladesh Navy took delivery of two Chinese submarines at a minimum price.
 - ⊙ To counter this, India has expressed its interest in offering submarine training for the Bangladesh Navy.

Issues in India-Bangladesh Relation

- ⌚ India's **hegemonic posture** and **coercive tactics** has created deep resentment among ordinary Bangladeshis, especially when contrasted with **China's model of noninterference in domestic affairs along with lavish spending**.

- ⌚ India's domestic policy on the **National Register Citizens (NRC)** and the **Citizenship Amendment Act (CAA)**, both of which directly impact Bangladesh, has generated some unpleasantness in the relationship.

Senkaku Islands

Why in News

Recently, a **local council in southern Japan** has approved a bill to **change the name of an area containing Senkaku Islands** from Tonoshiro to Tonoshiro Senkaku.

- ⌚ Senkaku Islands are known as the **Diaoyus by China and Tiaoyutai by Taiwan**.
- ⌚ The islands are **disputed with China and Taiwan**.

Key Points

⌚ **Japan's Stand:**

- ⊙ **Resolving Administrative Confusion:** The **name change is aimed at resolving administrative confusion** between a locale in downtown Ishigaki, which shares the name "Tonoshiro" similar to the island.
- ⊙ **Increased Chinese Presence:** It is also done in response to the increased Chinese presence in the waters close to the Senkakus. In a move to protect territorial integrity, Japan has decided to change the name.
- ⊙ **Support of the USA:** The United States has a mutual defense treaty with Japan. If Japanese territory is attacked by a foreign power, the United States is obligated to defend it.

⌚ **China's Stand:**

- ⊙ **China's Territorial Sovereignty:** Bill by Japan is a serious provocation to China's territorial sovereignty. The move is illegal.



- ⊙ **Four-Principle Consensus:**

Urged Japan to abide by the spirit of the four-principle consensus, avoid creating new incidents on the Diaoyu Islands issue, and take practical

actions to maintain the stability of the East China Sea situation.

⌘ A four-point principle on improving China-Japan ties was approved in 2014 to develop a mutually beneficial relationship based on common strategic interests.

- ⊙ **Risk of a Crisis:** Changing the administrative designation would only make the dispute more complicated and bring more risks of a crisis

⌚ **Taiwan's Stand:**

- ⊙ It also protested the move and claimed that the islands are part of its territory, and the **sovereignty of Tiaoyutai islands belongs to the country** and any move attempting to alter this fact is invalid.

⌚ **Overall Impact:**

- ⊙ **Asia's next military flashpoint:**

⌘ Japan is not the only territorial and maritime dispute that China has long had with many of its neighbours.

⌘ It has island and maritime border disputes with Taiwan, Brunei, Indonesia, Malaysia, Philippines and Vietnam in the **South China Sea** and its extension.

- ⊙ Hence, **Japan's move can strengthen the other countries territorial and maritime claims**.

⌚ **Significance for India:**

- ⊙ The development from Japan came just after the violent clash between Indian and Chinese troops over the **Line of Actual Control in Ladakh's Galwan Valley**.

- ⊙ Given the trade volume and economic dependency that is the most dominant feature of the bilateral relationship, it would be crucial for India to act wisely.

- ⊙ By supporting the **Japanese move, India can diplomatically strengthen** its position over Galwan Valley.

- ⊙ However, Taiwan's engagement in the dispute is significant as it has supported India over the galwan valley but opposes the move of Japan.

- ⊙ China has also augmented its naval power to strengthen its overall presence in the Indian Ocean. The move of Japan would give an opportunity to India to have a strategic edge over its presence in the Indian Ocean.

The Senkakus Island Chain Dispute

- ⌚ The **Senkaku Islands dispute, or Diaoyu Islands dispute**, concerns a **territorial dispute** over a group of **uninhabited islands** known as the **Senkaku Islands in Japan, the Diaoyu Islands in China** and **Tiaoyutai Islands in Taiwan**.
- ⌚ Eight uninhabited islands lie in the East China Sea. They have a total area of about 7 sq km and lie northeast of Taiwan.
- ⌚ **Importance:** Islands are close to strategically important shipping lanes, offer rich fishing grounds and are thought to contain oil deposits.
- ⌚ The Senkakus island chain has been administered by Japan since **1972, but its legal status has remained disputed** until now.
- ⌚ Both Japan and China claim ownership of these islands.
- ⌚ **Japan's Claim:**
 - ⊙ After **World War II**, Japan renounced claims to a number of territories and islands including Taiwan in the 1951 Treaty of San Francisco.
 - ⊙ But under the treaty the Nansei Shoto islands came under US trusteeship and were then returned to Japan in 1971.
 - ⊙ Japan says that Senkaku islands are part of the Nansei Shoto islands and hence they also belong to Japan.
 - ⊙ Besides, China raised no objections to the San Francisco deal. Only since the 1970s, when the issue of oil resources in the area emerged, that Chinese and Taiwanese authorities began pressing their claims.
- ⌚ **China's Claim:**
 - ⊙ These Islands have been part of its territory since ancient times, serving as important fishing grounds administered by the province of Taiwan.
 - ⊙ When Taiwan was returned in the Treaty of San Francisco, China said the islands – as part of it – should also have been returned.

Key Points

- ⌚ The root of the conflict lies in the **Japanese occupation of Korea between 1910-1945**.
- ⌚ When Japan was defeated in the **Second World War**, the Allied forces agreed to establish a '**four-power trusteeship over Korea**' at the **Yalta Conference (1945)**.
- ⌚ However, the USSR invaded Korea and took control of the north while the south remained under the rest of the allies, mainly the USA. The division of the two regions was along the **38th parallel north**, which still continues to be the official border dividing the two Koreas.
- ⌚ In 1948 the Republic of Korea (South Korea) and the Democratic People's Republic of Korea (North Korea) was established.
- ⌚ Efforts were made to resolve the conflict and unite the Korean peninsula, but with the advent of the **Cold War** chances of reunification were lost.
- ⌚ As both tried to enhance their reach, territorially and ideologically, the **Korean Conflict emerged between the two nations**.

Korean War

- ⌚ On 25th June 1950, North Korea, backed by the USSR, launched an attack on South Korea and occupied most of the country.
- ⌚ In response, the United Nations force led by the USA, retaliated.
- ⌚ In **1951 the USA forces led by Douglas MacArthur crossed the 38th parallel** and triggered the **entry of China in support of North Korea**.
- ⌚ To prevent further escalation peace talks began later in 1951.
- ⌚ On 27th July 1953, the **Korean Armistice Agreement** was signed between the **United Nations Command, the Korean People's Army and the Chinese People's Volunteer Army**.
 - ⊙ It led to an official ceasefire **without a Peace treaty**. Thus, the war officially never ended.
 - ⊙ Exchange of Prisoners of war (PoWs).
 - ⊙ Establishment of **Korean Demilitarised Zone (DMZ)**, a strip of land running across the Korean Peninsula to serve as a buffer zone between North Korea and South Korea.
 - ⌘ The Korean DMZ intersects but does not follow the 38th parallel north.

70 Years of Korean War

Why in News

Recently, North and South Korea have separately marked the **70th anniversary** of the start of the Korean War.

- ⊙ South Korea did not sign the armistice as it refused to accept it.
- ⊙ However, in December 1991, North and South Korea signed a pact agreeing to refrain from aggression.

Current Dynamics

- ⌚ In recent years North Korea has accelerated its nuclear programme by **increasing its nuclear stockpile**, withdrawn from the **Non-Proliferation Treaty (NPT)** and has tested nuclear explosives multiple times.
- ⌚ USA has deployed **THAAD (Terminal High Altitude Area Defence)** in **South Korea** to counter increasing missile adventurism of North Korea.
- ⌚ North Korea recently **demolished the Inter-Korean Liaison Office in Kaesong**, which was established in 2018. In the absence of formal diplomatic relations, the building functioned as a de facto embassy and provided a direct communication channel for the two nations.

UN 75 Declaration

Why in News

Recently, a **commemorative declaration marking the 75th anniversary** of the signing of the **United Nations (UN)** Charter was delayed as member states could not reach an agreement on phraseology.

Key Points

- ⌚ **The Five Eyes (FVEY)**, Australia, Canada, New Zealand, the UK and the USA, **along with India, objected to the use of a phrase** ‘shared vision of a common future’, which is **associated with China**.
 - ⊙ The Five Eyes network is an **intelligence sharing alliance** between these five countries.
- ⌚ The **‘silence’ process** was broken at the request of the UK’s Ambassador to the UN, who wrote a letter on behalf of the six countries to the President of the 74th General Assembly, suggesting alternative wording.
 - ⊙ **Silence process** is a procedure by which a resolution passes if no formal objections are raised within a stipulated time.
- ⌚ However, **China, on behalf of itself and Russia, Syria and Pakistan raised objections** to the silence being broken.

75th United Nations Day

- ⌚ The United Nations will celebrate its **75th anniversary on 24th October 2020**.
 - ⊙ To mark its 75th anniversary in 2020, the UN is igniting a **people’s debate: UN75**.
 - ⊙ Through UN75, it will encourage people to put their opinions together to define how enhanced international cooperation can help realize a better world by 2045.
- ⌚ Each year on 24th October, the UN celebrates its anniversary. UN Day marks the anniversary of **the entry into force of the UN Charter and the founding of the Organization in 1945**.
- ⌚ The name ‘United Nations’ was coined by **United States President Franklin D. Roosevelt**.
- ⌚ The **main organs of the UN are:**
 - ⊙ the General Assembly
 - ⊙ the Security Council
 - ⊙ the Economic and Social Council
 - ⊙ the Trusteeship Council
 - ⊙ the International Court of Justice
 - ⊙ the UN Secretariat

Demand of Reforms at United Nations

- ⌚ **Security Council Reforms:** In **UNSC**, the permanent member countries (P5) have made the UN defunct in maintaining peace and order. Therefore, veto powers of P5 and composition of UNSC must be made more representative of the current world order.
 - ⊙ The P5 countries include China, France, Russia, the UK and the USA.
- ⌚ **Multilateralism:** International relations today are characterized by the power relationships of the USA, China, Russia, India and Europe.
 - ⊙ A new model of the UN must be formulated, as current world order has changed from bipolar to unipolar to multi polar today.
- ⌚ **Democratisation of UN:** Developing countries like India are proposing reforms that seek to democratize the UN, such as **UNSC reforms, UN peacekeeping reforms**.
- ⌚ **Financial Reforms:** This holds the key to the future of the UN and without sufficient resources, the UN’s activities and role would suffer.
 - ⌚ The current impasse comes at a time when China’s relationships with a number of countries, including India, Australia and the USA are strained.

- Given the impasse, the UN General Assembly President has suggested an **alternatively phrased declaration**, which he has placed under the silence procedure.

Kholongchhu Hydropower Project

Why in News

Recently, **India and Bhutan** have signed a concession agreement on the 600 MW Kholongchhu Hydropower Project.



- It will be the **first-ever Joint Venture (JV)** project between India and Bhutan.
- The JV partners are **Satluj Jal Vidyut Nigam (SJVN)** and the **Druk Green Power Corporation (DGPC)** from India and Bhutan respectively.

Key Points

Description:

- The **Kholongchhu project** is one of four additional projects agreed in 2008, as a part of India's commitment to help Bhutan to create a **total 10,000 MW** of installed capacity by 2020.
- The **600 MW run-of-the-river project** is located on the lower course of the **Kholongchhu river** in eastern Bhutan's **Trashiyangtse district**.
- The project is expected to be completed in the **second half of 2025**.
- The project will be constructed as a **50:50 joint venture**.

Significance:

- Concession Period:** The Government of India will provide, as a grant, the equity share of the Bhutanese DGPC in the JV Company. Once the project is commissioned, the JV partners will run it for 30 years, called the **concession period**, after which the full ownership will transfer to the Bhutan government, which will receive power from the project as a royalty.
- Bilateral Cooperation:** The tapping of hydropower in Bhutan would pave a way for successful **bilateral cooperation and mutual engagement** between India and Bhutan.

- Strategic Interest:** Being a member of **BIMSTEC**, Bhutan holds geostrategic importance for India. The shared sense of support and help in terms of such development projects between the two countries **can help India** in executing its **Act East-Look East Policy**.
- Energy Trade:** The project would act as a milestone in generation of energy and related trade.
 - The project would aid in a clean and stabilising power source for India and also contribute to its renewable energy targets.
- Employment Opportunities:** Commencement of construction activities of the project will create economic and employment opportunities in **Bhutan**.
 - India needs to focus on the youth of Bhutan, as it is the youth only which would take the people-to-people contact forward in the future.
- Economic Growth:** The plant would drive economic growth and hence **socio-economic development** would be facilitated in Bhutan.
- Concerns:**
 - Power Tariffs:** The project which started in 2014 was on halt since December 2016 over India's new power tariff guidelines on **Cross Border Trade of Electricity - CBTE**, until the government amended its guidelines after negotiations with the Bhutan government.
 - Power tariff revision** which includes the **increase in the operations and maintenance charges** may become a bone of contention.
 - Risk of the JV-model:** Another issue is regarding the risk of the JV-model for the project as Bhutan had expressed concern over a greater financial risk due to project delays.
 - The delays had an impact on Bhutan's growth, as well as its exports and revenues. For example, the **World Bank** has attributed the decline in the **country's growth rate directly to delays in hydropower construction** and the dip in electricity generation.
 - However, India has maintained that it prefers the more commercial model as it not only shares the risk, but also makes Indian PSUs show greater accountability on time and cost, as they become investors rather than contractors.

India Bhutan Hydropower Projects

- ⌚ So far, Government of India has constructed three Hydroelectric Projects (HEPs) in Bhutan totaling 1416 MW (**336 MW Chukha** HEP, **60 MW Kurichhu** HEP and **1020 MW Tala** HEP), which are operational and exporting surplus power to India.
- ⌚ India has recently completed **720 MW Mangdechhu Hydroelectric Power Project** and both sides are in process of expediting the completion of other ongoing projects including the **1200 MW Punatsangchhu-1 & 1020 MW Punatsangchhu-2**.

USA Extends Ban on Work Visas

Why in News

Recently, the USA has decided to **extend the 60-day ban on immigrant and non-immigrant worker visas** till the end of 2020.

- ⌚ The **ban is effective immediately** so the processing of **all new H-1B, H-2B, J and L visa** categories stands suspended.
 - ⊙ There will be an exemption for professors and scholars on J visas as well as for some food industry workers needing an H-2B visa.

Key Points

- ⌚ **Work Visas:**
 - ⊙ The IT revolution, **arrival of internet and low-cost computers** in developing nations like India has given rise to the number of people who are **willing to work at relatively low costs** in the USA which is a win-win situation for both the employer and the employee.
 - ⊙ The USA administration **issues a certain number of visas each year to fill a vacuum of highly-skilled low-cost employees** in IT and other related domains.
 - ⊙ These visas allow companies from outside the USA to send employees to work on client sites.
 - ⊙ **H-1B Visa:**
 - ⌘ These are issued to skilled workers and the most popular among Indian IT companies.
 - ⌘ H-1B is for people in Specialty Occupation and requires a higher education degree or its equivalent.
 - ⊙ **H-2B Visa:** These are issued to seasonal workers in the landscaping and hospitality industries.

- ⊙ **L-1 Visa:** It allows companies to transfer highly skilled workers to the USA for a period of up to seven years.
- ⊙ **H-4 Visas:** It is for dependents of H-1B visa holders.
- ⊙ **J-1 Visas:** It is for students on work-study summer programmes.
- ⌚ **Reasons Behind the Suspension:**
 - ⊙ The move intends to **protect the domestic workers** who had been impacted due to a contraction in the economy in the wake of the **Covid-19 pandemic**.
 - ⌘ The overall unemployment rate in the USA nearly quadrupled between February and May of 2020, producing some of the most extreme unemployment rates ever recorded.
 - ⊙ The **entry of additional workers** through the H-1B, H-2B, J, and L non-immigrant visa programmes presents a significant threat to employment opportunities for domestic workers by **undercutting their jobs**.
 - ⊙ However, the USA held that post-ban, under normal circumstances, properly administered temporary worker programs can provide benefits to the economy.
- ⌚ **People Affected:**
 - ⊙ The new rule would **apply only to those who are outside the USA and do not have a valid non-immigrant visa** as of 23rd June and an official travel document other than a visa to enter the country. They will not be allowed to enter the USA until 31st December 2020.
- ⌚ **People not Affected:**
 - ⊙ No impact on **lawful permanent residents of the USA** and **foreign nationals who are spouses or child of an American citizen**.
 - ⊙ **Foreign nationals seeking to enter the USA to provide temporary labour or services essential to the food supply chain** are also exempted from the latest proclamation.
- ⌚ **Impact on Indian IT Companies:**
 - ⊙ **Indian IT companies are amongst the biggest beneficiaries** of the USA H-1B visa regime and corner a huge share of the total number of visas every year.
 - ⌘ As of 1st April 2020, the **US Citizenship and Immigration Services (USCIS)** had received about **2.5 lakh H-1B work visa applications** and **67% of that was applied by Indians**.

- ⌚ It will significantly impact the margins and worker wages of Indian IT companies which send thousands of low-cost employees to work on client sites in the USA.
- ⌚ Though the large Indian IT companies in the USA have cut down their dependency on H-1B and other worker visas by hiring as much as 50% of staff locally, they still rely on these visas to keep costs in check.
- ⌚ **Overall Impact on India:**
 - ⌚ Although it is desired that the USA revokes the ban but if it does not, then India may still have some positive impacts.
 - ⌘ **Probable Increase in Remittances:** With this ban, already employed skilled workers from India may get higher salaries which in turn would increase inflow of remittances.
 - ⌘ **Addressing Brain Drain:** Newly graduated skilled workers would seek opportunities in India itself, thereby addressing the issue of brain drain.
 - ⌘ **Enhanced Self Reliance:** India desperately needs the skilled workforce to work within the country in order to become more self-reliant (under **Atmanirbhar Bharat**) and to realise the dream of **Make in India** and the 5 trillion dollar economy.

Criticism

- ⌚ The move has been criticised for being **misguided and harmful to the USA's own economy**. It has the **potential to do permanent damage** to the USA's reputation of attracting the best and the brightest.
- ⌚ The ban on issuing visas will **harm employers, families, universities, hospitals, communities and delay America's economic recovery**.
- ⌚ Without highly skilled immigrants, the industry will slow down and the economy will worsen affecting the timeline for a treatment and cure of Covid-19 as well.
 - ⌚ The H-1B programme in particular plays a crucial role in addressing the shortage of healthcare professionals while also providing other key sectors of economy with talent from around the world to not only fill jobs but create new ones.
- ⌚ **Legal immigration is a positive for the American economy** and visa programs allow American companies to secure qualified, legal labour throughout the world which will not be the same after the move.

36th ASEAN Summit

Why in News

Recently, the **36th Association of Southeast Asian Nations (ASEAN) Summit** was held via video conference to focus on the **Covid-19 pandemic** response, post-pandemic recovery and further cooperation with partner countries.

- ⌚ The **theme** for the Summit was **"Cohesive and Responsive ASEAN"**.
- ⌚ The Summit was **chaired by Vietnam** which is also **holding the chairmanship** of ASEAN currently.

Key Points

- ⌚ **ASEAN Covid-19 Response Fund:**
 - ⌚ The summit has decided to establish the ASEAN Covid-19 response fund with a reserve for medical supplies to meet urgent needs during epidemics.
 - ⌘ A special ASEAN meeting convened in April to tackle the pandemic had failed to agree on an emergency fund.
 - ⌚ It has also decided to build the **ASEAN standard procedures of epidemic response** in case of health emergencies.
- ⌚ **Crippling Economies:**
 - ⌚ The Summit has stated that the **ASEAN region's economy** is expected to **contract** for the **first time in 22 years**.
 - ⌚ It has also focussed on the crippling cost of the coronavirus, which has ravaged the **economies of tourism and export-reliant** countries such as **Thailand and Vietnam**.
- ⌚ **South China Sea Issue:**
 - ⌚ The Summit noted concerns over **land reclamations and recent developments** in the **South China Sea**.
 - ⌘ China claims most of the resource-rich South China Sea but is also **contested by Vietnam, the Philippines, Malaysia and Taiwan**.
 - ⌘ **Vietnam had also accused China of sinking its trawler**. This incident had prompted the USA to warn that China is trying to exploit the pandemic situations of other states to expand its unlawful claims.
 - ⌘ The **USA is not a claimant to any territories in the South China Sea** but has sent its navy to patrol the area in support of freedom of

Association of Southeast Asian Nations

- ⌚ ASEAN is a regional grouping that promotes economic, political, and security cooperation.
 - ⌚ It was established in **1967 in Bangkok, Thailand**, with the signing of the ASEAN Declaration (**Bangkok Declaration**) by the **founding fathers of ASEAN**, namely **Indonesia, Malaysia, Philippines, Singapore and Thailand**.
 - ⌚ It consists of **ten** members namely, Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.
 - ⌚ Chairmanship of ASEAN **rotates annually**, based on the alphabetical order of the English names of Member States.
- ⌚ ASEAN countries have a total population of 650 million people and a combined **Gross Domestic Product (GDP)** of \$2.8 trillion.
 - ⌚ The group has played a central role in Asian economic integration, signing six free-trade agreements with other regional economies and helping spearhead negotiations for what could be the world's largest free trade pact.
 - navigation, while China had slammed this move as an interference in regional affairs by an outside power.
 - ⌚ Both Vietnam and Philippines lodged protests with **China** after it **unilaterally** declared the **creation of new administrative districts on islands**.
 - ⌘ Also, in April China has **officially named 80 islands** and other geographical features in the disputed waters to which Vietnam and the Philippines also have competing claims.
 - ⌚ The Summit has also called on parties to refrain from **escalating tensions and abide by responsibilities** under international laws.



Science and Technology

Highlights

- ✳ *Private Sector Participation in Space*
- ✳ *Gateway Lunar Orbiting Outpost*
- ✳ *Micius: A Quantum-Enabled Satellite*
- ✳ *Global Partnership on Artificial Intelligence*
- ✳ *Covaxin Approved for Human Clinical Trials*
- ✳ *Dexamethasone Drug*
- ✳ *Antiviral Drug Umifenovir*
- ✳ *Kala-azar Disease*
- ✳ *World Sickle Cell Day 2020*
- ✳ *I-Lab: Mobile Testing Facility*
- ✳ *The Paper Microscope: Foldscope*
- ✳ *Raw Material Uncertainties for Rechargeable Batteries: UNCTAD*
- ✳ *HAM Radio*

Private Sector Participation in Space

Why in News

Recently, the Union Cabinet has approved the creation of the **Indian National Space Promotion and Authorization Centre (IN-SPACE)** to provide a level playing field for private companies to use Indian space infrastructure.

- ⌚ This is part of reforms aimed at giving a **boost to private sector participation** in the entire range of space activities.

Key Points

- ⌚ **IN-SPACE:** It will act as a **single-point interface** between **Indian Space Research Organisation (ISRO)**, and everyone who wants to participate in space-related activities, or use India's space resources.
 - ⌚ It will also hand-hold, promote and guide the private industries in space activities through encouraging policies and a friendly regulatory environment.
- ⌚ **Indian National Space Promotion Board:** It would be set up to strengthen the Department of Space and for the promotion of the private space entrepreneurs or non-government space entrepreneurs,
- ⌚ **Role of ISRO:** The overall idea is to let ISRO concentrate on essential activities like research and development, planetary exploration, and strategic use of space, while freeing itself from ancillary or routine work which could easily be done by private industry.

- ⌚ **Demand Driven Model:** By the support of **New Space India Limited (NSIL)**, It would endeavour to reorient space activities from a **'supply driven' model to a 'demand driven'** one, thereby ensuring **optimum utilisation** of the nation's space assets.

- ⌚ The main objective of NSIL is to scale up industry participation in Indian space programmes in comparison to **IN-SPACE** which gives emphasis on the participation of the private sector.

Significance

- ⌚ **Level Playing Field for Private Companies:** IN-SPACE will provide a level playing field for private companies to use Indian space infrastructure.
- ⌚ **Research and Development Activities:** These reforms will allow ISRO to focus more on new technologies, exploration missions and **human spaceflight programme**.
 - ⌚ Some of the planetary exploration missions will also be opened up to the private sector through an **'announcement of opportunity'** mechanism.
- ⌚ **Fruitful Dissemination of Space Technologies:** Allowing industries and others like students, researchers or academic bodies greater access to space assets would lead to a much better utilisation of India space resources.
- ⌚ **Socio-economic use of Space Assets:** The proposed body would attempt to enhance the activities, including access to space assets data and activities
- ⌚ **Global Technology Powerhouse:** It will enable Indian Industry to be an important player in the global space

economy. With this, there is an opportunity for **large-scale employment in the technology sector** and India becoming a global technology powerhouse.

New Space India Limited

- ⌚ NSIL is a **Central Public Sector Enterprise** of the Government of India.
- ⌚ It was established in 2019 under the administrative control of the **Department of Space**.
- ⌚ **Headquarter: Bengaluru**
- ⌚ NSIL is the **commercial arm of Indian Space Research Organisation (ISRO)** with the primary responsibility of enabling Indian industries to take up high technology space related activities and is also responsible for promotion and commercial exploitation of the products and services emanating from the space industry.
- ⌚ NSIL is incorporated to carry forward the industry production of space systems and the ISRO's efforts in realising **Polar Satellite Launch Vehicles (PSLV)** from industry.
- ⌚ NSIL differs from ISRO's existing commercial arm **Antrix Corporation**:
 - ⌚ Antrix will handle **ISRO's commercial deals for satellites** and launch vehicles with foreign customers.
 - ⌚ NSIL will deal with capacity building of **local industry for space manufacturing**.

Gateway Lunar Orbiting Outpost

Why in News

Recently, the **National Aeronautics and Space Administration (NASA)** has finalised the contract to design the **Habitation and Logistics Outpost (HALO)** for its Gateway Lunar Orbiting Outpost.

- ⌚ **HALO support** is a part of **NASA's Artemis program** that aims to send the **first woman** and the next man to the **Moon by 2024**.

Key Points

- ⌚ **Habitation and Logistics**
 - ⌚ It refers to the **pressurised living quarters where astronauts will spend their time** while visiting the Gateway.

- ⌚ These quarters will be **about the size of a small apartment and will provide augmented life support** together with Orion spacecraft.
- ⌚ **The Gateway**:
 - ⌚ NASA has targeted the **completion of the Gateway for 2026**, while work on the spaceship is already underway.
 - ⌚ The **Gateway can be used at least once per year** and astronauts can not stay around the year like they do on the **International Space Station (ISS)**.
 - ⌚ Once docked to the Gateway, astronauts will be able to **stay there for three months at a time**.
 - ⌘ Compared to the ISS, the **Gateway is much smaller**.
 - ⌚ **Significance**:
 - ⌚ It will act **as an airport**, where **spacecraft bound for the lunar surface of Mars can refuel or replace parts** and resupply things like food and oxygen, allowing astronauts to **take multiple trips** to the **Lunar surface and exploration** of new locations across the Moon.
 - ⌚ By studying the **geology of the Earth, the Moon and Mars** and the ways in which they are similar and different from each other, it would give a **sight about how planets and planetary systems form**.
 - ⌚ Significantly, Gateway **would work as a science platform to look back** at the Earth, observe the Sun, and get unobstructed views of the vast universe.

Gateway Lunar Orbit Outpost

- ⌚ The Gateway is a **small spaceship that will orbit the Moon**, meant for astronaut missions to the Moon and later, for **expeditions to Mars**.
- ⌚ It will act as a **temporary office and living quarters for astronauts**, distanced at about 250,000 miles from Earth.
- ⌚ The spaceship will have **living quarters, laboratories for science and research and docking ports** for visiting spacecraft.
- ⌚ One of the most **unique features** of the Gateway is that it can be **moved to other orbits around the Moon** to conduct more research.
- ⌚ It is expected to play a major role in NASA's Artemis program, after 2024.
- ⌚ While the project is led by NASA, the Gateway is meant to be developed, serviced and utilized in

collaboration with commercial and international partners: Canada (**Canadian Space Agency**), Europe (**European Space Agency**) and Japan (**JAXA**).

Artemis

- ⌚ It is a crewed spaceflight program of NASA that has the goal of landing **‘the first woman and the next man’ on the Moon**, specifically at the **lunar south pole** region by 2024.
- ⌚ It is a key step towards the long-term goal of establishing a sustainable presence on the Moon, laying the foundation for private companies to build a lunar economy and eventually sending humans to Mars.

Orion Spacecraft

- ⌚ It is being developed by **NASA**.
- ⌚ It is a **powerful, advanced launch vehicle** for a new era of human exploration beyond Earth’s orbit.
- ⌚ It is designed to take astronauts to deep space destinations such as the Moon and Mars.

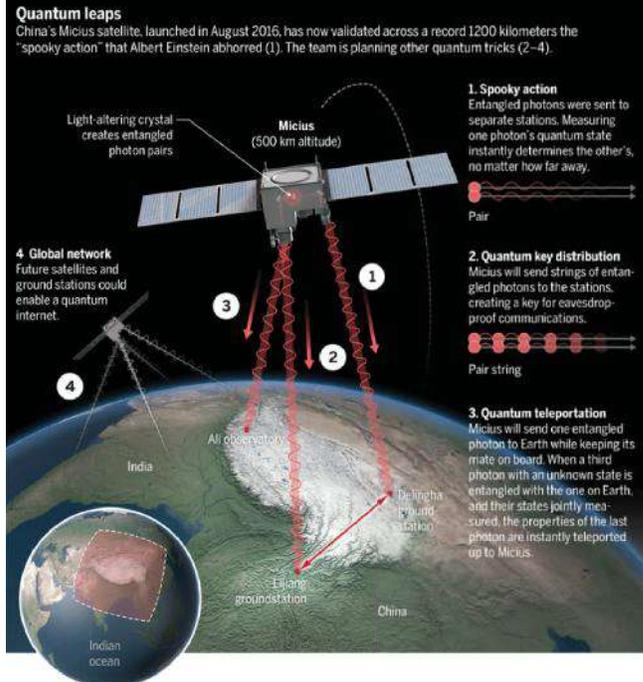
Micius: A Quantum-Enabled Satellite

Why in News

Recently, **satellite Micius** has sent **light particles to Earth** to establish the world’s most secure communication link.

Key Points

- ⌚ **Micius:**
 - ⊙ It is the **world’s first quantum communications satellite**, launched by **China in 2016**.
 - ⊙ The satellite serves as the **source of pairs of entangled photons**.
 - ⌘ Entangled photons are **twinned light particles** whose **properties remain intertwined** no matter how far apart they are.
 - ⌘ If one of the photons is manipulated, the other will be similarly affected at the very same moment.
 - ⌘ It is this **property that lies in the heart of the most secure forms of quantum cryptography** (the study of concepts like encryption and decryption).



⌘ If one of the entangled particles is used to create a key for encoding messages, only the person with the other particle can decode them.

Recent Developments:

- ⊙ Micius has **successfully brought entanglement-based quantum cryptography to its original ground stations 1,200 km apart** by sending simultaneous streams of entangled photons to the ground stations to establish a direct link between the two of them.
- ⊙ The satellite provided entangled photons as a convenient resource for the quantum cryptography and the two ground stations then used them according to their agreed protocol.
- ⊙ **None of the communication went through Micius** (i.e behaved like a blind transmitter) providing the ground stations a **robust and unbreakable cryptographic protection** without the need to trust the satellite.
- ⊙ Until now, this had never been done via satellite or at such great distances.
- ⊙ It has not been specified how the messages were transmitted in this instance but in theory it could be done by optical fibre, another communications satellite, radio or any other agreed method.
- ⊙ Scientists have started using quantum encryption for **securing long-range communication** and Micius has been at the **forefront of quantum encryption** for several years.

- 🕒 **Quantum Race:**
 - ⦿ The **disclosure of internet surveillance by western governments prompted China** to boost quantum cryptography research in order to create more secure means of communication.
 - ⦿ The launch of Micius and quantum communication systems with its help have been **compared to the effect Sputnik had on the space race** in the 20th century.
 - ⌘ Sputnik was the **first artificial Earth satellite** launched by the **Soviet Union** into an **elliptical low Earth orbit** on **4th October 1957**.
 - ⦿ Any country could **theoretically trust Micius** to provide entangled photons to secure its communications but the **satellite is a strategic resource** that other countries would **want to replicate** giving further boost to the quantum race which **has political and military implications** that are hard to ignore.

Global Partnership on Artificial Intelligence

Why in News

India has joined the ‘**Global Partnership on Artificial Intelligence (GPAI)**’ as a founding member to support the **responsible and human-centric development** and use of **Artificial Intelligence (AI)**.

Key Points

- 🕒 **Objective:** GPAI is an international and multi-stakeholder initiative to guide the responsible development and use of AI, based on human rights, inclusion, diversity, innovation, and economic growth.
- 🕒 **Functions:**
 - ⦿ Bridge the gap between theory and practice on AI by supporting cutting-edge research and applied activities on AI-related priorities.
 - ⦿ Bring together leading experts from industry, civil society, governments, and academia to conduct research and pilot projects on AI.
 - ⦿ It will initially **comprise four working groups** focused on responsible AI, data governance, the future of work, and innovation and commercialisation.
- 🕒 **Founding Members:** Australia, Canada, the European Union, France, Germany, India, Italy, Japan, the Republic

of Korea, Mexico, New Zealand, Singapore, Slovenia, the United Kingdom and the United States.

- 🕒 **Organisation:**
 - ⦿ GPAI will be supported by a Secretariat, to be hosted by **Organization for Economic Cooperation and Development (OECD)** in Paris, as well as by two Centers of Expertise- one each in Montreal (Canada) and Paris (France).
 - ⦿ GPAI will be able to take advantage of the OECD’s expertise on AI policy and its leadership in setting out the first international standard for trustworthy AI – the OECD Principles on Artificial Intelligence.
 - ⦿ The OECD will also be a Permanent Observer to the GPAI’s governing bodies.
- 🕒 **Background:** Born out of the Canadian and French G7 Presidencies in 2018 and 2019, GPAI was officially proposed by France and Canada at the Biarritz Summit in August 2019.

Recent Initiatives by India in the Field of AI

- 🕒 India has recently launched **National AI Strategy and National AI Portal** and have also started leveraging AI across various sectors such as education, agriculture, healthcare, e-commerce, finance, telecommunications, etc.
- 🕒 The **National AI strategy** was released in 2018 by NITI Aayog. It is termed ‘**AI For All**’ as it is focused on leveraging AI for inclusive growth in line with the Government policy of Sabka Saath Sabka Vikas.
- 🕒 **Responsible AI for Youth Programme:** It is aimed at imparting education and skills in AI to students in government schools.

Artificial Intelligence

- 🕒 It describes the action of machines accomplishing tasks that have historically required human intelligence.
- 🕒 It includes technologies like machine learning, pattern recognition, big data, neural networks, self algorithms etc.
- 🕒 **Example:** Facebook’s list of suggested friends for its users, self-driving cars, etc.
- 🕒 AI automates processes and reduces human error but the principal limitation of AI is that it learns from the data. This means any inaccuracies in the data will be reflected in the results.

Organization for Economic Cooperation and Development

- ⌚ It was formed in **1961**. It has **37 member countries**. **India is not a member but one of the key partners** of the organisation.
- ⌚ It is an international organisation, having a goal to shape policies that foster prosperity, equality, opportunity and well-being for all.
- ⌚ **PISA** is the OECD's programme for international student assessment.
 - ⦿ India will participate in the PISA test 2021.
- ⌚ It is **headquartered at Paris, France**.
 - ⦿ The **Financial Action Task Force (FATF)** Secretariat is located at OECD headquarters.

G7

- ⌚ It is a bloc of **industrialised democracies** - Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

Covaxin Approved for Human Clinical Trials

Why in News

The **Central Drugs Standard Control Organisation (CDSCO)** has granted **approval to Bharat Biotech** to conduct **human clinical trials for 'Covaxin'**, making it the **first indigenous Covid-19 vaccine candidate** to receive this approval.

- ⌚ Covaxin is an **inactivated vaccine** developed by the company **Bharat Biotech** in collaboration with the **Indian Council of Medical Research (ICMR)**.

Key Points

- ⌚ Clinical trials in humans are classified into **three phases: phase I, phase II and phase III** and in certain countries formal regulatory approval is required to undertake any of these studies.
- ⌚ The **phase I** clinical studies carry out initial testing of a vaccine in small numbers (e.g. 20) of healthy adults, to test the properties of a vaccine, its tolerability, and, if appropriate, clinical laboratory and pharmacological parameters. Phase I studies are primarily **concerned with safety**.
- ⌚ **Phase II** studies involve larger numbers of subjects and are intended to provide preliminary information

about a vaccine's ability to produce its desired effect (usually immunogenicity) in the target population and its general safety.

- ⌚ Extensive **phase III** trials are required to fully assess the protective efficacy and safety of a vaccine. The phase III clinical trial is the pivotal study on which the **decision on whether to grant the licence is based** and sufficient data have to be obtained to demonstrate that a new product is safe and effective for the purpose intended.
- ⌚ An application for market authorization may be submitted to the **National Regulatory Authority (NRA)** on the basis of the data from phase III testing and if approved, the vaccine then becomes commercially available in that particular country.
 - ⦿ The **Central Drugs Standard Control Organisation (CDSCO)** under Directorate General of Health Services, Ministry of Health & Family Welfare is the **National Regulatory Authority (NRA) of India**.
- ⌚ According to the **World Health Organisation (WHO)**, out of 200 Covid-19 vaccine candidates, **15 have entered clinical trials**.
 - ⦿ **AstraZeneca** is the world's leading Covid-19 vaccine candidate and has reached the final stage in terms of development. It is being developed by researchers at the **University of Oxford (UK)**.
 - ⦿ **US Firm Moderna's vaccine (MRNA-1273)** will go into phase III clinical trials in July.

Dexamethasone Drug

Why in News

Recently, scientists administering the **World Health Organisation's recovery trial** have reported that **dexamethasone reduced Covid-19 deaths in severe patients**.

- ⌚ Dexamethasone is a **cheap and widely available steroid drug**.

Key Points

- ⌚ **Highlights of the Research:**
 - ⦿ The drug was given **either orally or through an IV** (intravenous).
 - ⦿ After 28 days, it had **reduced deaths by 35%** in patients who needed treatment **with breathing machines** and **by 20%** in those **only needing supplemental oxygen**.

- ⊙ The drug is **not helpful for less ill patients** and for those **who do not need respiratory support**.
- ⊙ According to the estimates, this drug can **prevent one death for every eight patients** treated while on breathing machines and **one for every 25 patients on extra oxygen** alone.
- 🕒 **Drug Mechanism:**
 - ⊙ **Multi-system Inflammatory State** is a Covid-19 related illness that causes **inflammation of the blood vessels** leading to **low blood pressure**, affecting the entire body as it causes a build-up of fluid in the lungs and other organs.
 - ⊙ The inflammation **can be fatal** so steroids and other anti-inflammatory drugs are used to reduce it.
 - ⊙ Dexamethasone is **not anti-viral but works to modulate the immune response** of the body when confronted by a viral infection such as Covid-19.
- 🕒 **Benefits:**
 - ⊙ The **survival benefit is clear and large** in severe patients.
 - ⊙ It is **highly affordable, easy to make, can be scaled up quickly** and **only needs a small dosage**.
 - ⊙ It is a **cheaper** option than **tocilizumab**, an injectable, which is also being tested.
- 🕒 **Concerns:**
 - ⊙ The **WHO advises** that steroids **should not be used early in a course of illness** because they **can slow the time until patients clear the virus**.
 - ⊙ **Excessive use** of steroids can lead to **adverse reactions** like major mood swings, aggression and irritability, delusions, kidney/liver damage, increased blood pressure, etc.
- 🕒 **India's Reaction:**
 - ⊙ **Indian doctors have welcomed** the research as good news for Covid-19 patients on ventilators.
 - ⌘ The drug is **affordable and easily available in India**.
 - ⊙ Earlier, the **Indian Council for Medical Research (ICMR)** revised the protocol for clinical management of Covid-19 and **allowed the use of remdesivir, tocilizumab and Convalescent Plasma Therapy (CPT)** on certain groups of patients.
 - ⌘ **Remdesivir reduced hospital stays** for very sick Covid-19 patients but **has not been shown to improve recovery** itself.

- 🕒 **Other Findings from the Research:**
 - ⊙ Earlier, the same study showed that the **malaria drug hydroxychloroquine** was **not working against the coronavirus**.
 - ⊙ The study enrolled more than 11,000 patients in England, Scotland, Wales and Northern Ireland who were given either standard of care or that plus one of the treatments mentioned below:
 - ⌘ Dexamethasone.
 - ⌘ **HIV combo drug lopinavir-ritonavir**.
 - ⌘ Antibiotic azithromycin.
 - ⌘ Anti-inflammatory drug tocilizumab.
 - ⌘ Plasma from people who have recovered from Covid-19 that contains antibodies to fight the virus.

Antiviral Drug Umifenovir

Why in News

The Central Drug Research Institute (CDRI), Lucknow, a constituent lab of the **Council of Scientific and Industrial Research (CSIR)**, has received permission for carrying out **Phase III trials** for the use of **Umifenovir** against **Covid-19**.

- 🕒 These trials will be **randomised, double-blind, placebo-controlled** that will test the **efficacy, safety and tolerability of the drug**.

Key Points

- 🕒 **Safe:** Umifenovir has already been used for the treatment of influenza in China and Russia and therefore is safe. It recently came into prominence due to its potential use for Covid-19 patients. The clinical trial is to evaluate its efficacy in Indian patients.
- 🕒 **Strengthens Immune System:** It acts by preventing entry of the virus into human cells and also by priming the immune system.
- 🕒 **Indigenously Developed:** All the raw materials for the drug are indigenously available and if the clinical trial is successful, Umifenovir can be a safe, efficacious, affordable drug against Covid-19.
- 🕒 **Potential Prophylactic Use:** It has the potential for prophylactic use. A prophylactic is a medication or a treatment designed and used to prevent a disease from occurring.
- 🕒 **CSIR's Efforts Against Covid-19:**

Randomised,

Double-blind, Placebo-controlled Trials

- ⌚ **Randomized trials** mean that subjects are randomly assigned to placebo and intervention groups. Placebo is anything which looks like real treatment but it is actually not. **For example**- sugar pills and saline injections.
- ⌚ **Double-blind** means that neither the patients nor the researchers know who is getting a placebo and who is getting the treatment. This ensures that the result of trials are not affected by the biases of researchers and patients.
- ⌚ **Placebo-controlled** refers to a control group receiving a placebo. This sets it apart from studies that simply give participants treatment and record the results.
 - ⊙ Here, a control group is given a placebo while another group is given the drug (or other treatment) being studied. That way, researchers can compare the drug's effectiveness against the placebo's effectiveness.
- ⊙ The CSIR is evaluating **Mycobacterium W (Mw)** for faster recovery of hospitalised Covid-19 infected patients.
- ⊙ The clinical trial of the **Favipiravir drug** has also been allowed by the **Drug Controller General of India** (DCGI).

Kala- azar Disease

Why in News

Recently, a team of researchers from the National Centre for Cell Science (NCCS), Pune have found **new biomolecules to fight drug resistance** in Kala- azar (**visceral leishmaniasis**).

- ⌚ NCCS is an autonomous organisation under the Department of Biotechnology, Government of India.
- ⌚ It was established to facilitate cell biology research in the country.

Key Points

- ⌚ **Resistance to Drug:** The only drug available against leishmaniasis, **miltefosine**, is rapidly losing its effectiveness because of **emerging resistance to this drug** due to a decrease in its accumulation inside the parasite.

Leishmaniasis

- ⌚ It is a **neglected tropical disease** affecting almost 100 countries including India.
 - ⊙ Neglected tropical diseases are a diverse group of communicable diseases that prevail in tropical and subtropical conditions in 149 countries.
- ⌚ It is **caused by a parasite called Leishmania**, which is transmitted through the bite of sand flies.
- ⌚ There are **three types of leishmaniasis**:
 - ⊙ **Visceral leishmaniasis**, which affects multiple organs and is the most serious form of the disease.
 - ⊙ **Cutaneous leishmaniasis**, which causes skin sores and is the most common form.
 - ⊙ **Mucocutaneous leishmaniasis**, which causes skin and mucosal lesions.
- ⌚ Visceral leishmaniasis, which is commonly known as Kala-azar in India, is fatal in over 95% of the cases, if left untreated.
- ⌚ **Responsible Proteins:** A protein called 'P4ATPase-CDC50', is responsible for intake of the drug by the parasite, and another protein, called 'P-glycoprotein', is responsible for throwing this drug out from within the parasite's body.
- ⌚ A decrease in the activity of the former protein, and an increase in the activity of the latter **results in less accumulation of miltefosine inside the parasite's body**, thus causing it to become resistant to the drug.
- ⌚ While exploring ways to tackle miltefosine resistance, the researchers worked with one of the species of Leishmania that causes infection, called Leishmania major.
- ⌚ They **tried to manipulate these transporter proteins** in the species in a manner that would result in **increased uptake of the drug and decrease in its being thrown out** of the parasite's body.
- ⌚ They used computational methods to design small molecules, called **peptides**, that could very specifically interact with the transporter proteins of Leishmania major alone, and not interfere with human proteins in any way.
 - ⊙ A **peptide** is a short chain of **amino acids**.
 - ⊙ Amino acids are organic compounds that combine to form proteins.

World Sickle Cell Day 2020

Why in News

Recently, **World Sickle Cell Day 2020** was observed in India to increase awareness about the Sickle Cell Disease (SCD) at the national level.

- ⌚ The day is recognised by the United Nations and celebrated every year on **19th June**.
- ⌚ The United Nations General Assembly adopted a resolution recognising sickle cell disease as a public health problem on 22th December, 2008.

Key Points

⌚ **Sickle Cell Disease**

- ⊙ It is an **inherited blood disease** which is most common among people of African, Arabian and Indian origin.
- ⊙ It is a **group of disorders that affects hemoglobin**, the molecule in red blood cells that delivers oxygen to cells throughout the body.
- ⊙ People with this disease have atypical hemoglobin molecules called hemoglobin S, which can distort red blood cells into a sickle, or crescent shape. This blocks blood flow and oxygen from reaching all parts of the body.
- ⊙ **Symptoms:** It can cause severe pain, referred to as sickle cell crises. Infections and fatigue are other symptoms.
 - ⌘ People with sickle cell disorders are also at a risk of complications such as stroke, acute chest syndrome, blindness, bone damage, etc.
 - ⌘ Over time, people with sickle cell disorders can experience damage to organs including the liver, kidney, lungs, heart and spleen. Death can also result from complications of the disorder.
- ⊙ **Treatment:** Medication, blood transfusions and rarely a bone-marrow transplant.

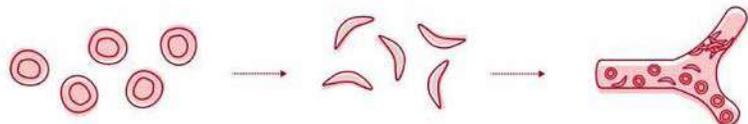
⌚ **Related Data:**

- ⊙ According to **Global Burden of Disease (GBD)**—a global research programme that estimates mortality and burden from major diseases across the globe—the prevalence and incidence of sickle cell

disease in India in 2017 and 2018 was **1,104,634 and 195,166**, respectively.

- ⊙ The disease in India occurs predominantly in eastern Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh, western Odisha and in pockets of the Nilgiri Hills in north Tamil Nadu and Kerala. The disease is prevalent among tribal communities (including children).
- ⌚ **Challenges:**
 - ⊙ **Social Stigma:** It reduces the effectiveness of screening programmes as people don't want to go to health authorities.
 - ⊙ **Prevalence among Tribal Population:** Access to care for SCD in the tribal regions of India is limited.
 - ⊙ **School Drop Out:** Children with sickle cell disease often have to drop out from school.
 - ⊙ **Policy Issue:** The delayed implementation of the **2018 draft policy on haemoglobinopathies**.
 - ⌘ The policy aims to provide evidence-based treatment for patients and reduce the number of new-born children with sickle cell disease through initiatives such as the **Sickle Cell Anaemia Control Program**, screening and prenatal diagnosis.
- ⌚ **Initiatives by India:**
 - ⊙ **Initiative by the Ministry of Tribal Affairs:** In order to collect real time data and provide relevant information related to Sickle Cell, the government has **launched a new portal** which will act as a catalyst in creating awareness.
 - ⌘ The portal will have real time data through a dashboard along with registration facility, information about the disease and various government initiatives undertaken.

What is Sickle Cell Disease?



SCD is a blood disorder

Sickle Cell Disease (SCD) is an **inherited blood disorder** that affects red blood cells. Normal red blood cells are round and flexible, which lets them travel through small blood vessels to deliver oxygen to all parts of the body.

Causing misshapen blood cells

SCD causes red blood cells to **form into a crescent shape**, like a sickle.

Creating painful complications

The sickle-shaped red blood cells break apart easily, clump together, and stick to the walls of blood vessels, **blocking the flow of blood**, which can cause a range of serious health issues.

The Ministry has also initiated an 'Action Research' project under which Yoga dependent lifestyle is promoted to reduce the complications in the patient suffering from this disease.

- ⊙ **Expanded Screening:** Certain states, such as Chhattisgarh and Gujarat, have expanded their screening programmes from hospital to school-based screenings. Extrapolating such screening efforts and implementation strategies to other states will help map the prevalence of the disease.

I-Lab: Mobile Testing Facility

Why in News

Recently, the government has launched the **country's first mobile I-Lab (Infectious disease diagnostic Lab) for last mile Covid-19 testing access.**

- ⌚ It has been created by a team from the **Andhra Pradesh MedTech Zone Limited (AMTZ)** under the **National Biopharma Mission.**

Key Points

- ⌚ The **Department of Biotechnology (DBT - Ministry of Science & Technology)** under the **Covid-Command strategy** has supported building of mobile testing labs (I-Labs) through AMTZ.
- ⌚ The Lab belongs to the **BioSafety Level (BSL-II)** category.
 - ⊙ BSLs are ranked from **one to four** and are categorised on the basis of the organisms that the researchers are dealing with. The organisms include viruses, bacteria, fungi, parasites, etc.
 - ⊙ BSL-I is considered to be the least hazardous, while BSL-IV poses the maximum safety risk. Each level builds on the previous category, adding more layers of constraints and barriers.
- ⌚ It will be deployed in interior, inaccessible parts of the country and has the capability to perform **25 RT-PCR tests** a day, **300 ELISA tests** a day and **additional tests for TB, HIV** as per **CGHS (Central Government Health Scheme)** rates.
 - ⊙ **RT-PCR and ELISA tests** have been approved by the **Indian Council of Medical Research (ICMR)** for Covid-19.
 - ⊙ **CGHS** provides comprehensive medical care to central government employees and pensioners enrolled under the scheme. Rates of different procedures are decided under the Scheme.

Andhra Pradesh MedTech Zone Limited

- ⌚ Incorporated in **2016**, it is Asia's first **medical equipment manufacturing ecosystem**, uniquely dedicated for Medtech and supported by various Ministries.
- ⌚ The Department of Biotechnology (DBT) along with the AMTZ has initiated the **DBT-AMTZ COMMAN (Covid Medtech Manufacturing Development) Consortia** to address the shortage of critical healthcare technologies in India and move progressively towards a stage of self-sufficiency.

National Biopharma Mission

- ⌚ The National Biopharma Mission (NBM) is an **industry-academia collaborative mission** for accelerating biopharmaceutical development in the country.
- ⌚ It was **launched in 2017** at a total cost of Rs.1500 crore and is 50% co-funded by World Bank loan.
- ⌚ It is being **implemented by the Biotechnology Industry Research Assistance Council (BIRAC)**.
 - ⊙ BIRAC is a Public Sector Enterprise, set up by the Department of Biotechnology (DBT).
- ⌚ Under this Mission, the Government has launched **Innovate in India (i3) programme** to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the biopharma sector.
- ⌚ It has a focus on following **four verticals:**
 - ⊙ **Development:** Development of product leads for Vaccines, **Biosimilars** and Medical Devices that are relevant to the public health need by focussing on managed partnerships.
 - ⊙ **Upgrade:** Upgradation of shared infrastructure facilities and establishing them as centres of product discovery/discovery validations and manufacturing.
 - ⊙ **Capacity Building:** Developing human capital by providing specific training.
 - ⊙ **Industry-Academy Linkages:** Developing technology transfer offices to help enhance industry academia inter-linkages.

The Paper Microscope: Foldscope

Why in News

Recently, some doctors have explored and validated

the clinical utility of **foldscope** in the diagnosis of diseases using various patient samples.

Key Points

⌚ Foldscope:

- ⊙ It is an **affordable microscope** that can be made from simple components, including a **sheet of paper and a lens**. It cost less than a Rs. 100 to make a Foldscope.
- ⊙ Upon assembly, the device can hold a specimen slide for observation, and this **specimen can be viewed via a mobile phone camera** attached to it.
- ⊙ It is **portable and durable**, and performs on par with conventional microscopes.
- ⊙ It was **developed by Manu Prakash** and is part of the “**frugal science**” movement which aims to make cheap and easy tools available for scientific use in the developing world



⌚ Benefits:

- ⊙ Foldscope can be **used to diagnose diseases** like oral health, urinary tract infection (UTI), leishmaniasis, schistosomiasis, and monitor kidney stones.
- ⊙ It can be **employed in public healthcare centres for primary diagnosis** or as **personal health monitoring devices**.
- ⊙ Apart from the medical field **it can also be used in agriculture**, to detect various types of microorganisms which affect the crops and animals.

Raw Material Uncertainties for Rechargeable Batteries: UNCTAD

Why in News

Recently, the **United Nations Conference on Trade and Development** (UNCTAD) released a report ‘**Commodities at a glance: Special issue on strategic battery and minerals**’.

- ⌚ The report facilitated **research into battery technologies** that depended less on critical raw materials and had the potential to provide **higher energy density**.

- ⊙ **Energy density** is the amount of energy that can be stored in a given mass of a substance or system, i.e. a **measure of storage of energy**.

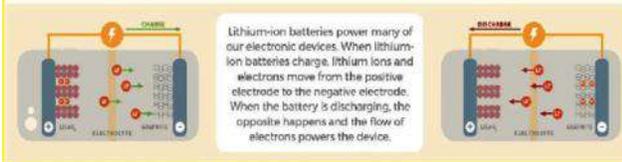
Key Points

- ⌚ **Uncertain Supply:** The report highlighted that the **supply of raw materials to produce rechargeable batteries is uncertain**.
- ⊙ **Lithium, natural graphite** and **manganese** are critical raw materials for the manufacture of rechargeable batteries.
- ⌚ **Rising Demand:**
 - ⊙ **Integration of EVs:** There has been a **rapid growth in demand for rechargeable batteries** due to the gradual integration of **electric vehicles** (EVs) in global transportation.
 - ⌘ The sales of electric cars have increased by 65% in 2018 from 2017 to 5.1 million vehicles and it will reach 23 million in 2030.
 - ⊙ **Increased Use of Raw Material:** With the increasing number of EVs, the **demand for rechargeable batteries and the raw materials used** in them have also **increased**.
 - ⌘ The worldwide market for cathodes for **lithium-ion batteries** was estimated at \$7 billion in 2018 and is expected to reach \$58.8 billion by 2024.
 - ⊙ The **demand for raw materials** used to manufacture rechargeable batteries will **grow rapidly** as **other sources of energy lose their importance**.
- ⌚ **Concerns:**
 - ⊙ **Limited Suppliers:** The **security of supplies** is a concern for all stakeholders because the **production of the raw materials is concentrated in a few countries**.
 - ⌘ Over **60% of the world’s Cobalt** is mined in the **Democratic Republic of the Congo** while over **75% of global Lithium** is mined in **Australia and Chile**.
 - ⊙ **Prone of Volatility:** Any disruption to supply might lead to **tighter markets, higher prices and increased costs** of rechargeable batteries.
 - ⌘ In 2018, the demand for cobalt surged by 25% from 2017 to 125,000 tonnes, of which 9% accounted for the EV battery sector.
 - ⌘ Cobalt demand would reach 185,000 tonnes by 2023, with about 35% accounting for the EV battery sector, the report said.

⌘ Growth in demand for lithium had been significant since 2015, increasing by 13% per year.

Li-ion Batteries

- ⌚ A lithium-ion battery or Li-ion battery is a **type of rechargeable battery**.
- ⌚ Li-ion batteries use an **intercalated** (Intercalation is the reversible inclusion or insertion of a molecule into materials with layered structures) **lithium compound** as one electrode material, compared to the metallic lithium used in a non-rechargeable lithium battery.
- ⌚ The battery **consists of electrolyte**, which allows for ionic movement and the two electrodes are the constituent components of a lithium-ion battery cell.
- ⌚ Lithium ions move from the negative electrode to the positive electrode during discharge and back when charging.
- ⌚ They are **one of the most popular types of rechargeable batteries used for military, EVs and aerospace applications**.



HAM Radio

Why in News

Recently **HAM (amateur) radio operators** have volunteered to help a special task force that has been constituted in Bengaluru to ensure that citizens placed under home quarantine follow the protocol for it.

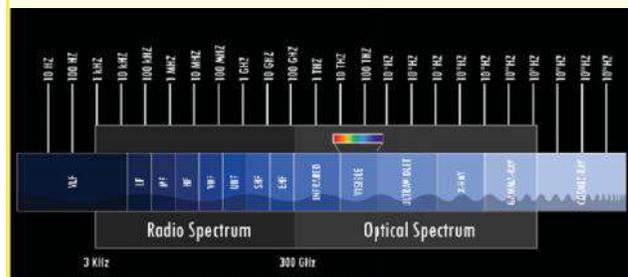
Key Points

- ⌚ Amateur radio, also called ham radio, is a **noncommercial two-way radio communications**. They use **many frequency bands** across the radio spectrum.
- ⌚ HAM radio is a real-time communication network. This is much like wireless communication which is **quick and transparent**.

- ⌚ Amateur Radio operators set up and operate organized communication networks locally for governmental and emergency officials, as well as non-commercial communication for private citizens **affected by the disaster**.
- ⌚ Amateur Radio operators are most likely to be active after disasters that damage regular lines of communications due to power outages and destruction of telephone, cellular and other infrastructure-dependent systems.

Radio Waves

- ⌚ Radio waves have the longest wavelengths in the **electromagnetic spectrum**.
- ⌚ These were discovered by **Heinrich Hertz** in the late **1880s**.
- ⌚ These are produced by the accelerated motion of charges in conducting wires. They are used in radio and television communication systems.
- ⌚ They are generally in the frequency range from **500 kHz to about 1000 MHz**.
- ⌚ The AM (Amplitude Modulated) band is from 530 kHz to 1710 kHz. The **FM (Frequency Modulated)** radio band extends from 88 MHz to 108 MHz.
- ⌚ **Higher frequencies** up to 54 MHz are used for **short wave bands**. TV waves range from 54 MHz to 890 MHz.
- ⌚ **Cellular phones** use radio waves to transmit voice communication in the **Ultra High Frequency (UHF)** band.
- ⌚ Radio-wave communications signals travel through the air in a straight line, reflect off of clouds or layers of the ionosphere, or are relayed by satellites in space.



Environment and Ecology

Highlights

- ⌘ Largest Decline in Arctic Sea Ice
- ⌘ Land Use Changes & Zoonoses
- ⌘ Assessment of Climate Change over the Indian Region: MoES
- ⌘ Forest Fires
- ⌘ Olms in Postojna Cave of Slovenia
- ⌘ International Horseshoe Crab Day
- ⌘ World Crocodile Day
- ⌘ Smuggling of Exotic Macaws
- ⌘ Gee's Golden Langur
- ⌘ Fishing Cats
- ⌘ Money Laundering and the Illegal Wildlife Trade
- ⌘ Increased Ozone Pollution
- ⌘ Gynandromorphism
- ⌘ Uganda Submitted REDD+ Results
- ⌘ Pollinator Week
- ⌘ Coccolithophores: Ancient Marine Algae
- ⌘ Land Transfer of Gangotri National Park

Largest Decline in Arctic Sea Ice

Why in News

The **National Centre of Polar and Ocean Research (NCPOR)** has observed the **largest decline in the Arctic Sea ice in the last 41 years**.

- ⌚ The decline in the Arctic Sea ice is due to **global warming** — leading to **localised increase in evaporation, air humidity, cloud cover and rainfall**.

Sea Ice

- ⌚ Sea ice arises as seawater freezes. Because **ice is less dense than water**, it floats on the ocean's surface.
- ⌚ Sea ice covers about 7% of the Earth's surface and about 12% of the world's oceans.

Key Points

- ⌚ **Increased Rate of Sea Ice Decline:**
 - ⌚ In the last 40 years (1979-2018), the sea ice has been declining at **4.7% per decade**, while the current declining rate was found to be **13% in July 2019**.
 - ⌚ Thus, it has been noted that the volume of ice formation during winters is **unable to keep pace** with the volume of ice loss during summers.
 - ⌚ Additionally, it has been predicted that if this trend continues, there would be **no ice left in the Arctic Sea by 2050**.

Impacts:

- ⌚ The decrease of the Arctic Sea ice area and the increase in the duration of summer and autumn seasons **affected the local weather and climate** over the Arctic Ocean and its marginal seas.
- ⌚ Being a sensitive indicator of climate change, the loss of ice cover in the Arctic Sea may affect **other components of the climate system** such as reduction of heat, water vapour, and other material exchange between the atmosphere and the sea.
- ⌚ The northern hemisphere experienced **record high-temperature rise**, especially during the spring and summer months.

National Centre of Polar and Ocean Research

- ⌚ National Centre of Polar and Ocean Research (NCPOR) was established as an autonomous Research and Development Institution of the **Ministry of Earth Sciences** in 1998.
- ⌚ It is located in **Goa**.
- ⌚ Earlier known as National Centre for Antarctic and Ocean Research (NCAOR), NCPOR is India's premier R&D institution responsible for the country's research activities in the **Polar and Southern Ocean realms**.
- ⌚ It is the **nodal agency** for planning, promotion, coordination and execution of the entire gamut of **polar and southern ocean scientific research** in the country as well as for the associated logistics activities.

Land Use Changes & Zoonoses

Why in News

According to the **United Nations Convention to Combat Desertification (UNCCD)**, the **land use change**, which prepares the ground for **zoonoses** like **Covid-19**, should be reversed.

- ⌚ Land use change promotes zoonoses like Covid-19 as the interaction and physical distance between animals and humans get closer.

Key Points

⌚ Land Use Change:

- ⊙ **Land use change** is a process which **transforms the natural landscape** by direct human-induced land use **such as settlements, commercial and economic uses and forestry activities**.
- ⊙ It impacts the overall environment in terms of **greenhouse gas emission, land degradation and climate change**.

⌚ Data Analysis:

- ⊙ Land use change can be a **factor in CO₂ (carbon dioxide) atmospheric concentration**, and is thus a contributor to **global climate change**.
 - ⌘ It **represents almost 25%** of total global emissions.
- ⊙ According to the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), over **70 % of all natural, ice-free land** in the world is affected by human use.
 - ⌘ This could further rise to **90% by 2050**.
- ⊙ The land degradation affects **3.2 billion people** worldwide.
- ⊙ **Ecosystem services** e.g. forest, agriculture, grassland tourism etc. worth \$10.6 trillion are lost due to land degradation annually.
- ⊙ According to the **Food and Agriculture Organization of the United Nations**, by 2050, over 500 million hectare area of new agricultural land will be needed to meet the global food demand.

⌚ Possible Reasons:

- ⊙ **Population Growth:** Fast population growth and the consequent high pressure on resources have an adverse effect on the existing natural resources of the land area.

- ⊙ **Encroachment of Land:** Substantial increase in demand for food has resulted in an expansion of croplands by encroaching on uncultivated areas including forest, shrub and wetlands.
 - ⌘ According to the **Intergovernmental Panel on Climate Change (IPCC)** report on climate change and land, agricultural land for food, animal feed and fibre is behind the land use change.
- ⊙ **Use of Forest Resource:** Continuous and exhaustive thinning of forestry resources for diverse uses, particularly for construction, firewood and agricultural tools led to the degradation of forest cultivated land.

United Nations

Convention to Combat Desertification

- ⌚ **Established in 1994**, the United Nations Convention to Combat Desertification (UNCCD) is the sole legally binding international agreement linking environment and development to sustainable land management.
- ⌚ It is the only convention stemming from a direct recommendation of the Rio Conference's Agenda 21.
- ⌚ **Focus Areas:** The Convention **addresses specifically the arid, semi-arid and dry sub-humid areas**, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
- ⌚ From India, **the Ministry of Environment, Forest and Climate Change** is the nodal Ministry for this Convention.

World Day to Combat Desertification and Drought 2020

- ⌚ June 17 is observed worldwide as **World Day to Combat Desertification and Drought**.
- ⌚ **Theme: Food, Feed, Fibre** which seeks to educate individuals on how to reduce the impact of food consumption.
- ⌚ According to the United Nations, 2020 Desertification and Drought Day focuses on the links between consumption and land.
- ⌚ This year's 'global observance event' is being hosted virtually by the Korea Forest Service.

Zoonoses

- ⌚ It is any disease or infection that is naturally transmissible from vertebrate animals to humans.
- ⌚ Animals thus play an essential role in maintaining zoonotic infections in nature.
- ⌚ Zoonoses may be bacterial, viral, or parasitic.

- ⌚ **Grazing at Cultivated Land:** Farmers often abandon and leave the cultivated land for grazing purposes due to the declining of its **soil fertility status**.
- ⌚ **Destruction of Wetlands:** The conversion of the wetland to the cultivated and settlement land leads to the destruction of wetlands.
- ⌚ **Solutions:**
 - ⌚ **Climate Smart Land Management Practices:** According to a report by IPCC on land use, **increased food productivity, improved cropland management, livestock management, agroforestry, increased soil organic carbon content and reduced post-harvest losses** would help in ecosystem conservation and land restoration .
 - ⌘ These management practices could deliver up to \$1.4 trillion in increased crop production.
 - ⌚ **Forest Management:** Improved fire management and improved grazing land can help in land restoration.
 - ⌚ **Restore and Rehabilitate:** To achieve **Land Degradation Neutrality (Sustainable Development Goal target 15.3)**, additional commitments in the land use sector, namely to restore and rehabilitate 12 million hectares of degraded land per year could help close the emissions gap by up to 25% in the year 2030.
 - ⌘ The restoration of these **areas as part of building back better to avoid future zoonoses** would bring other crucial benefits, particularly mitigating climate change.

Assessment of Climate Change over the Indian Region: MoES

Why in News

Recently, the **first Assessment of Climate Change over the Indian Region** has been published by the **Ministry of Earth Sciences (MoES)**.

- ⌚ It is **India's first-ever national forecast on the impact of global warming** on the subcontinent in the coming century.
- ⌚ These projections, based on a climate forecasting model developed at the **Indian Institute of Tropical Meteorology (IITM)**, Pune, will be **part of the next report of the Intergovernmental Panel on Climate Change (IPCC)**, expected to be ready in **2022**.

- ⌚ This is a **significant step for climate science and policy in India** because existing projections are put in the context of historical trends in land and ocean temperatures, monsoon rainfall, floods, droughts and Himalayan warming and glacier loss.

Key Points

⌚ **Temperature:**

- ⌚ In a **worst-case scenario**, average surface air temperatures over India could **rise by up to 4.4°C** by the end of the century as **compared to the period between 1976 and 2005**.
 - ⌘ The worst-case scenario is defined by the **Representative Concentration Pathway (RCP) 8.5** that calculates a radiative forcing of 8.5 watt per square metre due to the rising **greenhouse gas (GHG) emissions** in the atmosphere.
 - ⌘ **Radiative forcing or climate forcing** is the difference between sunlight energy absorbed by the Earth (including its atmosphere) and the energy that it radiates back into space.
- ⌚ Under an **intermediate scenario of RCP 4.5**, the country's **average temperature could rise by up to 2.4°C**.
 - ⌘ The rise in temperatures will be even **more pronounced in the Hindu Kush-Himalayan region** where the **average could reach 5.2°C**.
 - ⌘ The region is **already highly vulnerable** to climate-related variability in temperatures, rainfall and snowfall.
- ⌚ **By 2100**, the **frequency of warm days and warm nights** might also **increase by 55% and 70% respectively**, as compared to the period 1976-2005 under the RCP 8.5 scenario.
- ⌚ The **incidences of heat waves** over the country could also **increase by three to four times**. Their **duration of occurrence might also increase** which was already witnessed by the country in 2019.
- ⌚ **Between 1900 and 2018**, the **average temperatures of India rose by 0.7°C**.
 - ⌘ This rise in temperatures has been largely attributed to **global warming** due to GHG emissions and land use and land cover changes.
 - ⌘ However, it has also been **slightly reduced by the rising aerosol emissions** in the atmosphere that have an **overall cooling characteristic**.

- ⊙ The **latest global climate change assessments** indicate a **rise in worldwide average surface air temperatures by 5°C** by the end of the century if human activities keep emitting GHGs at the current rate.
 - ⊗ The **global average temperature** in the last century has **gone up by 1.1°C**, according to the latest estimates by the IPCC.
- ⊙ Even if the **Nationally Determined Contributions (NDCs)** declared by countries under the **Paris Agreement 2015** are met, the global average temperature **could rise by around 3°C**, which could be disastrous.

🕒 **Rainfall:**

- ⊙ Another significant highlight of the assessment is the **projected variability in the rainfall**, especially during the **monsoon season which brings 70% of the rainfall received** by India and is one of the **primary drivers of its rural agrarian economy**.
- ⊙ Monsoon rainfall could **change by an average of 14% by 2100 that could go as high as 22.5%**. It is **not mentioned** if this change will be **an increase or a decrease but still represents variability**.
- ⊙ **Overall rainfall during the monsoon season has decreased by 6%** between 1950 and 2015.
- ⊙ In the past few decades, there has been an **increased frequency of dry spells** during the monsoon season that has **increased by 27%** between 1981-2011, as compared to 1951-1980.
- ⊙ The **intensity of wet spells has also increased** over the country, with central India receiving **75% more extreme rainfall events** between 1950 and 2015.
 - ⊗ **For example:** Monsoon seasons of 2018 and 2019 where dry spells were broken by extremely heavy rainfall spells, creating a flood and **drought** cycle in many regions in India.

Forest Fires

Why in News

Recently, the **National Green Tribunal** has directed the Kerala Forest Department to submit its report in one month, on the steps taken to **prevent forest fires** and **implement the National Action Plan on Forest Fire** in the State.

Key Points

🕒 **Forest Fires:**

- ⊙ Fire can play a vital role in keeping the forests healthy, recycling nutrients, helping tree species regenerate, removing invasive weeds and pathogens, and maintaining habitat for some wildlife.
- ⊙ As populations and demands on forest resources have grown, **the cycle of fire has spun out of balance**.
- ⊙ Forest fires have become an **issue of global concern**. In many countries, wildfires are burning larger areas, and fire seasons are growing longer due to global warming.
- ⊙ Globally, **forest fires release billions of tons of CO₂ into the atmosphere**, while hundreds of thousands of people are believed to die due to illnesses caused by exposure to smoke from forest fires and other landscape fires.

🕒 **Reasons for Forest Fires:**

- ⊙ **Thunderstorms** are the most likely natural cause for forest fires.
- ⊙ The dry deciduous forests in central and southern India **face 5 to 6 months of dry period** and are vulnerable to fires.
 - ⊗ The reasons are mainly **manmade**, particularly in cases where people visit forests and leave burning bidis, cigarette stubs or other inflammable materials.
- ⊙ A major reason for forest fires in north-east India is **slash-and-burn cultivation**, commonly called jhum cultivation.
 - ⊗ The north-east has tropical evergreen forests which are not likely to catch fire easily on their own like the dry deciduous forests of central and southern India.

🕒 **India's Initiative to Tackle Forest Fire:**

⊙ **National Action Plan on Forest Fires (NAPFF):**

- ⊗ It was launched in 2018 to minimise forest fires by informing, enabling and empowering forest fringe communities and incentivising them to work with the State Forest Departments.
- ⊗ The plan also intends to substantially reduce the vulnerability of forests across diverse forest ecosystems in the country against fire hazards.
- ⊗ It also aims to enhance capabilities of forest personnel and institutions in fighting fires and swift recovery subsequent to fire incidents.

⌚ **Forest Fire Prevention and Management Scheme:**

- ⌘ The Forest Fire Prevention and Management Scheme (FPM) is the only centrally funded program specifically dedicated to assist the states in dealing with forest fires.
- ⌘ The **FPM replaced the Intensification of Forest Management Scheme (IFMS)** in 2017.
- ⌘ Funds allocated under the FPM are according to a center-state cost-sharing formula, with a 90:10 ratio of central to state funding in the Northeast and Western Himalayan regions and a 60:40 ratio for all other states.
- ⌘ It also provides the states to have the flexibility to direct a portion of the **National Afforestation Programme (NAP)** and **Mission for Green India (GIM)** funding toward forest fire work.
- ⌚ India has set ambitious policy goals for improving the sustainability of its forests.
 - ⌘ As part of the **National Mission for Green India** under India’s **National Action Plan on Climate Change**, the government has committed to increase forest and tree cover.
 - ⌘ Under its **Nationally Determined Contribution**, India has committed to bringing 33% of its geographical area under forest cover and to create additional sinks of 2.5 billion to 3 billion tons worth of CO₂ stored in its forests by 2030.

Olms in Postojna Cave of Slovenia

Why in News

Recently, three **Olms** have been put on display in **Slovenia’s Postojna Cave**, where they hatched in 2016 in a rare successful breeding.

Key Points

- ⌚ **Description:**
 - ⌚ The Olms are **eyeless (skin covered eyes) pink animals** also known as the “**baby dragon**” and “**human fish**” for its pale skin-like colour.
 - ⌚ They feed on **detritus and endemic cave vertebrates** and hide in crevices or bottom sediment when disturbed. They **can survive without food for up to 10 years**.

- ⌚ A long-lived species that only matures to a sexual stage after the age of 12-15 years and **reproduces very slowly**.
- ⌚ It can live a century and breeds only once a decade usually in laboratories throughout Europe or deep in caves away from people.
- ⌚ They have a **powerful sensory system** of smell, taste, hearing and electrosensitivity.

⌚ **Threats:**

- ⌚ The olm requires **clean water**, and is therefore **vulnerable to water pollution**.
- ⌚ Consequently, the major threats to the olm are pollution and habitat disturbance from land use changes occurring above the cave systems.



⌚ **Habitat:**

- ⌚ They are found in large subterranean **aquatic karst systems** formed in **limestone and dolomite rocks**, and may be found in cave entrances.

Karst Topography

- ⌚ Any **limestone or dolomitic region** showing typical landforms produced by the action of groundwater through the processes of solution and deposition is called Karst topography.
- ⌚ It is named after the typical topography developed in limestone rocks of Karst region in the **Balkans adjacent to Adriatic sea**.
 - ⌚ The name of this type of topography comes from the **Karst region in Yugoslavia**, karst topography can be found all over the world.
- ⌚ The karst topography is also characterised by **erosional and depositional landforms**. Karst landscapes feature **caves, underground streams and sinkholes** on the surface. Where erosion has worn away the land above ground, steep rocky cliffs are visible.



- ⊙ They are an entirely aquatic species and prefer waters ranging from 5-15°C.
- ⊙ Found in Bosnia and Herzegovina, Croatia, Italy, Slovenia and France.

International Horseshoe Crab Day

Why in News

Recently, the **International Union for Conservation of Nature (IUCN)**'s has decided to observe the **first-ever International Horseshoe Crab Day** on **20th June 2020**.

Key Points

🕒 **Horseshoe Crab:**

- ⊙ It is a **marine chelicerate arthropod** living in **shallow coastal waters** on **soft sandy or muddy bottom** and **spawns** (release or deposit eggs) **mostly on intertidal beaches at summer spring high tides**.
 - ⌘ **Subphylum Chelicerata** is a division within the **Phylum Arthropoda** containing animals such as spiders, scorpions, harvestmen, mites and ticks. Like all arthropods, they have a **segmented body and segmented limbs** and a **thick chitinous cuticle called an exoskeleton**.
- ⊙ It is regarded as a marine '**living fossil**'.
- ⊙ There are **four extant horseshoe crab species**:
 - ⌘ The American horseshoe crab (*Limulus polyphemus*) along the **eastern coast of the USA** and in the **Gulf of Mexico**.
 - ⌘ The tri-spine horseshoe crab (*Tachypleus tridentatus*)
 - ⌘ The coastal horseshoe crab (*Tachypleus gigas*)
 - ⌘ The mangrove horseshoe crab (*Carcinoscorpius rotundicauda*)
 - The last three are **Indo-pacific species** found in the coastal waters of **India, southeast Asia, China and Japan**.
- ⊙ **Odisha is their largest habitat in India.**



🕒 **Importance:**

- ⊙ They have **existed since the time of the dinosaurs** and are important **ecosystem engineers and predators of small organisms**.
- ⊙ Their large **hard shell serves as a microhabitat** for many other species such as sponges, mud crabs, mussels and snails.
- ⊙ They are a **critical link to world health, biodiversity and hold cultural importance** across the globe.

🕒 **Threats:**

- ⊙ **Overharvesting** for use as **food, bait and biomedical testing**.
- ⊙ **Habitat Destruction:**
 - ⌘ Habitat loss from coastal reclamation and development.
 - ⌘ **Shoreline alterations** that are engineered to protect beaches from erosion and sea level rise due to climate change also **affect their spawning habitats**.
- ⊙ **Poachers kill them for their meat** which is popularly believed to have **aphrodisiac qualities**.
- ⊙ Trade in horseshoe crabs is rampant in many Indian states as it is believed that consumption of horseshoe crab **meat can lengthen a person's lifespan**, even though there is no scientific evidence to support this.
- ⊙ Its **carapace** (hard upper shell) is **crushed** and mixed with water to prepare a paste, which is **applied onto scars**.

🕒 **Conservation:**

- ⊙ It is in the **Schedule IV of the Wildlife Protection Act 1972**, under which the catching and killing of a horseshoe crab is an offence.
- ⊙ **IUCN Status:**
 - ⌘ **American horseshoe crab: Vulnerable.**
 - ⌘ **Tri-spine horseshoe crab: Endangered.**
 - ⌘ The two other species are not listed yet.

World Crocodile Day

Why in News

World Crocodile Day is celebrated on **17th June**. The day is a **global awareness campaign** to highlight the plight of endangered crocodiles and alligators around the world.

Crocodylian Species in India

🕒 **Mugger or Marsh Crocodile:**

⊙ **Description:**

- ⌘ The **mugger** is an egg-laying and hole-nesting species.
- ⌘ The mugger is also known to be dangerous.

⊙ **Habitat:**

- ⌘ It is mainly restricted to the Indian subcontinent where it may be found in a number of freshwater habitat types including rivers, lakes and marshes. However, it can even be found in coastal saltwater lagoons and estuaries.
- ⌘ It is already **extinct in Bhutan and Myanmar**.



⊙ **Threats:**

- ⌘ Habitat destruction, fragmentation, and transformation, fishing activities and use of crocodile parts for medicinal purposes.

⊙ **Protection Status:**

- ⌘ IUCN List of Threatened Species: **Vulnerable**
- ⌘ CITES: **Appendix I**
- ⌘ Wildlife Protection Act, 1972: **Schedule I**

🕒 **Estuarine or Saltwater Crocodile:**

⊙ **Description:**

- ⌘ It is considered as the Earth's largest living crocodile species.
- ⌘ The **estuarine crocodile** is infamous globally as a known **maneater**.



⊙ **Habitat:**

- ⌘ It is found in Odisha's **Bhitarkanika National Park**, the **Sundarbans** in West Bengal and the Andamans and Nicobar Islands.
- ⌘ It is also found across Southeast Asia and northern Australia.

⊙ **Threats:**

- ⌘ Illegal hunting, habitat loss, and antipathy toward the species because of its reputation as a man-eater continue to put pressure on the population.

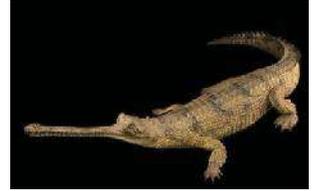
⊙ **Protection Status:**

- ⌘ IUCN List of Threatened Species: **Least Concern**
- ⌘ CITES : **Appendix I** (except the populations of Australia, Indonesia and Papua New Guinea, which are included in Appendix II).
- ⌘ Wildlife Protection Act, 1972 : **Schedule I**

🕒 **Gharial**

⊙ **Description:**

- ⌘ **Gharials**, sometimes called gavials, are a type of Asian crocodylian distinguished by their long, thin snouts which resembles a pot (ghara in Hindi).
- ⌘ Gharials are a type of Crocodylians that also includes crocodiles, alligators, caimans, etc.
- ⌘ The population of Gharials are a good indicator of clean river water.
- ⌘ The gharial is known to be a relatively harmless, fish-eating species.



⊙ **Habitat:**

- ⌘ The gharials are mostly found in fresh waters of the himalayan rivers.
- ⌘ The **chambal river** in the northern slopes of the Vindhya mountains (Madhya Pradesh) is known as the primary habitat of gharials.
- ⌘ Other himalayan rivers like ghagra, gandak river, Girwa river, Ramganga river and the Sone river are secondary habitats for gharials.

⊙ **Threats:**

- ⌘ Illegal sand mining, poaching, increased river pollution, dam construction, massive-scale fishing operations and floods.

⊙ **Protection Status:**

- ⌘ IUCN List of Threatened Species: **Critically Endangered**
- ⌘ CITES : **Appendix I**
- ⌘ Wildlife Protection Act, 1972 : **Schedule I**

Human-Crocodile Conflict

🕒 **Reasons:**

- ⊙ An encroachment of humans on the river banks and marshy areas with an increased urbanisation is one of the foremost reasons for increasing human-crocodile conflict in these areas.

🕒 **Hotspots:**

- ⦿ Vadodara in Gujarat, Kota in Rajasthan, Bhitarkanika in Odisha and the Andaman and Nicobar Islands are considered as the human-crocodile conflict hotspots in India.

🕒 **Possible Solutions:**

- ⦿ Considering the importance of crocodiles in maintaining the balance in the ecosystem, **raising awareness among local people** with the **possible relocation** of crocodiles are some of the feasible options for the protection of the species.

Indian Crocodile Conservation Project

- 🕒 The Crocodile Conservation Project was launched in **1975** in different States.
- 🕒 The Gharial and Saltwater crocodile conservation programme was first implemented in Odisha in early 1975 and subsequently the Mugger conservation programme was initiated.
- 🕒 As a result of the programme, the estimated number of the saltwater crocodiles **increased from 96 in 1976 to 1,640 in 2012** in India.

Smuggling of Exotic Macaws

Why in News

Recently, the **Directorate of Revenue Intelligence (DRI)** has busted a wildlife syndicate which was involved in smuggling of exotic macaws from Bangladesh.

- 🕒 The joint operation was carried out in coordination with the **Wildlife Crime Control Bureau (WCCB)** and the Customs Department at the Kolkata airport.

Key Points

🕒 **Joint Operation:**

- ⦿ The cargo containing 22 exotic birds which had been smuggled in through the Bongaon area of Indo-Bangla border, were seized at Kolkata airport.
- ⦿ The birds were identified as **Hyacinth macaw, Pesquet’s parrot, Severe macaw and Hahn’s macaw**.
- ⦿ The seized macaws are **protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**, with **hyacinth macaw** being accorded the highest protection.

🕒 **Provisions Related to Illegal Wildlife Trade:**

- ⦿ Illegally imported birds are **confiscated under Section 111 of the Customs Act, 1962** which is read with the **CITES provisions and the Foreign Trade Policy (Import-Export Policy) of India**.

Hyacinth Macaw

- 🕒 **Scientific Name:** *Anodorhynchus hyacinthinus*.

- 🕒 It is a parrot native to **central and eastern South America**.

- 🕒 With a length of about one meter, it is **longer than any other species of parrot**.

- 🕒 It is the largest macaw and the **largest flying parrot species**.

- 🕒 **Threat:** Habitat loss and the trapping of wild birds for the pet trade have taken a heavy toll on their population in the wild.



- 🕒 **Protection Status:**

- 🕒 **International Union for Conservation of Nature’s Red List: Vulnerable**

- 🕒 **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix I**

Wildlife Crime Control Bureau

- 🕒 It is a **statutory multi-disciplinary body**, established by the Government of India under the **Ministry of Environment, Forests and Climate Change**, to **combat organized wildlife crime** in the country.

- 🕒 The Bureau has its **headquarters in New Delhi**.

Directorate of Revenue Intelligence

- 🕒 It is India’s **chief anti-smuggling intelligence, investigations and operations** agency.

- 🕒 It works under the **Central Board of Indirect Taxes and Customs (CBIC)**, Ministry of Finance.

- 🕒 It is **headed by a Director-General of the rank of Special Secretary** to the Government of India.

- 🕒 DRI works to secure **India’s national and economic security** by preventing the outright smuggling of **firearms, gold, narcotics, fake Indian Currency notes, antiques, wildlife and environmental products**.

- 🕒 Moreover, it also works to prevent the proliferation of **black money, commercial frauds and trade-based money laundering**.

- 🕒 **Headquarters:** New Delhi.

Also, Sections 48 and 49 of the **Wildlife Protection Act** prohibit trade or commerce in wild animals, animal articles or trophies.

Concerns:

- ⊙ The possibility of spread of **zoonotic diseases** on account of smuggling in such exotic species is increasingly becoming a global concern against the backdrop of **Covid-19**.
- ⊙ Illegal wildlife trade was ranked the **fourth largest transnational organised crime globally**, after the smuggling of narcotics, counterfeit goods and human trafficking.
- ⊙ West Bengal and northeast India are vulnerable to cross-border wildlife smuggling because of their proximity to the Bangladesh and Myanmar borders and to Thailand.
- ⊙ Over the recent years, the DRI has seized a range of endangered species, including a black-and-white ruffed lemur, **hoolock gibbons**, palm civets, Indian star tortoise, etc.
- ⊙ Another major concern has been the smuggling of elephant tusks and ivory products.
- ⊙ Many international organisations involved in wildlife crime use the **Indo-Bangladesh Border** for various other illegal activities, such as **smuggling of drugs, commercial goods, and even gun-running, apart from the illegal movement of foreign currency.**

Gee's Golden Langur

Why in News

Primatologists have observed that the threat of **electrocution and inbreeding** is increasing among the Gee's Golden Langur.

Key Points

⊙ **Scientific Name:** *Trachypithecus geei*

⊙ **About:** Go l d e n langurs can be most easily recognized by the color of their fur, after which they are named.



⊙ It has been noted that their fur changes colors according to the seasons as well as geography (region they live in).

- ⊙ The color of the young also differs from adults in that they are almost pure white.
- ⊙ They are highly dependent on trees, living in the upper canopy of forests. They are also known as **leaf monkeys**.

⊙ **Habitat:** It is endemic to western Assam, India and southern Bhutan.

⊙ Their habitat is restricted to the regions surrounded by **four geographical landmarks:** the foothills of Bhutan (North), Manas river (East), Sankosh river (West) and Brahmaputra river (South).

⊙ **Threats:**

⊙ **Restricted Habitat:** As mentioned above, their habitat is restricted by natural boundaries further increasing the threat of extinction.

⊙ **Habitat Fragmentation:** Their habitat in Assam has fragmented drastically especially after a thrust on rural electrification and massive deforestation.

⊙ **Inbreeding:** Obstructions such as wires and gaps in the forest due to felling, have increased the threat of inbreeding among golden langurs.

⊙ **Conservation Efforts/Status:**

⊙ The **Central Zoo Authority, New Delhi** entrusted the state zoo with the project for the conservation breeding of golden langur in Assam in 2011.

⊙ In 2019, Bhutan recorded a drop of 62% in the population of golden langurs over the 2009 census.

⊙ The recorded estimation in Assam in 2009 was 5,140. This year's census could not be completed due to the **Covid-19 induced lockdown**.

⊙ **Protection Status:**

⊙ **IUCN List of Threatened Species:** Endangered.

⊙ **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):** Appendix I.

⊙ **Wildlife Protection Act, 1972:** Schedule I.

Fishing Cats

Why in News

The Odisha Government has started a two-year conservation project for **Fishing Cats** in **Bhitarkanika National Park**.

⊙ Like several other rare species, little is known about **fishing cats** in the wild.

Key Points

- 🕒 **Scientific Name:** *Prionailurus viverrinus*
- 🕒 **Description:**
 - ⊙ It is twice the size of a house cat.
 - ⊙ The fishing cat is **nocturnal (active at night)** and apart from fish also preys on frogs, crustaceans, snakes, birds and scavenges on carcasses of larger animals.
 - ⊙ The species breed all year round.
 - ⊙ They spend most of their lives in areas of dense vegetation close to water bodies and are excellent swimmers.
- 📍 **Habitat:** In India, fishing cats are mainly found in the mangrove forests of the Sundarbans, on the foothills of the Himalayas along the Ganga and Brahmaputra river valleys and in the Western Ghats.
- 🕒 **Threats:**
 - ⊙ **Habitat Destruction:** A major threat for fishing cats is the destruction of wetlands, their preferred habitat.
 - ⊙ **Shrimp Farming:** Shrimp farming is another growing threat to **mangrove habitats** of the fishing cat.
 - ⊙ **Hunting:** This unique cat also faces threats from hunting for meat and skin.
 - ⊙ **Ritual Practices:** Tribal hunters indulge in ritual hunting practices throughout the year.
 - ⊙ **Poaching:** It is also occasionally poached for its skin.
 - ⊙ **Poisoning:** Indiscriminate trapping, snaring and poisoning.
- 🕒 **Protection Status:**
 - ⊙ **IUCN Red List: Vulnerable**
 - ⌘ Despite multiple threats, the fishing cat was recently downlisted to 'Vulnerable' from 'Endangered' in the IUCN Red List species assessment.
 - ⊙ **CITES: Appendix II**
 - ⊙ **Indian Wildlife Protection Act, 1972: Schedule I**
- 🕒 **Conservation Efforts:**
 - ⊙ The **Fishing Cat Project**, launched in **2010** started raising awareness about the Cat in West Bengal.
 - ⊙ In 2012, the **West Bengal** government officially declared the **Fishing Cat** as the **State Animal** and



the Calcutta Zoo has two big enclosures dedicated to them.

- ⊙ In Odisha, many NGOs and wildlife conservation Societies are involved in Fishing Cat research and conservation work.

Money Laundering and the Illegal Wildlife Trade

Why in News

Recently, the **Financial Action Task Force (FATF)** has released the **first global report** on the **Illegal Wildlife Trade (IWT)** namely, '**Money Laundering and the Illegal Wildlife Trade**'.

- 🕒 The report comes amid increasing **international concern** that the crime could lead to more **zoonotic diseases** in the future.
- 🕒 The report has also described IWT as a "**global threat**", which also has links with other organised crimes like modern slavery, **drug trafficking** and arms trade.

Key Points

- 🕒 **Transnational Organised Crime:**
 - ⊙ The parties involved in the IWT are usually engaged in other major transnational organised crime that fuels **corruption, threatens biodiversity**, and can have significant public health impacts.
 - ⊙ The illegal trade is estimated to generate revenues of **up to \$23 billion a year**.
 - ⊙ According to the **2016 UN World Wildlife Crime report**, criminals are illegally trading products **derived from over 7,000 species of wild animals and plants** across the world.
- 🕒 **Origin and Route of IWT:**
 - ⊙ Usually, the **countries that are rich in biodiversity** and/or where there may be **weaker law enforcement oversight** and criminal justice are treated as source countries for IWT.
 - ⊙ Similarly, most parties involved in such crime transit the wildlife through other countries to blur the exact end destination.
 - ⊙ Transit countries typically include **trade and transport hubs** or **countries with higher levels of corruption**. The laundering of the proceeds occurs across source, transit and destination countries.

⌚ **Methods Used for IWT:**

- ⊙ It has been observed that the criminals are relying on **'established' methods** to launder proceeds from IWT, including **mobile or social media-based payments, third party payments** and the **placement and layering of funds** through the formal financial sector.
- ⊙ The **accounts of innocent victims** are also used for high-value payments to avoid and **evade detection**.
- ⊙ IWT also uses **shell and front companies** to conceal payments and launder their money.
 - ⌘ Shell company is an inactive company used as a vehicle for various financial manoeuvres or kept dormant for future use in some other capacity.
 - ⌘ A front organization is any entity set up by and controlled by another organization, such as, organized crime groups, banned organizations, religious or political groups, advocacy groups or corporations.
- ⊙ Also, **legitimate pet stores and private zoos, farms or parks** are often used to facilitate the illicit pet trade in many countries (such as Asia and the Americas) and are used to justify trading, breeding or otherwise exploit protected wildlife.
- ⊙ Additionally, the role of **online marketplaces and mobile, social media-based payments and darknets** have facilitated the fast and movement of illegally traded animals.

⌚ **Link with Zoonotic Diseases:**

- ⊙ The spread of **zoonotic diseases** underlines the importance of ensuring that wildlife is traded in a **legal, safe and sustainable manner** and that countries remove the profitability of illegal markets.
- ⊙ The exact connection between the **trading of pangolins and its scales to the Covid-19 outbreak** is yet to be established but it has been noted that the **price of pangolins has increased between 100% to 600% mark-up**.
 - ⌘ Further, India has also been a source country for illegal **pangolin** trading.

Challenges with IWT

- ⌚ The lack of the **required knowledge, legislative basis and resources** to assess and combat the threat posed by the funds generated through the illegal trade is one of the major issues with IWT. This limited focus on the financial side of IWT has largely prevented

jurisdictions from being able to identify and sanction IWT networks.

- ⌚ IWT makes **other industries more vulnerable to misuse** which includes traditional medicine, décor and jewellery and fashion.

Recommendations

- ⌚ The countries should consider implementing the good practices which include providing all relevant agencies with the **necessary mandate and tools**; and **cooperating** with other countries, international bodies and the private sector.
- ⌚ The legislative changes are necessary to **increase the applicability of anti-money laundering laws** to the illegal wildlife trade-linked offences.
 - ⊙ India amended the **Prevention of Money Laundering Act** in 2012 removing a value threshold, of Rs 30 lakh and above, that was earlier applicable to the wildlife trade predicates.
- ⌚ It has suggested treating **IWT as money laundering offences** since the proceeds enter the global market through money laundering and also money laundering offences carry more severe penalties in many countries.

Increased Ozone Pollution

Why in News

Recently, the **Centre for Science and Environment (CSE)** has observed an **increase in ozone (a harmful pollutant) levels** in the several cities of the country.

- ⌚ The analysis is based on **Central Pollution Control Board (CPCB)** data from **22 cities in 15 States**.
- ⌚ It has also observed that the **particulate matter and nitrous oxide levels fell** during the lockdown to control **Covid-19 outbreak**.

Key Points

- ⌚ **Ozone Gas:**
 - ⊙ The **'good' ozone** present in the earth's ozone layer **protects human beings** from **harmful Ultraviolet (UV) radiation** whereas the **ground level ozone** is **highly reactive** and can have adverse impacts on human health.
 - ⊙ Even **short-term exposure** of an hour is dangerous for those with **respiratory conditions and asthma**. Thus, an **8-hour average** is considered **for ozone** instead of the 24-hour average for other pollutants.

⊙ Ozone is **not directly emitted** by any source but is formed by **photochemical reactions** between oxides of nitrogen (NO_x), other volatile organic compounds (VOCs) and gases in the air under the influence of sunlight and heat.

⊗ Ozone pollution is thus also a **clear indicator of vehicular pollution**, which results in higher concentration of NO_x.

🕒 **Concept of Summer Pollution:**

⊙ The ozone is primarily a “**sunny weather problem**” in India as the **presence of sunlight has a direct impact** on formation of ground level ozone.

⊗ **Heat acts as a catalyst**, facilitating photochemical reactions. Hence, higher concentrations of ozone are seen during the summer months.

⊙ Additionally, the **intense heat waves** are one of the factors responsible for **increased ozone levels** in the country.

⊙ Usually, the ozone levels tend to spike when winter conditions subside, and its presence is felt most during the day. At night, ozone levels tend to deplete, before spiking again during the afternoon, when sunlight is available.

⊙ Thus, the characteristics of summer pollution include high winds, intermittent rains, thunderstorms, high temperature and heat waves.

🕒 **Particulate Pollution:**

⊙ It has been observed that the particulate pollution has been **dropped dramatically** during the lockdown.

⊙ Also, an average **PM 2.5 levels** during the lockdown for all cities were found to be **lower than the average** for the same period in 2019.

⊙ However, with lockdown relaxed, pollution started to increase. As soon as lockdown 4.0 came in with more relaxation and traffic returned on roads, the average NO₂ levels increased rapidly from the cleanest lockdown phase.

Gynandromorphism

Why in News

Recently, a rare **biological phenomenon** i.e. **Gynandromorphism** has been spotted in a **dragonfly, the Scarlet Skimmer (*Crocothemis servilia*)**, which is found in the Kole wetlands, Kerala.

Key Points

⊙ Gynandromorphism is a characteristic of an organism that **contains both male and female tissues and characteristics**. Such organisms are also called **gynandromorphs**.

⊙ The term is derived from the Greek words (**gyne = woman; aner = man and morphe = form**).

⊙ The phenomenon has been documented in birds, crustaceans and butterflies.

🕒 **Reason:**

⊙ Gynandromorphs are usually born due **genetic aberration**.

⊙ Genetic aberrations are **chromosomal disorder or mutation** which is due to a missing, extra, or irregular portion of chromosomal DNA.

🕒 **Importance of the Study of gynandromorphism:**

⊙ It helps in finding the genetic diversity in related species which further contributes to the conservation and preservation.

⊙ It also aids in discovery of disease and other changes in the specific species due to factors like climate change and ecological evolutions.

⊙ Further, the study of gynandromorphs could offer clues as to why some human diseases strike one gender more than the other.

Kole Wetlands

⊙ Kole Wetlands is a wetland lying in **Thrissur District in Kerala**.

⊙ It gives **40% of Kerala's rice requirement** and acts as a natural drainage system.

⊙ It is a part of **Vembanad-Kole wetlands**, a Ramsar site.

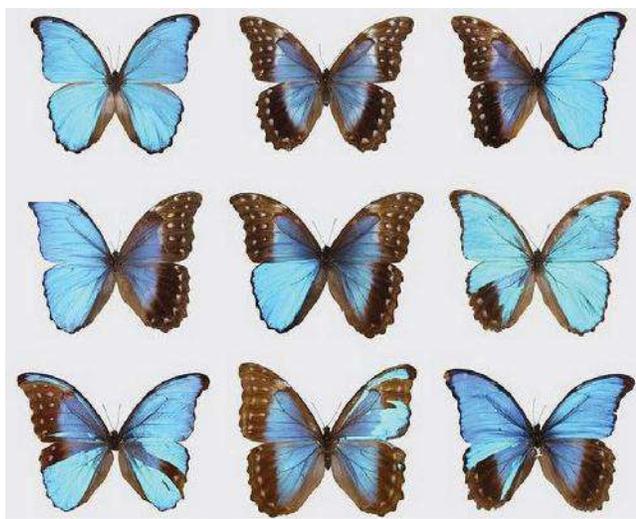
Dragonfly

⊙ A dragonfly is an insect belonging to the order Odonata, class Insecta.

⊙ Adult dragonflies are characterized by large, multifaceted eyes, two pairs of strong, transparent wings, sometimes with coloured patches, and an elongated body.

⊙ They are ecologically significant as they act as bioindicators.

⊙ **Bioindicators** are living organisms such as plants, plankton, animals, and microbes, which are used to **assess the health of the natural ecosystem** in the environment.



Blue morpho butterflies (top left, a male blue morpho butterfly and top middle, a female; the others are gynandromorphic)

Uganda Submitted REDD+ Results

Why in News

Recently, **Uganda** has become the **first African country** to submit results for **Reducing Emissions from Deforestation and forest Degradation (REDD+)** to the **United Nations Framework Convention on Climate Change (UNFCCC)**.

Key Points

- ⌚ **Uganda's REDD+ Results:** There is a 44% reduction in the country's rate of deforestation annually between 2015 and 2017.
 - ⦿ The results submission by Uganda to the UNFCCC has paved the way for **potential results-based payments to the country**.
 - ⦿ It will help Uganda to receive funds through the **Green Climate Fund's** forest conservation scheme.
- ⌚ **Significance for Africa:** The submission of the results are a significant development on REDD+ for Africa. This will encourage other African countries to reduce carbon emissions by decreasing deforestation and forest degradation.
- ⌚ **India and REDD+:**
 - ⦿ The **Paris agreement on climate change** called upon **country Parties** to take action to implement and support REDD+.

REDD+

- ⌚ **Reducing Emissions from Deforestation and Forest Degradation (REDD+)** is a mechanism developed by **Parties to the United Nations Framework Convention on Climate Change (UNFCCC)** in 2005.
- ⌚ Most of the key REDD+ decisions were completed by 2013, with the final pieces of the rulebook finished in 2015.
- ⌚ The **"Plus"** in REDD+, lays out the various ways in which countries have defined the three activities: **conservation, the sustainable management of forests and enhancement of forest carbon stock**.
- ⌚ It aims to achieve **climate change mitigation by incentivizing forest conservation**.
- ⌚ It has three phases — **Readiness, Implementation and Result-based actions**.
 - ⦿ **Readiness phase** involves the development of national strategies or action plans, REDD+ mitigation actions, and capacity building.
 - ⦿ **Implementation** is about enacting REDD+ actions and national strategies that could involve further capacity building, technology development and transfer.
 - ⦿ **Results-based payments** comprise the final REDD+ phase.
 - ⌘ It provides **financial incentives to developing countries** that prove they stopped deforestation during a certain period of time. This is done through rigorous UN-backed technical evaluations.
 - ⌘ The **Green Climate Fund (GCF)** established at **Conference Of Parties (COP)-17** to function as the financial mechanism for the UNFCCC, is currently financing REDD+ programs.
 - ⌘ **Brazil** was the first country to receive \$96.5 million under the results-based payments.
- ⌚ India has communicated in its **Nationally Determined Contribution (NDC)** under Paris Agreement, that it will capture 2.5 to 3 billion tonnes of Carbon dioxide through additional forest and tree cover by 2030.
- ⌚ In this regard, India has prepared its **"National REDD+ Strategy"**.
 - ⌘ Introduced in 2018 by the Ministry of Environment, Forest and Climate Change, the strategy seeks to **address drivers of deforestation and forest degradation** and also develop a roadmap for

enhancement of forest carbon stocks and achieving sustainable management of forests through REDD+ actions.

Pollinator Week

Why in News

Pollinator Week is celebrated from **22nd June to 28th June** every year.

- ⌚ It was initiated by the **non-profit Pollinator Partnership** and the **USA' Senate** in **2007**.

Key Points

- ⌚ According to the **Food and Agriculture Organization (FAO)**, **bees being the dominant pollinators**, have around 25,000-30,000 species.
- ⌚ **More than 180,000 plant species**, including 1,200 crop varieties, across the world, **depend on pollinators** to reproduce.
- ⌚ **Declining Numbers:**
 - ⊙ Around **40% of invertebrate pollinator species**, particularly bees and butterflies, **face extinction** across the world.
 - ⊙ In **India**, wild honeybees of the genus **Apis**, including the **Asian bee** and the **little bee**, have declined steadily for the past 30 years.
 - ⊙ Around **16.5% of vertebrate pollinators** are **threatened** with extinction.

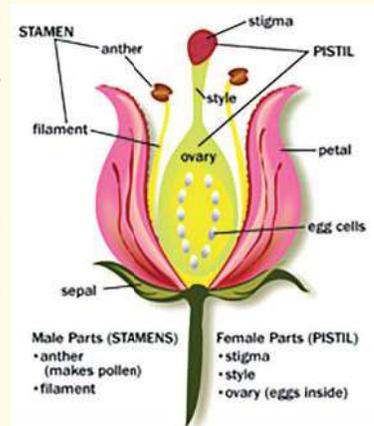


⌚ Of these, 45 species of bats, 36 species of non-flying mammals, 26 species of hummingbirds, seven species of sunbirds and 70 species of passerine birds face extinction.

- ⌚ **Reasons for the Decline:** Most of them are the **result of an increase in human activities:**
 - ⊙ Land-use change and fragmentation.
 - ⊙ Changes in agricultural practices including the use of chemical **pesticides**, fungicides and insecticides.
 - ⊙ Change in the **cropping pattern** and crops like the cultivation of **Genetically Modified Organisms (GMOs)** and mono-cropping.
 - ⊙ High environmental **pollution from nitrogen** and heavy metals.
 - ⊙ Growth of **invasive alien species**.
 - ⊙ Higher temperatures associated with **climate change**.

Pollination

- ⌚ When a **pollen grain** moves from the **anther** (male part) of a flower to the **stigma** (female part), pollination happens and it is the **first step in a process that produces seeds, fruits, and the next generation of plants**.



- ⌚ This can happen through **self-pollination, wind and water pollination** or through **pollinators**.

Pollinators

- ⌚ **Vectors that move pollen within the flower and from flower to flower** are called pollinators.
- ⌚ They visit flowers to drink nectar or feed off of pollen and transport pollen grains as they move from spot to spot.
- ⌚ There are **two categories** of pollinators:
 - ⊙ **Invertebrate pollinators:** Include bees, moths, flies, wasps, beetles and butterflies.
 - ⊙ **Vertebrate pollinators:** Include monkeys, rodents, lemurs, tree squirrels and birds.

Coccolithophores: Ancient Marine Algae

Why in News

Recently, the **National Centre for Polar and Ocean Research (NCPOR)** has carried out the study



of **Coccolithophores** (microscopic ancient marine algae) and found that there is a **decrease in the concentration of oceanic calcium carbonate (CaCO₃)** in the southern Indian ocean.

Key Points

- ⌚ **Coccolithophores** are single-celled algae living in the upper layers of the world's oceans.
- ⌚ They **calcify marine phytoplankton** that produce up to 40% of **open ocean calcium carbonate** and are responsible for **20% of the global net marine primary productivity**.
- ⌚ They **build exoskeletons from individual CaCO₃ plates** consisting of chalk and seashells.
- ⌚ Though **carbon dioxide (CO₂) is produced** during the formation of these plates, coccolithophores help in removing it from the atmosphere and ocean by **consuming it during photosynthesis**.
- ⌚ At **equilibrium**, they **absorb more CO₂** than they produce, which is **beneficial** for the ocean ecosystem.
- ⌚ **Abundance and diversity enrichment** of coccolithophores in the southern Indian Ocean is **highly dependent on time** and **influenced by** various environmental factors such as **silicate concentrations, calcium carbonate concentration, diatom abundance, light intensity and availability of macro and possibly micronutrient concentrations (marine pollution)**.
 - ⊙ **Diatoms** are single-celled algae which occur after **sea ice breakdown with climate change and ocean acidification**.
 - ⊙ Diatoms **increase the silicate concentration** in the waters and which in turn **decreases CaCO₃** and **reduces coccolithophores diversity**.

- ⊙ It will affect the growth and skeleton structure of coccolithophores, with potential significance for the world ocean ecosystem.
- ⌚ The study points to **climate change** as a **major reason for the altered coccolithophore calcification rate** which is important for bringing positive changes in the marine ecosystem and the **global carbon cycle**.

Land Transfer of Gangotri National Park

Why in News

Recently, the **Uttarakhand State Wildlife Advisory Board** has permitted proposals on the transfer of forest land in **Gangotri National Park** for development of roads.

- ⌚ The decision comes amid the **row between India and China** along the **Line of Actual Control (LAC)** in Ladakh.

Key Points

- ⌚ **Gangotri National Park** is a **protected area** and forest land chosen is near the international border with China.

Gangotri National Park

- ⌚ It was established in **1989** and is situated in **Uttarkashi, Uttarakhand** in the **upper catchment of Bhagirathi River**.
- ⌚ **Gaumukh** at Gangotri glacier, the **origin of river Ganga**, is located inside the park.
- ⌚ The park area forms a **viable continuity between Govind National Park and Kedarnath Wildlife Sanctuary**.
- ⌚ **Flora:** The park is enveloped by dense coniferous forests that are mostly temperate. Chirpine, deodar, fir, spruce, oak and rhododendron are the common vegetation.
- ⌚ **Fauna:** Various rare and endangered species like bharal or blue sheep, black bear, brown bear, himalayan monal, himalayan snowcock, himalayan tahr, musk deer and snow leopard are found in the park.

History

Highlights

⌘ *Variyamkunnath Kunjahammed Haji*
⌘ *Founder of Ahom Kingdom: Chaolung Sukapha*

⌘ *PV Narasimha Rao*
⌘ *Dr. Joseph Mar Thoma*

Variyamkunnath Kunjahammed Haji

Why in News

The year 2021 will mark the **100th year anniversary** of the **Malabar/Moplah uprising of 1921**.

- ⌚ The freedom fighter **Variyamkunnath Kunjahammed Haji** led the Moplah uprising against the British in Kerala's Malabar region.

Key Points

- ⌚ **Variyamkunnath Kunjahammed Haji** was born into an **affluent Muslim family sometime in the 1870s** (the exact date is not confirmed) and grew up hearing stories of the torture and injustice done by the British.
- ⌚ His father, **Moideenkutty Haji**, was **deported and jailed in the Andaman Islands** for his participation in a rebellion against the British.
- ⌚ Kunjahammed Haji was very much **fascinated by the traditional music-based art forms** like **Daffumutt** and **poems** like 'Malappuram Padappattu' and 'Badr Padappattu' and he used them as an instrument to rally the locals against the British.
 - ⌚ These poems were on the **exploitation of the peasants by feudal lords** under the British so these were banned later on by the British.
 - ⌚ Kunjahammed Haji **simultaneously challenged the British and ignited sentiments against them** among the local population.
- ⌚ Haji was respected for his **scholarship and knowledge in Urdu, Arabic and English**.
- ⌚ **Leaders of the Khilafat movement and the INC introduced him to the Khilafat cause** and he promised to join them against the atrocities of the British and the landlords.

- ⌚ Haji decided to take arms against the British and **took the leadership of the Khilafat** and was mostly heard all over **Calicut and south Malabar**.
- ⌚ Haji **ensured that the movement had a secular character** as he was aware of the strength of Hindu-Muslim unity and ensured people of other faiths were given adequate security.
 - ⌚ **Britishers cast him as a religious fanatic to create divisions** within the movement and there was a possibility of the movement losing direction and perhaps even resulting in a communal riot.
- ⌚ As the **rebellion spread across the Ernad and Valluvanad taluks of erstwhile Malabar district, Britishers and their loyal escaped**, leaving vast territory under the control of the local rebels.
- ⌚ The territory was declared an **'independent state'** in **August 1921** with **Haji as its undisputed ruler**.
 - ⌚ For **nearly six months**, Haji ran a **parallel Khilafat regime** headquartered in **Nilambur**, with its own separate passport, currency and system of taxation.
 - ⌚ An **extensive army with the participation of Hindu men was built** with the aim of thwarting any attempt by the British to overthrow the Khilafat rule.
 - ⌚ **Tenants were granted the power over the lands** they cultivated along with tax incentives.
- ⌚ In **January 1922**, under the **guise of a treaty**, the **British betrayed Haji through his close friend Unyan Musaliyar and arrested him**. He was **sentenced to death** along with his compatriots.
- ⌚ The bodies were **cremated fearing that the grave may become an inspiration** for the rebels and **all the records** connected with the Khilafat raj were **burnt** in order to make the people forget the Mappila khilafat rule of six months.

Malabar/Moplah Rebellion of 1921

- ⌚ The Malabar rebellion, also known as the Moplah rebellion, was an **armed revolt** staged by the **Mappila Muslims of Kerala** in **1921**.
- ⌚ In **August 1920**, **Gandhi** along with **Shaukat Ali** (the leader of the Khilafat movement in India) **visited Calicut** to spread the combined message of **non-cooperation** and **Khilafat** among the residents of Malabar.
- ⌚ In response to Gandhi's call, a **Khilafat committee was formed in Malabar** and the **Mappilas**, under their **religious head Mahadum Tungal of Ponnani who pledged support** to the non-cooperation movement.
- ⌚ During the same time, the **agrarian situation in Malabar was worsening** with the **low-class tenants suffering under the oppressive measures** of the landlords who were patronised by the British.
- ⌚ In this situation, the **Indian National Congress (INC) reached out to the Mappila cultivators** to actively support both the agrarian reforms and independence.
- ⌚ The Moplah tenants **agitated against the Hindu landlords** (locally referred to as **janmi**) and the **British government**.
 - ⊙ Most of their **grievances** were related to the **security of tenure, high rents, renewal fees and other unfair exactions** of the landlords.
- ⌚ The British government **responded with much aggression**, bringing in Gurkha regiments to suppress it and imposing martial law.
 - ⊙ **Wagon Tragedy**: A noteworthy event of the British suppression was the wagon tragedy when approximately 60 Mappila prisoners on their way to prison, were suffocated to death in a closed railway goods wagon.
- ⌚ The **six-month-long rebellion** is often perceived to be **one of the first cases of nationalist uprisings in Southern India**.
 - ⊙ However, the **real motive of the revolt still remains a highly debated topic** among historians.
 - ⊙ There are some who call it a case of **religious fanaticism**, there are others who look at it as an **instance of struggle against British authority** and then there are others who perceive the Malabar rebellion to be a **peasant revolt against unfair practices of the landlords**.

Founder of Ahom Kingdom: Chaolung Sukapha

Why in News

Recently, there has been a controversy in **Assam** regarding **Chaolung Sukapha** who founded the **Ahom kingdom**.

- ⌚ Amidst the ongoing **India-China border tension**, he has been repeatedly referred to as a Chinese invader.

Key Points

- ⌚ **Chaolung Sukapha**:
 - ⊙ He was a **13th century ruler** who **founded the Ahom kingdom** that ruled Assam for six centuries. The Ahoms ruled the land till the **province was annexed to British India in 1826** with the signing of the **Treaty of Yandaboo**.
 - ⊙ **Sir Edward Gait**, in his book '**A History of Assam**', wrote that Sukapha is said to have left a place called **Maulung** (Burma which is now known as Myanmar) in **1215 AD** with eight nobles and some people.
 - ⊙ He and his people reached Brahmaputra valley and in **1235 AD**, finally settled in **Charaideo in upper Assam**.
 - ⊙ Sukapha established his **first small principality in Charaideo**, sowing the seeds of further expansion of the Ahom kingdom.
- ⌚ **Ahoms**:
 - ⊙ They **created a new state by suppressing the older political system of the bhuiyans** (landlords).
 - ⊙ The Ahom state **depended upon forced labour**. Those forced to work for the state were called **paiks**.
 - ⊙ Ahom society was divided into **clans or khels**. A khel often controlled several villages.
 - ⊙ Ahoms **worshipped their own tribal gods** but instead of **imposing their own language, religion and rituals** on communities living in Assam, they **accepted the Hindu religion and the Assamese language**.



⌘ However, the **Ahom kings did not completely give up their traditional beliefs** after adopting Hinduism.

- ⊙ Ahom society was very sophisticated. Poets and scholars were given land grants and theatre was encouraged. Important works of Sanskrit were translated into the local language.

⌘ **Historical works**, known as *buranjis*, were also written, first in the Ahom language and then in Assamese.

- ⊙ Most of the Sukapha's people were men who later **married women from communities living in Assam. Inter-marriage also increased assimilation processes.**

⌚ **Significance:**

- ⊙ Sukapha successfully **assimilated different communities and tribes.** He developed very amiable relationships with the **tribal communities of Assam especially the Sutias, the Morans and the Kacharis.**

- ⊙ He is widely referred to as the architect of **'Bor Asom'** or **'Greater Assam'** because he **consolidated power, culture and religion in the region and managed to group a diverse mix of people** in such a politically sensitive region crisscrossing South Asia and South-East Asia.

- ⊙ **Assam celebrates 'Asom Divas'** on 2nd December every year to commemorate Sukapha and his rule.

PV Narasimha Rao

Why in News

Recently, the Telangana Chief Minister launched the **year-long celebrations to commemorate the birth centenary** of former prime minister P V Narasimha Rao.

- ⌚ The centenary celebrations will highlight the 360-degree personality of P V Narasimha Rao.

Key Points

- ⌚ PV Narasimha Rao was born on 28th June 1921 in erstwhile Nizam's Hyderabad state.
- ⌚ He was a freedom fighter, academician, and literary figure. He was also the **9th Prime Minister of India** from 1991 to 1996.



- ⌚ He published **'SahasraPhan'**, a Hindi translation of the famous Telugu Novel **'Veyi Padagalu'**.

- ⌚ **Economic Reforms:** He sought to dismantle the restrictions imposed under the license raj, reduce red tape and make Indian industries more competitive.

- ⊙ He is known for bringing the policy of **economic liberalisation** in India.

⌘ The economic liberalisation in India is referred to the liberalisation of the country's economic policies.

⌘ It was initiated in 1991 with the goal of making the economy more market- and service-oriented, and expanding the role of private and foreign investment.

- ⌚ **Foreign Policy:** In terms of foreign policy, he **established diplomatic relations with Israel.**

- ⊙ The **Look East Policy** of India was also initiated during his tenure.

- ⊙ He is also known for **reversing decades of unfriendly relations between India and the United States** by bringing them together.

- ⌚ **Constitutional Reforms:** The **73rd and 74th Constitutional Amendments Act** empowering local bodies were enacted during his tenure.

Dr. Joseph Mar Thoma

Why in News

India has celebrated the **90th birthday of Dr. Joseph Mar Thoma**, a reverend father and distinguished member of Mar Thoma Church.

- ⌚ He is the current Marthoma Metropolitan (higher rank of Bishop) of the Mar Thoma Syrian Church.

- ⌚ **The Mar Thoma Church** is closely linked with the noble ideals of **Saint Thomas**, the Apostle (each of the twelve chief disciples of Jesus Christ) of Lord Christ.

Key Points

- ⌚ **The Mar Thoma Church** is also known also as the Mar Thoma **Syrian Church of Malabar.**
- ⌚ It was founded by Saint Thomas (Mar Thoma), one of the **twelve disciples of Jesus Christ**, and known by the name of the Apostle, in the year AD 52.
- ⌚ Mar Thoma Syrian Church of Malabar is one of the **oldest denominations** of Christianity.

⌚ It is an autonomous **Oriental Indian church** headquartered at **Thiruvalla, Kerala**, India, which has over 1.6 million followers across the globe.

⌚ **Oriental Indian churches:** The Oriental Orthodox Churches are a group of Christian churches adhering to the ideology that Jesus is a one person in two nature's i.e. divine and human.



Geography

Highlights

- ⌘ *Earthquakes and Delhi-NCR*
- ⌘ *Mt. Merapi of Indonesia*
- ⌘ *Earth's Mantle and Evolution of Life*
- ⌘ *Presena Glacier Covered with Tarps*
- ⌘ *Ocean Mapping: Seabed 2030 Project*
- ⌘ *Annular Solar Eclipse*

Earthquakes and Delhi-NCR

Why in News

Recently, the **Wadia Institute of Himalayan Geology (WIHG)** has observed that the recent series of tremors in the **National Capital Region-Delhi (Delhi-NCR)** are not unusual and are indicative of strain energy build up in the region.

- ⌚ WIHG is an **autonomous institute** of the **Department of Science and Technology**.

Key Points

- ⌚ An **earthquake cannot be predicted** and the tremors cannot be described as warnings for a big event but the possibility of a stronger and life threatening earthquake cannot be ruled out.
- ⌚ The **vulnerability** of a region can be understood from the **past seismicity, calculation of strain budget, mapping of active faults** etc.
 - ⌚ Sometimes, a vulnerable zone remains quiet, experiences small magnitude earthquakes that do not indicate any bigger earthquake or receives a sudden jolt by a big earthquake without any call.
- ⌚ The Delhi-NCR has been identified as the **second highest seismic hazard zone (Zone IV)** but the recent events in Delhi-NCR cannot be defined as the foreshocks.
 - ⌚ **Foreshocks:** All small tremors before a major earthquake in a particular region are categorized as foreshocks.
 - ⌚ Scientifically all these tremors in the Delhi-NCR can be demarcated as the foreshocks only after a big earthquake takes place immediately.

Reasons for Earthquakes in Delhi-NCR

- ⌚ **Release of Energy:** Release of strain energy through the weak zones or faults which accumulates as a result of **northward movement of Indian plate and its collision with the Eurasian plate**.
- ⌚ **Movement of Plates:** The **Himalayan seismic belt** is the region where the Indian plate collided with the Eurasian plate and under-thrusted beneath the Himalayan wedge.
- ⌚ **Proximity to Himalayas:** Delhi-NCR is not very far from the entire north-west and north-east Himalayan belt lies in the **highest seismic potential zone V and IV**, where major to great earthquakes can take place.

Seismic Zones in India

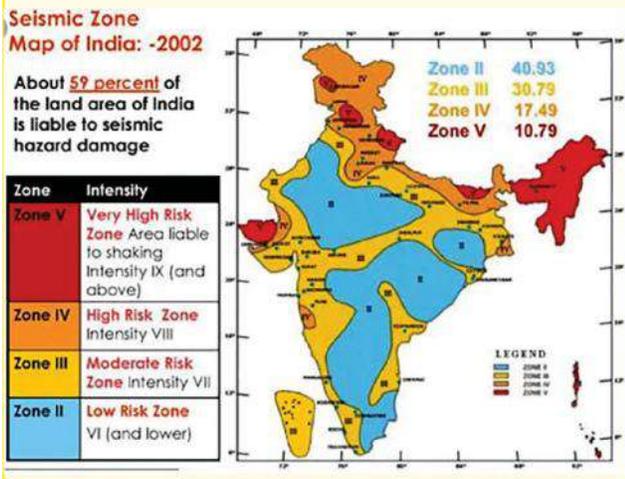
- ⌚ There are **four seismic zones (II, III, IV, and V)** in India based on scientific inputs relating to seismicity, earthquakes occurred in the past and tectonic setup of the region.
 - ⌚ Previously, earthquake zones were **divided into five zones** with respect to the severity of the earthquakes but the **Bureau of Indian Standards (BIS)** grouped the country into four seismic zones by unifying the first two zones.
 - ⌚ BIS is the official agency for publishing the seismic hazard maps and codes.
- ⌚ **Seismic Zone II:**
 - ⌚ Area with minor damage earthquakes corresponding to intensities V to VI of MM scale (MM-Modified Mercalli Intensity scale).
- ⌚ **Seismic Zone III:**
 - ⌚ Moderate damage corresponding to intensity VII of MM scale.
- ⌚ **Seismic Zone IV:**
 - ⌚ Major damage corresponding to intensity VII and higher of MM scale.

Seismic Zone V:

- Area determined by pro seismically of certain major fault systems and is seismically the most active region.
- Earthquake zone V is the most vulnerable to earthquakes, where historically some of the country's most powerful shocks have occurred.
- Earthquakes with magnitudes in excess of 7.0 have occurred in these areas, and have had intensities higher than IX.

Seismic Waves, Richter Scale and Mercalli scale

- Seismic waves** are the vibrations from earthquakes that travel through the Earth and are recorded on instruments called **seismographs**.
 - Seismographs record a zigzag trace that shows the varying amplitude of ground oscillations beneath the instrument.
- The earthquake events are scaled either according to the **magnitude or intensity of the shock**.
 - The **magnitude scale is known as the Richter scale**. The magnitude relates to the energy released during the earthquake which is expressed in absolute numbers, 0-10.
 - The **intensity scale or Mercalli scale** takes into account the visible damage caused by the event. The range of intensity scale is from 1-12.



Mt. Merapi of Indonesia

Why in News

Mount Merapi, an active volcano in Indonesia, erupted twice on 21st June, 2020.

Key Points

- Mt Merapi:**
 - Merapi (Mountain of Fire)** is the most active of Indonesia's 130 active volcanoes.
 - It is located near the centre of the island of Java and Indonesia's cultural capital, Yogyakarta.
 - Mt Merapi's last significant eruption was in 2010. At that time, more than 300 people were killed and some 2,80,000 residents were forced to evacuate the surrounding areas.
- Volcanoes in Indonesia:**
 - Indonesia is **located on the Pacific Ring of Fire**.
 - The Ring of Fire, also referred to as the **Circum-Pacific Belt**, is a path along the Pacific Ocean characterized by active volcanoes and frequent earthquakes.
 - Its length is approximately 40,000 kilometers. It traces boundaries between several tectonic plates—including the Pacific, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates.
 - 75% of Earth's volcanoes i.e. more than 450 volcanoes are located along the Ring of Fire. 90% of Earth's earthquakes occur along its path, including the planet's most violent and dramatic seismic events.
 - The abundance of volcanoes and earthquakes along the Ring of Fire is caused by the **amount of movement of tectonic plates** in the area.
 - Along much of the Ring of Fire, plates overlap at convergent boundaries called **subduction zones**. That is, the plate that is underneath is pushed down, or subducted, by the plate above. As rock is subducted, it melts and becomes magma. The abundance of magma so near to Earth's surface gives rise to conditions ripe for volcanic activity.



As significant exceptions the border between the Pacific and North American Plates. This stretch of the Ring of Fire is a **transform boundary**, where plates move sideways past one another. This type of boundary generates a large number of earthquakes as tension in Earth's crust builds up and is released.

Earth's Mantle and Evolution of Life

Why in News

According to a study published in the journal '**Nature Communications**', an evolution of the Mantle of the Earth could have not only controlled evolution of the atmosphere, but also evolution of life.

Key Points

🕒 **Role of Earth's Mantle:**

- ⊙ According to the study, although there were amounts of oxygen before the **Great Oxidation Event (GOE)**, it could not concentrate in the atmosphere.
- ⊙ This was because of the reaction of oxygen with the large amount of gases ejected by Volcanoes. The **oxygen produced by the early life-forms** combined with things like **hydrogen (for example)**, and was removed from the atmosphere.
 - ⌘ When volcanoes are active, they send large amounts of gases into the atmosphere. The nature of these gases depends on the nature of the materials in the Earth's mantle.
- ⊙ As volcanic activity continued, it produced less material that would readily combine with oxygen. Earth's mantle was becoming more and more oxidized.
- ⊙ With time, the oxygen produced by life-forms could accumulate in the atmosphere. This started the **Great Oxidation Event**, paving the way for complex life.

🕒 **Great Oxidation Event:**

- ⊙ The atmosphere of the early Earth lacked oxygen. This began to change during what is known as the Great Oxidation Event (GOE).
- ⊙ It refers to a **series of chemical changes** that geologists and geochemists have observed in rocks that are between **2.5 and 2.3 billion years old**.

Earth's Mantle

- 🕒 The mantle is the mostly-solid bulk of Earth's interior. It lies between Earth's dense, super-heated core and its thin outer layer, the crust.
- 🕒 It is about 2,900 kilometers thick and makes up 84% of Earth's total volume.
- 🕒 The upper portion of the mantle is called the **asthenosphere**. The word astheno means weak. It is considered to be extending upto 400 km. It is the **main source of magma that finds its way to the surface during volcanic eruptions**.
- 🕒 The **crust and the uppermost part of the mantle are called lithosphere**. Its thickness ranges from 10-200 km.
- 🕒 The lower mantle extends beyond the asthenosphere. It is in solid state.

Cyanobacteria

- 🕒 Cyanobacteria are **aquatic and photosynthetic**, that is, they live in the water, and can manufacture their own food. Because they are bacteria, they are quite small and usually unicellular, though they often grow in colonies large enough to see.
- 🕒 They have the distinction of being the **oldest known fossils**, more than 3.5 billion years old.
- 🕒 They are important providers of **nitrogen fertilizer** in the cultivation of rice and beans.
- 🕒 The oxygen atmosphere that we depend on was generated by numerous cyanobacteria during the Archaean and Proterozoic Eras (4.6 billion to 541 million years ago).
- ⊙ These changes were the result of **oxygen given off by ancient cyanobacteria (blue-green algae)**. Communities of this bacteria lived in shallow seawater and were preserved in rocks as structures called **stromatolites**.
 - ⌘ Stromatolite means '**layered rock**'. It is a rocky structure created by the activity of colonies of single-celled bacteria, mostly cyanobacteria.
- ⊙ Oxygen first accumulated in Earth's atmosphere at this time and has been present ever since.
- 🕒 **Boom of Cyanobacteria and Carbonates:**
 - ⊙ Prior to the GOE, an increase in tectonic activity produced **new volcanoes** which pumped **big amounts of carbon dioxide** in the air which led to the warming of the climate, increased rainfall, and leading to more minerals washed into the ocean.

- ⊙ These phenomena led to the **boom of cyanobacteria and carbonates**. The increase in photosynthesis is attributed to the rise in the population of cyanobacteria and in turn, the carbon present in the atmosphere was buried underground.

Presena Glacier Covered with Tarps

Why in News

Giant sheets of tarpaulin (tarps) are being used to cover **Presena glacier in northern Italy** to slow melting caused by **global warming**.

- ⌚ It is a part of the conservation project (undertaken by **Italian firm Carosello-Tonale**) which was launched in 2008 — at that point only **30,000 sq metres of the glacier** was covered.

Key Points

- ⌚ **Covering of the Glacier:**
 - ⊙ **Tarpaulin sheets (tarps)** are being laid over 1,00,000 sq metres of the Presena glacier.
- ⌚ **Tarpaulin Sheets:**
 - ⊙ **Tarpaulin** is a large sheet of strong, flexible and water-resistant material, often coated and made of plastics such as polyethylene.
 - ⊙ **Geotextile tarpaulins** reflect sunlight, maintain a temperature lower than the external one, and thus preserve as much snow as possible.
- ⌚ **Concern:**
 - ⊙ Since 1993, the Presena glacier has **lost more than one third** of its volume.

Presena Glacier

- ⌚ Situated between the regions of **Trentino and Lombardy in Northern Italy**, the glacier is part of the **Presanella mountain (Alps) group**.
- ⌚ It has a high altitude natural environment.

Ocean Mapping: Seabed 2030 Project

Why in News

Recently, it was announced that mapping of nearly **one-fifth of the world's ocean floor** has been finished under the **Seabed 2030 Project**.

Key Points

- ⌚ **Seabed 2030 Project:**
 - ⊙ Seabed 2030 is a collaborative project between the **Nippon Foundation of Japan** and the **General Bathymetric Chart of the Oceans (GEBCO)**.
 - ⊙ It was launched at the **United Nations Ocean Conference** in June 2017 and is aligned with the UN's **Sustainable Development Goal (SDG) 14** to conserve and sustainably use the oceans, seas and marine resources.
 - ⊙ The project aims to bring together all available **bathymetric (measurement of the shape and depth of the ocean floor) data** to produce the definitive map of the **world ocean floor by 2030**.
 - ⊙ In the past, **satellites and planes carrying altimeter instruments** have been able to provide large swathes of data about the ocean floor.
 - ⊙ However, the Seabed 2030 Project **aims to obtain higher quality information**, using equipment such as deepwater **hull-mounted sonar systems**, and **Autonomous Underwater Vehicles (AUVs)**.
- ⌚ **Importance of Study of the Ocean Floor:**
 - ⊙ **Understanding several natural phenomena**, including ocean circulation, tides, and biological hotspots.
 - ⊙ Provides **key inputs** for navigation, forecasting disasters, exploration for oil and gas projects, building offshore wind turbines, fishing resources, and for laying cables and pipelines.

General Bathymetric Chart of the Oceans

- ⌚ GEBCO is the **only** intergovernmental organisation with a mandate to map the entire ocean floor.
- ⌚ Its aim is to **provide the most authoritative publicly-available bathymetry** of the world's oceans.
- ⌚ It operates under the joint auspices of the **International Hydrographic Organization (IHO)** and the **Intergovernmental Oceanographic Commission (IOC)** (of **UNESCO**).
 - ⊙ The IHO is an **intergovernmental organization** that works to ensure all the world's seas, oceans and navigable waters are surveyed and charted.
 - ⊙ It was established in 1921.
 - ⊙ **India is its member.**
 - ⊙ The **IHO Secretariat** is hosted by the Principality of **Monaco**.

- ⊙ Ensure a **better understanding of climate change**.
 - ⌘ Climate change has impacted the flow of ocean currents and has led to sea-level rise.

Annular Solar Eclipse

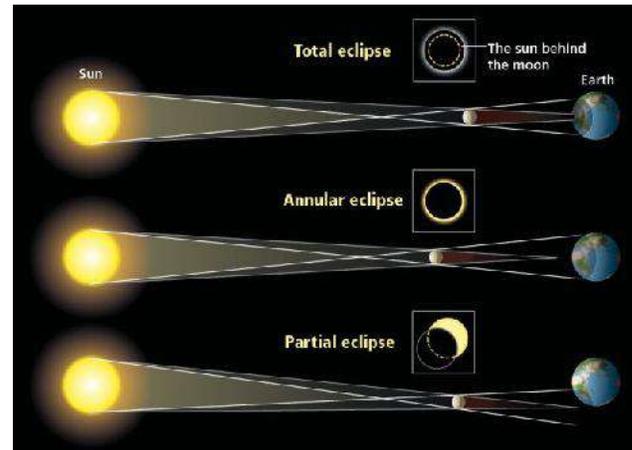
Why in News

India witnessed an annular solar eclipse on **21th June, 2020**.

Key Points

- ⌚ Asolar eclipse occurs **when the moon passes between the sun and the earth**. When this happens, the moon blocks the light of the sun from reaching the earth. The shadow of the moon is then cast on the earth.
- ⌚ There are **three types of solar eclipses**:
 - ⊙ **Partial solar eclipse**: When the sun, moon and earth are **not exactly lined up**.
 - ⊙ **Total solar eclipse**: When the sun, moon and earth **must be in a direct line**.
 - ⊙ **Annular solar eclipse**: It is a **particular type of total solar eclipse**. It occurs when the sun, moon and earth are **not only in a straight line but also in the same plane**.

- ⌘ The **moon also must be farther away from the earth**, which will allow it to not cover the disc of the sun completely, resulting in a narrow band of light around the dark colour of the moon causing the **ring of fire** to be visible.
- ⌘ Therefore, It is also called the **ring of fire eclipse**.
- ⌚ The distance between the earth and the moon at the moment of the eclipse can dictate the type of eclipse that will take place.
 - ⊙ The distance between the earth and the moon is always changing due to the egg-shaped elliptical orbit of the moon.



Art & Culture

Highlights

- ⌘ International Day of Yoga
- ⌘ Kodumanal Excavation
- ⌘ Talamaddale
- ⌘ India's Assistance for Pashupatinath Temple
- ⌘ Ashadhi Bij

International Day of Yoga

Why in News

The **International Day of Yoga (IDY)** is observed on **21st June**.

- ⌚ The **theme** for the year 2020 is **'Yoga for Health – Yoga at Home'**, which takes into account the social distancing measures announced by most countries amid **Covid-19 pandemic**.



Key Points

- ⌚ **Proposed by India:**
 - ⌚ The idea of IDY was proposed by India during the opening of the 69th session of the United Nations General Assembly (UNGA), held in 2014.
 - ⌚ The **first Yoga Day celebrations in 2015** at Rajpath in New Delhi created **two Guinness World Records**.
 - ⌘ It was the **world's largest yoga session** with 35,985 people.
 - ⌘ **84 nationalities** participated in it.
- ⌚ **About Yoga:**
 - ⌚ Yoga is an ancient physical, mental and spiritual practice that **originated in India**.
 - ⌚ The word **'yoga'** is **derived from Sanskrit** and means to join or to unite, symbolizing the union of body and consciousness.
 - ⌚ Today it is practiced in various forms around the world and continues to grow in popularity.
- ⌚ **Initiatives by India:**
 - ⌚ The **Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH)** in its

'Common Yoga Protocol' has listed Yama, Niyama, Asana, etc. among popular yoga 'sadhanas'.

- ⌚ The **Beauty & Wellness Sector Skill Council (B&WSSC)** has vocational education courses in Yoga for CBSE schools.
 - ⌘ B&WSSC is established as a non-profit organization under the aegis of **National Skill Development Corporation**, Ministry of Skill Development and Entrepreneurship.
- ⌚ About **96,196 candidates have been trained as yoga instructors** and trainers through various skilling initiatives like the **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**.
 - ⌘ PMKVY is the **flagship scheme of the Ministry of Skill Development and Entrepreneurship**.
- ⌚ Yoga is also a part of the **Fit India Movement**.
 - ⌘ Fit India Movement is a nation-wide campaign that aims at encouraging people to include physical activities and sports in their everyday lives.

Kodumanal Excavation

Why in News

Recently, the State Department of Archaeology, Chennai has identified **250 cairn-circles** from the **Kodumanal excavation** site in Erode district of Tamilnadu.

- ⌚ **Cairn-circles** are the **prehistoric stone row** which is a linear arrangement of parallel megalithic standing stones.

Key Points

- ⌚ This is for the first time that **10 pots and bowls** were discovered from the site. More numbers and bigger

size of boulders suggests that the grave could be of a village head or the head of the community.

- ⌚ It also suggests **burial rituals** and the **concept of afterlife** in **megalithic culture**. Believing that the deceased person will get a **new life after death, pots and bowls** filled with grains were placed outside the chambers.
- ⌚ The rectangular chambered cists (a small stone-built coffin-like box) are made of stone slabs, and the entire grave is surrounded by boulders that form a circle.
- ⌚ Findings from the site also include an animal skull, beads, copper smelting units, the mud walls of a workshop, potteries, and Tamil Brahmi script.
- ⌚ **Previous Excavations:**
 - ⌚ The earlier excavations of Kodumanal revealed that **multi-ethnic groups lived in the village**.
 - ⌚ It also revealed that the site served as a **trade- cum- industrial centre** from 5th century Before Common Era (BCE) to 1st century BCE.



Megaliths Culture

- ⌚ **Megaliths** refer to large stone structures that were **constructed either as burial sites or as commemorative sites**.
- ⌚ The burial sites are the sites with actual burial remains, such as **dolmenoid cists (box-shaped stone burial chambers), cairn circles (stone circles with defined peripheries), and capstones (distinctive mushroom-shaped burial chambers found mainly in Kerala)**.
- ⌚ The megalithic culture lasted from the Neolithic Stone Age to the early Historical Period (2500 BCE to CE 200) across the world.
- ⌚ In India, the majority of the megaliths are of the Iron Age (1500 BC to 500 BC).

- ⌚ Megaliths are spread across **peninsular India**, concentrated in the states of **Maharashtra (mainly in Vidarbha), Karnataka, Tamil Nadu, Kerala, Andhra Pradesh and Telangana**.
- ⌚ The chambers containing the mortal remains were usually made of terracotta.

Kodumanal

- ⌚ It is a village located in the Erode district in the southern Indian state of Tamil Nadu.
- ⌚ The place is an **important archaeological site**.
- ⌚ It is located on the northern banks of **Noyyal River**, a tributary of the Cauvery.

Talamaddale

Why in News

- ⌚ The traditional art of '**talamaddale**', a variant of **Yakshagana theatre**, has gone virtual in times of Covid-19.

Key Points

- ⌚ In the conventional 'talamaddale,' the artists sit across in a place without any costumes and engage in testing their oratory skills based on the episode chosen.
- ⌚ It has only spoken words without any dance or costumes. Hence it is **Yakshagana minus dance, costumes and stage conventions**.

Yakshagana

- ⌚ Yakshagana, traditional theatre form of Karnataka, is based on mythological stories and Puranas.
- ⌚ The most popular episodes are from the **Mahabharata** i.e. Draupadi swayamvar, Subhadra vivah, Abhimanyu vadh, Karna-Arjun yuddh and from **Ramayana** i.e. Rajyabhishek, Lav-Kush yuddh, Baali-Sugreeva yuddh and Panchavati.
- ⌚ **Gombeyatta puppet theatre** closely follows Yakshagana.
- ⌚ Other important forms of theatre in India:
 - ⌚ **Nautanki (Uttar Pradesh)** which often draws on romantic Persian literature for its themes,
 - ⌚ **Tamasha (Maharashtra),**
 - ⌚ **Bhavai (Gujarat),**
 - ⌚ **Jatra (West Bengal),**

- ⌚ **Koodiyaattam**, one of the oldest traditional theatre forms of **Kerala**, is based on Sanskrit theatre traditions,
- ⌚ **Mudiyettu**, traditional folk theatre form of **Kerala**,
- ⌚ **Bhaona**, **Assam**,
- ⌚ **Maach**, Madhya Pradesh,
- ⌚ **Bhand Pather**, the traditional theatre form of **Kashmir**, etc.

India's Assistance for Pashupatinath Temple

Why in News

- ⌚ Recently, a **Memorandum of Understanding (MoU)** was signed between India and Nepal for the construction of a sanitation facility at the Pashupatinath Temple, Kathmandu.
 - ⌚ This comes amid a raging **border row between the two countries**.

Key Points

- ⌚ The facility will be constructed under the **Nepal-Bharat Maitri: Development Partnership** as a high impact community development scheme by India.
- ⌚ **Financial Assistance:** India has pledged to extend financial assistance amounting to Rs 2.33 crore.
- ⌚ **Implemented by:** Kathmandu Metropolitan City.
- ⌚ **Norms and Completion:** Norms to be laid out by the Government of Nepal and completion within 15 months.

Pashupatinath Temple

- ⌚ Dedicated to **Lord Shiva**, Pashupatinath is one of the most important religious sites in Asia for devotees of Shiva.
- ⌚ It is the largest temple complex in Nepal and stretches on both sides of the **Bagmati River**.
- ⌚ Temples dedicated to several other Hindu and Buddhist deities surround the temple of Pashupatinath.
- ⌚ Only Hindus are allowed through the gates of the main temple.
- ⌚ It was conferred the status of a **World Heritage Site** in 1979 by the **United Nations Educational, Scientific and Cultural Organization (UNESCO)**.

- ⌚ Earlier in 2018, **Nepal-Bharat Maitri Pashupati Dharmashala** was also inaugurated in Kathmandu, Nepal.
- ⌚ **Significance:** This initiative is another milestone in strengthening cultural ties and people-to-people contacts between the two countries.

Ashadhi Bij

Why in News

The Prime Minister has greeted the people on the special occasion of Ashadhi Bij, the **Kutchi New Year**.

Key Points

- ⌚ Ashadhi Bij falls on the **second day of Shukla paksha of Ashada month** of Hindu calendar.
- ⌚ The festival is associated with the **beginning of rains** in the Kutch region of Gujarat.
- ⌚ During Ashadhi Bij, the moisture in the atmosphere is checked to predict which crop would do best in the coming monsoon.

Traditional New Year

Festivals in India (main)- table heading

⌚ Chaitra Shukla Pratipada: (NAME) /FEATURES

- ⌚ It marks the beginning of the new year of the **Vikram Samvat** also known as the Vedic (Hindu) calendar.
- ⌚ Vikram Samvat is based on the day when the emperor Vikramaditya defeated Sakas, invaded Ujjain and called for a new era.

⌚ Gudi Padwa and Ugadi:

- ⌚ Celebrated in the month of **Chaitra Shukla Pratipada** as per the Hindu Lunar Calendar.
- ⌚ Deccan region including Karnataka, Andhra Pradesh and Maharashtra.

⌚ Navreh:

- ⌚ It is the lunar New Year that is celebrated in Kashmir. It falls on the very first day of the Chaitra Navratras.

⌚ Sajibu Cheiraoba:

- ⌚ It is celebrated by Meiteis (an ethnic group in Manipur) which is observed on the first day of Manipur lunar month Shajibu, which falls in the month of April every year.

🕒 **Cheti Chand:**

- ⦿ It is celebrated by Sindhi community. Chaitra month is called 'Chet' in Sindhi.
- ⦿ The day commemorates the birth anniversary of Ishta Deva Uderolal/Jhulelal, the patron saint of Sindhis.

🕒 **Bihu**

- ⦿ It is celebrated three times a year.
- ⦿ Rongali or Bohag Bihu is observed in April. Kongali or Kati Bihu observed in October and Bhogali or Magh Bihu observed in January.
- ⦿ Rongali or Bohag Bihu is the Assamese new year and spring festival.
- ⦿ The Rongali Bihu coincides with Sikh New Year-Baisakhi.

🕒 **Baisakhi**

- ⦿ It is celebrated as the Indian thanksgiving day by farmers.
- ⦿ It also has religious significance for the Sikhs community as the foundation of the Khalsa Panth was laid on this day by Guru Gobind Singh.

🕒 **Losoong**

- ⦿ Losoong also known as Namsoong is the Sikkimese New Year.
- ⦿ It is usually the time when the farmers rejoice and celebrate their harvest.
- ⦿ It is mostly celebrated in the month of December every year with traditional gaiety and colour both by the Lepchas and Bhutias.



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Social Issues

Highlights

- ⌘ *World Drug Report 2020: UN*
- ⌘ *Anti Drug Action Plan for 2020-21*
- ⌘ *Jal Jeevan Mission*
- ⌘ *India TB Report 2020*
- ⌘ *Extension of Food Grain Scheme*
- ⌘ *STARS Programme: World Bank*
- ⌘ *Sanskritik Sadbhav Mandap: PMJVK*

World Drug Report 2020: UN

Why in News

Recently, the **United Nations Office on Drugs and Crime (UNODC)**, in its 2020 **World Drug Report**, has highlighted the possible consequences of the **Covid-19 pandemic** on **Illegal Drug Production, Supply and Consumption**.

- ⌚ According to it, due to **economic hardship**, people may resort to **illicit activities** linked to drugs to make a living.
- ⌚ The report further, revealed that the **measures** taken by governments to counter the pandemic inevitably had **double-edged consequences** on large-scale drug supply.

Key Points

- ⌚ **Economic Crisis and Diverted Focus:**
 - ⌚ There would be reductions in **drug-related budgets** of the governments due to **Covid-19** and overall increase in drug use, with a shift towards **cheaper and more harmful drugs**.
 - ⌚ Some countries, such as Italy, the Niger and countries in Central Asia, have experienced a **sharp decrease in drug seizures**, as drug traffickers have **diverted their attention to other illegal activities**, including **cybercrime and trafficking in falsified medicines** (in Balkan countries).
 - ⌚ Other countries, including Morocco and Iran, have reported huge drug seizures, indicating large-scale drug trafficking.
- ⌚ **Impact of Lockdown:**
 - ⌚ The **lockdown** could hinder the production and

sale of opiates in major producing countries as the key months for the opium harvest in Afghanistan are March to June.

- ⌚ The decline in international trade resulting from the pandemic could lead to a shortage in the supply of **acetic anhydride**, a precursor vital to the manufacture of heroin
 - ⌘ A **shortage of poppy lancers** was observed in the western and southern provinces of the country, mainly due to the closure of a border crossing with Pakistan. However, the shortage of lancers was eventually overcome due to women workers increasingly engaged in the poppy-lancing process, therefore
 - ⌚ The report also indicated that the **lockdown is increasing demand for cannabis**, given that its production often takes place near consumer markets and traffickers.
 - ⌚ **Drug trafficking** by air is likely to be completely disrupted by the restrictions on air travel. There are signs of increased use of maritime routes.
 - ⌚ **Maritime Routes:**
 - ⌚ The recent heroin seizures in the **Indian Ocean** could be interpreted as an indication of an increase in the use of maritime routes for trafficking heroin to Europe along the 'southern route'.
 - ⌚ While border measures appear to be hindering trafficking in opiates, large shipments of cocaine are still being trafficked but by alternative means, via sea routes.
- India and Illicit Drug Trade**
- ⌚ **Major Hub of Illicit Drug Trade:** According to a report by the **United Nations Office on Drugs and Crime**

(UNODC), India is one of the major hubs of illicit drug trade ranging from age-old cannabis to newer prescription drugs like tramadol, and designer drugs like methamphetamine.

- ⌚ **Drug Trafficking Routes:** India is in the **middle of two major illicit opium production** regions in the world, the **Golden Crescent (Iran-Afghanistan-Pakistan)** in the west and the **Golden Triangle (South-East Asia)** in the east.

Golden Triangle

- ⌚ It represents the region coinciding with the rural mountains of **Myanmar, Laos, and Thailand**.
- ⌚ It is Southeast Asia's main opium-producing region and one of the oldest narcotics supply routes to Europe and North America.

Golden Crescent

- ⌚ This region of South Asia is a principal global site for opium production and distribution.
- ⌚ It comprises **Afghanistan, Iran, and Pakistan**.

⌚ Associated Challenges:

- ⊙ **Easy Borders:** The borders are porous and difficult to control in the lower Mekong region so cross-border movements in many places are not significantly hindered by Covid-19 measures.
- ⊙ **Evolving Ways of Trafficking:** The methods of containerised trafficking, couriers and body-packing have reduced due to shutting down of borders and trade. However, dealers might come up with other ways limiting the impact of reduced trade.
- ⊙ **Limited Control:** There is limited government control in the Golden Triangle, trafficking would continue at high volumes.

United Nations Office on Drugs and Crime

- ⌚ It was established in **1997 and was named as a United Nations Office on Drugs and Crime (UNODC) in 2002**.
- ⌚ It acts as the **Office for Drug Control and Crime Prevention** by combining the United Nations International Drug Control Program (UNDCP) and the Crime Prevention and Criminal Justice Division of the United Nations Office at Vienna.
- ⌚ UNODC publishes the **World Drug Report**.

- ⊙ **Unaffected Supply:** The supply of precursor chemicals is not likely to be disrupted because major organised crime groups source chemicals

through direct diversion from industry and not diversion from illicit overseas trade channels.

Anti Drug Action Plan for 2020-21

Why in News

Recently, on the occasion of **International Day Against Drug Abuse and Illicit Trafficking** an annual **Anti-Drug Action Plan for 2020-21** for 272 districts was launched by the **Ministry of Social Justice and Empowerment**.

- ⌚ The plan includes **awareness generation programmes, identification of drug-dependent population**, focus on treatment facilities and **capacity-building** for service-providers to curb drug abuse and alcoholism.
 - ⊙ Drug abuse or **substance abuse** is the use of illegal drugs (Heroin, Morphine, Opium etc), or the use of prescription drugs for **purposes other than those for which they are meant to be used**.

Key Points

- ⌚ **Action Plan for 2020-21:**
 - ⊙ **De-addiction Facilities:** These would be set up in the **"most affected"** 272 districts identified by the **Narcotics Control Bureau** focussing on building up treatment and de-addiction facilities and giving emphasis on reaching the youth and high risk population.
 - ⌘ The districts mostly belong to **Punjab, Haryana, Delhi, Uttar Pradesh and the North-East**.
 - ⊙ **Drop-in-Centres for Addicts:** The focus will be on setting up drop-in-centres for addicts and also on **peer-led community based outreach programmes** for high risk populations – particularly the youth.
 - ⌘ These centres will have **provision for screening, assessment and counselling** and would provide linkage to treatment and rehabilitation services for drug dependents.
 - ⊙ **Integrated Rehabilitation Centre for Addicts (IRCAs):** Funded by the Ministry, IRCAs would reach out to communities to help those affected by **drug addiction**.
 - ⊙ **Drug-Free India Campaign:** The ministry also announced the launch of the **'Nasha Mukta Bharat', or Drug-Free India Campaign** which focuses on community outreach programmes.

⌘ To step-up the battle against the severe challenge posed by **drug use and alcoholism**, the campaign will focus not just on **institutional support** but also on **community outreach programmes** in the districts identified in coordination.

🕒 **Significance:**

- ⊙ **Awareness and Sensitisation:** Apart from celebrity backed **'Say No to Drugs' publicity campaigns**, national level campaigns are planned across schools and higher education campuses to sensitise youngsters, parents and schools about the issue.
- ⊙ **Change in the Strategy:** It introduces a new change in the strategy against drugs. So far, India has been focussed on institutions, however the new action plan focuses on work in society at large.
- ⊙ **Enhanced Funding:** Ministry would ramp up greater funding for institutions to curb the drug abuse.

🕒 **Background:**

- ⊙ **National Survey on Extent and Pattern of Substance Use:** The Ministry of Social Justice and Empowerment, Government of India, conducted a **National Survey on Extent and Pattern of Substance Use in India** through the National Drug Dependence Treatment Centre (NDDTC), **All India Institute of Medical Sciences (AIIMS)**, New Delhi during 2018, which is key to the action plan for 2020-21.
 - ⌘ It is estimated that about **850,000 Indians inject drugs**, **about 460,000 children and 7.7 million Indians** require help for opioid dependence.
 - ⌘ As per the survey, the prevalence of **opioids** (a type of drug e.g. Heroin) use in India is **three times** the global average.

🕒 **Challenges to Curb the Drug Menace:**

- ⊙ **Related Data:** The findings of the **"Magnitude of Substance Abuse in India"** report 2019, revealed the estimated 16 crore alcohol consumers in the 10-75 years in the country, as many as 19% of them were dependent on alcohol.
- ⊙ **Legally Available Drugs:** Such as tobacco is a huge problem which is usually seen as a gateway drug which children take just to experiment with.
- ⊙ **Lack of Availability of Rehabilitation Centres:** There is a lack of rehabilitation centres. Also, NGOs operating de-addiction centres in the country, have failed to provide the required kind of treatment and therapy.

- ⊙ **Smuggling of Drugs:** **Smuggling of drugs** through the states like Punjab, Assam and Uttar Pradesh which share the border with neighbouring countries.

- 🕒 **Global Initiatives:** The **United Nations** with the aid of its anti-drug abuse arm, **United Nations Office on Drugs and Crime (UNODC)** spreads awareness, urges governments to avoid stimulating the Narco economy and deal with the Illicit trafficking of drugs in the disguise of legal pharmaceutical businesses.

International Day Against Drug Abuse and Illicit Trafficking

- 🕒 **History:** Also known as **'World Drug Day'**, it is celebrated annually on **26th June** since 1987.
 - ⊙ The day is also meant to commemorate Lin Zexu's efforts towards the strategic dismantling of the opium trade in Humen, Guangdong in China right before the First Opium War on the Chinese Mainland.
- 🕒 **Theme 2020:** Better Knowledge for Better Care.
 - ⊙ It emphasises the need to improve the **understanding of the world drug problem** and how better knowledge will foster greater international cooperation for countering its impact on health, governance and security.



Jal Jeevan Mission

Why in News

Recently, the **Jal Shakti Ministry** has announced that the labourers returning to their home states due to **Covid-19**, will be deployed for the **Jal Jeevan Mission**.

The Jal Jeevan Mission aims for providing **piped drinking water to all rural households by 2024**.

The **Jal Shakti Ministry** is the nodal ministry for the implementation of the scheme.

Key Points

- 🕒 The Jal Shakti Ministry has directed various states that returning labour, **especially those working in**

the construction sector (skilled, unskilled and semi-skilled), may be deployed to expedite the completion of works under the scheme.

🕒 **Significance:**

- ⊙ It is an arrangement that could provide **employment** to the currently **unemployed workers**.
- ⊙ The mission is being used as a way to ameliorate some of the effects of the **mass migration of inter-State workers** back to their home States in the wake of the Covid -19 **pandemic**.

🕒 **Need:**

- ⊙ **Huge Demand for Work:** It has been created because of **workers returning** to their home states from different parts of the country.
 - ⌘ It is clear from the fact that allocations under the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** have already been hiked by Rs 40,000 crore over and above the Rs 60,000 crore already allocated.
- ⊙ **Tap Water Connections:** There is a need for tap water connections in several households under the mission.
 - ⌘ A revalidation exercise of households and status of tap water found that out of **19.04 crore rural households in the country, 3.23 crore households** had tap connections and **15.81 crore households** have to be provided functional tap connections.
 - ⌘ Apart from the Rs 11,000 crore in the budget, Rs 12,000 crore has been allocated from extra budgetary allowances, and **50% of the Rs 60,750 crore allocated by the 15th Finance Commission** for rural local bodies is tied to grants for **water bodies and sanitation**.
- ⊙ **Construction Sector: Skill mapping** by various State governments has shown that a majority of inter-State workers returning home are from the **construction sector**.
 - ⌘ In Uttar Pradesh alone, 16 lakh out of the **18 lakh migrant labour** mapped till now are from this sector.
 - ⌘ The State has assured funding of Rs 3,382 crore under the Jal Jeevan Mission which would be utilised in providing employment in rural areas to returning migrants.

Jal Jeevan Mission

- 🕒 It envisages supply of **55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2024**.
- 🕒 It focuses on **integrated demand and supply-side management of water** at the local level.
 - ⊙ Creation of local infrastructure for source sustainability measures as mandatory elements, like **rainwater harvesting, groundwater recharge and management of household wastewater for reuse**, would be undertaken in convergence with other government programmes/schemes.
- 🕒 The Mission is based on a **community approach to water** and includes extensive information, education and communication as key components of the mission.
- 🕒 JJM looks to **create a jan andolan for water**, thereby making it everyone's priority.
- 🕒 **Funding Pattern:** The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states and 100% for Union Territories.
- 🕒 The total allocation to the scheme is over Rs 3 lakh crore.

Jal Shakti Ministry

- 🕒 The government has created a **new ministry called 'Jal Shakti'** after merging Ministries of Water Resources, River Development and Ganga Rejuvenation along with Drinking Water and Sanitation.
- 🕒 'Jal Shakti' Ministry will **encompass issues ranging from providing clean drinking water, international and inter-states water disputes, to the Namami Gange project** aimed at cleaning Ganga and its tributaries and sub-tributaries.
- 🕒 The Ministry will roll out the government's ambitious plan '**Nal se Jal**' scheme under **Jal Jeevan Plan** to provide piped water connection to every household in India by 2024.

India TB Report 2020

Why in News

Recently, the **Ministry of Health and Family Welfare** has launched the **annual Tuberculosis (TB) Report 2020**.

⌚ **Eliminating TB by 2025:** India is committed to **eliminating tuberculosis from the country by 2025**, five years ahead of the global target by the **World Health Organisation(WHO)** i.e. 2030.

- ⊙ **National Tuberculosis Elimination Programme:** To align with the ambitious goal, the programme has been renamed from **Revised National Tuberculosis Control Programme (RNTCP)** to **National Tuberculosis Elimination Programme (NTEP)**.

Key Points

⌚ **State TB Index:** On the basis of the score in State **TB Index Gujarat, Andhra Pradesh and Himachal Pradesh** were the top three best-performing states for tuberculosis control under the category of states with 50 lakh population.

- ⊙ **Tripura and Nagaland** were best-performing in the category of states having less than 50 lakh population.
- ⊙ **Dadra and Nagar Haveli and Daman and Diu** were selected as the best performing Union Territories.

⌚ **Rising Tobacco Consumption:** It also revealed that Tobacco consumption is rising among Indian TB patients.

- ⊙ **8% of TB cases** can be attributable to tobacco usage.

⌚ **HIV Patients and TB:** People **living with HIV are the most vulnerable** among all those TB patient groups which have other comorbidities (rate of death). Hence, the WHO lays social emphasis (through awareness programmes) on them.

- ⊙ **HIV-associated TB:** India accounts for **9% of all HIV-associated TB deaths** in the world, the **second-highest number** globally.

⌘ A total 92,000 HIV-associated TB patients were recorded on an annual basis.

⌘ Awareness among TB patients about their HIV status has gone up to 81% from 67%.

⌚ **Diabetes Associated TB:** The other such group is patients suffering from **diabetes**. According to the report 20% of all TB cases in India also suffer from diabetes.

- ⊙ In 2019, among the notified TB patients under the Revised National TB Control Programme, 64% were screened for Diabetes.

⌚ **Missing Patients:** The report highlighted that the notification of TB is a major hurdle in surveillance of the disease in India.

⊙ Nearly **0.54 million TB cases** are still missing across India.

⌚ **Lower Reporting than WHO:** According to the report, India notified the highest number of **24.04 lakh tuberculosis cases** last year (2018) as **against an estimated 26.9 lakh cases by WHO**, indicating that around three lakh patients missed out from the national TB programme.

⊙ **Low Fatality:** It stated that 79,144 deaths due to tuberculosis were reported in 2019, which is much lower than the WHO estimate of 4.4 lakh fatalities.

⌚ **Treatment Success Rate:** It is around 70-73% in the last two years. From 2014-2016, it was between 76 and 77%.

Initiatives by India

⌚ **The Nikshay Ecosystem:** It is the National TB information system which is a one-stop solution to manage information of patients and monitor program activity and performance throughout the country.

⌚ **Nikshay Poshan Yojana (NPY):** This scheme is aimed at providing financial support to TB patients for their nutrition.

⌚ **TB Harega Desh Jeetega Campaign: Launched In September 2019** it is showcasing the highest level of commitment for elimination of TB.

⌚ **The Saksham Project:** It is a project of Tata Institute of Social Sciences (TISS) that has been providing psycho-social counselling to DR-TB patients.

Tuberculosis

⌚ TB is caused by **bacteria (*Mycobacterium tuberculosis*)** that most often affect the lungs.

⌚ **Transmission:** TB is spread from person to person through the air. When people with TB cough, sneeze or spit, they propel the TB germs into the air.

⌚ **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.

⌚ **Treatment:** TB is a treatable and curable disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.

⌚ **Anti-TB medicines** have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed.

- ⊙ **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
- ⊙ **Extensively drug-resistant TB (XDR-TB)** is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

Extension of Food Grain Scheme

Why in News

Recently, many states have demanded for the extension of the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)**.

Key Points

- ⌚ **Pradhan Mantri Garib Kalyan Anna Yojana:**
 - ⊙ PMGKAY is a part of **Pradhan Mantri Garib Kalyan Package (PMGKP)** to help the poor fight the battle against **Covid-19**.
 - ⊙ It was announced for a **three month period (April, May and June)**, covering 80 crore ration cardholders. It will come to an **end on 30th June 2020**.
 - ⊙ The scheme aimed at providing each person who is covered under the **National Food Security Act** with an **additional 5 kg grains (wheat or rice)** for free, in **addition to the 5 kg of subsidised food grain** already provided through the **Public Distribution System (PDS)**.
 - ⊙ The beneficiaries are also **entitled to 1 kg of pulse for free**, according to regional preferences.
- ⌚ **Performance of the Scheme:**
 - ⊙ According to the Union Ministry of Food and Public Distribution, a total of 116.02 lakh metric tonnes (LMT) of food grains have been lifted under the scheme.
 - ⊙ In April, 93% of the food grains were distributed targeting 74.05 crore beneficiaries.
 - ⊙ In May, the distribution stood at 91% reaching 72.99 crore beneficiaries
 - ⊙ In June 2020, 71% of allocated food grains have been distributed to 56.81 crore beneficiaries so far.

⌚ **Sufficient Food Stock:**

- ⊙ According to the Central government, the **Food Corporation of India** has 'sufficient stock of food grains'.
- ⊙ It has a stock of 266.29 LMT rice and 550.31 LMT wheat as on 28th June.
 - ⌘ This is excluding the ongoing purchase of wheat and paddy stocks that have not yet reached the godowns.
- ⊙ Each month, only about 55 LMT of food grains is required for distribution to ration cardholders.

⌚ **Issues Involved:**

- ⊙ There is an **excess of food stocks** along with widespread hunger in the country.
- ⊙ Around 200 million **beneficiaries did not get their due** in April 2020, in the distribution of additional food grains and pulses under the scheme.
- ⊙ In April 2020, the government also **allowed the conversion of surplus rice into ethanol** for making alcohol-based hand sanitiser.
- ⊙ With the **beginning of the monsoon**, there is a danger of **food grains getting rot**.

STARS Programme: World Bank

Why in News

Recently, the **World Bank** has approved the **Strengthening Teaching-Learning and Results for States (STARS) Programme**.

- ⌚ It will improve the quality and governance of school education in six Indian states of **Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha and Rajasthan** through the **Samagra Shiksha**.

Key Points

- ⌚ **Expected Beneficiaries:** Around 250 million students (between the **age of 6 and 17**) in 1.5 million schools and over 10 million teachers will benefit from this **USD 500 million** programme.
- ⌚ **In Line with Previous Assistance:** It will strengthen public school education and support the **country's goal of providing 'Education for All'**, for which the Bank had provided total assistance of more than USD 3 billion prior to this plan as well.
- ⌚ **Objectives:** STARS will **help improve** learning assessment systems, strengthen classroom instruction

and remediation, facilitate school-to-work transition and strengthen governance and decentralized management.

- ⌚ STARS will **support India's renewed focus on addressing the learning outcome challenge** and help students better prepare for the jobs of the future, through a **series of reform initiatives**, which include:

- ⊙ **Providing Customised Solutions:**

- ⌘ Focusing more directly on the delivery of education services at the state, district and sub-district levels by providing customized local-level solutions towards school improvement.

- ⊙ **Addressing Specific Demands:**

- ⌘ Addressing demands from stakeholders, especially parents, for greater accountability and inclusion by producing better data to assess the quality of learning.
- ⌘ Giving special attention to students from vulnerable sections, with over 52% (as a weighted average) of children in the government-run schools in the six project states belonging to vulnerable sections, such as Scheduled Caste (SC), Scheduled Tribe (ST) and minority communities.
- ⌘ Delivering a curriculum that keeps pace with the rapidly evolving needs of the job market.

- ⊙ **Equipping Teachers:**

- ⌘ Equipping teachers to manage this transformation by recognizing that teachers are central to achieving better learning outcomes.

- ⊙ **More Investments:**

- ⌘ Investing more in developing India's human capital needs by strengthening foundational learning for children in classes 1 to 3 and preparing them with the cognitive, socio-behavioural and language skills to meet future labour market needs.

- ⌚ **SDGs:** It is in line with the **Sustainable Development Goal for education (SDG 4)** and will help produce better data on learning levels by improving the **National Achievement Survey (NAS)**.

- ⌚ **PISA:** STARS will assist India in participation in the **Programme for International Student Assessment (PISA)**.

- ⊙ PISA is a **worldwide study** by the **Organisation for Economic Co-operation and Development (OECD)** in member and non-member nations.

- ⊙ It measures **15-year-olds' ability** to use their reading, mathematics and science knowledge and skills to meet real-life challenges.

Success Stories

- ⌚ India has **successfully achieved gender parity in enrolment in primary education** but that is **not the case in secondary education**. Under STARS, each state is expected to not only stabilize this downward trend but also improve the completion rate for secondary education.

- ⌚ India has **significantly improved access to education** across the country.

- ⊙ **Between 2004-05 and 2018-19**, the number of children going to school increased **from 219 million to 248 million**.

However, the **learning outcomes** of students across all age groups continue to **remain below par**.

Challenges

- ⌚ **Fails to Address Capacity Issues:**

- ⊙ Major **vacancies** across the education system **remain unaddressed**.

- ⊙ **Without capable and motivated faculty**, teacher education and training cannot be expected to improve.

- ⌚ **Ignoring Decentralisation:**

- ⊙ The World Bank ignores that **decentralising decision-making requires the devolution of funds and real decision-making power**.

- ⊙ It **requires** not just **investment** in the capacity of the front-line bureaucracy but also in **increasing their discretionary powers** while fostering social accountability.

- ⌚ **Excessive use of Information and Communications Technology:**

- ⊙ **Technology does not address** most of the **systemic or governance challenges** but it simply by-passes them.

- ⊙ Its usefulness depends on whether preconditions for effective use of ICT-systems have been put in place otherwise it only worsens the problems.

- ⌚ **Over-reliance on measurement by standardised assessments:**

- ⊙ The programme **spends money on testing infrastructure for standardised assessments** which is a waste of time and resources.

⊙ Schools in India need improvement so the money should be invested in improving the capability of the system to improve learning.

⌚ **Outsourcing:**

- ⊙ Outsourcing to non-state partners not just **takes away discretion** from state actors but also takes away the **sense of accountability and ownership** towards their job.
- ⊙ **New private initiatives do not have institutional memories**, nor do they have a **grasp of socio-cultural realities** that play an important part in the delivery process.
 - ⌘ State structures rely on past experience (institutional memory) to meet new challenges and build additional memories with every new reform they undertake.

Sanskritik

Sadbhav Mandap: PMJVK

Why in News

Recently, the **Minister of Minority Affairs** has laid the foundation stone for '**Sanskritik Sadbhav Mandap**' (multi-purpose community centre) at Rampur in Uttar Pradesh.

⌚ It is being constructed under the **Pradhan Mantri Jan Vikas Karyakram (PMJVK)**.

Key Points

- ⌚ **Restructured: Pradhan Mantri Jan Vikas Karyakram (PMJVK)** is a **restructured and renamed** form of the erstwhile **Multi-sectoral Development Programme (MsDP)**.
 - ⊙ The scheme was restructured on the recommendation of the **Standing Committee on Social Justice and Empowerment** headed by **Ramesh Bais**, which submitted its report on '**Implementation of Scheme of Multi-Sectoral Development Programme/ Pradhan Mantri Jan Vikas Karyakram**' on 9th August 2018.
- ⌚ **Implementation Period:** The restructured scheme is to be implemented during the remaining period of the 14th **Finance Commission** i.e. 31st March 2020.
- ⌚ **Funding: Centrally Sponsored Scheme.**
- ⌚ **Background:**

⊙ In the year 2008-09, Government conceived the **Multi-sectoral Development Programme (MsDP)** as a centrally sponsored scheme.

⊙ Initially, the MsDP scheme was launched in the **90 Minority Concentration Districts** of the country.

⊙ To sharpen the focus on the targeted communities, the scheme was restructured during 2013-14 and the unit of planning for implementation was changed to **Minority Concentration Blocks (MCB), Minority Concentration Towns (MCT) and Clusters of Minority Concentration Villages (COV)**.

⌚ **Implementation Region:** The PMJVK will continue to be implemented in MCBs, MCTs and COVs. A new area for implementation of PMJVK has been included namely **Minority Concentration District Headquarters (MCD Hq)**.

⊙ The identified areas namely MCBs, MCTs, MCD Hqs and COVs for implementation of PMJVK are **collectively known as Minority Concentration Areas (MCA)**.

⌚ **Basis of Selection:** On the basis of a substantial population of minority communities i.e. **25% of the minority population** in the area and **backwardness parameters (literacy rate, female literacy rate, work participation rate and female work participation rate)** along with **basic amenities indicators** in the area concerned which are **below the national average** based on population data of **Census 2011**.

⊙ As per the **Census 2011**, the percentage of minorities in the country is about **19.3% of the total population of the country**.

⌘ The population of Muslims are 14.2%, Christians 2.3%, Sikhs 1.7%, Buddhists 0.7%, Jain 0.4% and Parsis 0.006%.

⌚ **Minority Community:** As far as PMJVK is concerned, the communities notified as minority communities under **Section 2 (c) of the National Commission for Minorities Act, 1992** would be taken as Minority Communities.

⊙ At present **six communities** namely **Muslims, Sikhs, Christians, Buddhists, Zoroastrians (Parsis) and Jains** have been notified as Minority Communities.

⌚ Other schemes which aim at the **inclusive growth of the minority communities:**

⊙ Seekho Aur Kamao.

⊙ **Ustad**

⊙ Garib Nawaz Kaushal Vikas Yojana.

- ⊙ Nai Manzil.
- ⊙ Nai Roshni.
- ⊙ Begum Hazrat Mahal Girls scholarships.

Minorities in India

- ⌚ **Constitutional Provisions:** The term “Minority” is **not defined in the Indian Constitution**. However, the Constitution recognises **only religious and linguistic minorities**.
 - ⊙ **Article 29:** It provides that any section of the citizens residing in any part of India having a distinct language, script or culture of its own, shall have the right to conserve the same.
 - ⌘ It grants protection to both **religious minorities** as well as **linguistic minorities**.
 - ⌘ However, the Supreme Court held that the scope of this article is **not necessarily restricted to minorities only**, as use of the word ‘section of citizens’ in the Article that include minorities as well as the majority.
 - ⊙ **Article 30:** Under the article, all minorities shall have the right to establish and administer educational institutions of their choice.
 - ⌘ The protection under Article 30 is confined only to minorities (religious or linguistic) and does **not extend to any section of citizens** (as under Article 29).
 - ⊙ **Article 350-B:** Originally, the Constitution of India did not make any provision with respect to the Special Officer for Linguistic Minorities. However,

the **7th Constitutional Amendment Act, 1956** inserted Article **350-B in the Constitution**.

- ⌘ It provides for a **Special Officer for Linguistic Minorities** appointed by the **President of India**.
- ⌘ It would be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under the constitution.

⌚ **Parliamentary Provisions:**

- ⊙ **National Commission for Minorities Act, 1992:** The act defines a minority as “a community notified as such by the Central government”.
- ⊙ Under this act, the government formed the National Commission for Minorities which consists of a **Chairperson, a Vice-Chairperson and five members**. The five members including the Chairperson shall be from amongst the minority communities.

Minorities Rights Day in India

- ⌚ The National Commission for Minorities observes the **18th December** as **Minorities Rights Day every year**.
- ⌚ The day marks the adoption of the “**Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities**” by the **United Nations in 1992**.
- ⊙ The declaration states that States shall protect the existence of the National or Ethnic, Cultural, Religious and Linguistic identity of minorities within their respective territories and encourage conditions for the promotion of that identity.

Miscellaneous

Highlights

- ⌘ *Axone: Ethnic Cuisine of Northeast India*
- ⌘ *World Refugee Day*
- ⌘ *Sankalp Parva: Plantation of Trees*
- ⌘ *Advanced Torpedo Decoy System: Maareech*
- ⌘ *Anthropause Period*

Axone: Ethnic Cuisine of Northeast India

Why in News

Recently, **Axone** or **fermented soya bean** has become popular, which is eaten by many **tribal communities** in different parts of Northeast India especially in **Nagaland**.

Key Points

- ⌚ Axone, **also called akhuni**, is a fermented soya bean of Nagaland, known for its distinctive flavour and smell.
 - ⌚ It is a **condiment** (a spice, sauce, or preparation that is added to food) used to make pickles, chutney or curries.
- ⌚ It is prepared and eaten across **Nagaland** mainly by the **Sumi (also Sema) tribe**.
- ⌚ It belongs to the broader **phenomena of fermentation** necessary for food preservation in certain ecological contexts.
 - ⌚ Fermentation gives it a distinct smell and taste.
- ⌚ **Fermented soya bean is known by different names** in different parts of Northeast India, including Meghalaya and Mizoram, Sikkim, Manipur as well in other South, Southeast and East Asian countries of Nepal, Bhutan, Japan, Korea, China, Myanmar, Vietnam and Indonesia.

Sumi Tribe

- ⌚ The 'Sumi Naga' is one of the major **ethnic groups in Nagaland**.
- ⌚ Sumi Nagas mostly inhabit the **central and southern regions** of Nagaland.
- ⌚ There are also seven Sumi villages in **Tinsukia District of Assam**.
- ⌚ **Tuluni and Ahuna** are the major festivals.

- ⌚ It is the one food that **connects the Eastern Himalayas** as a **culturally cross-cutting cuisine**.

World Refugee Day

The **international day** designated by the **United Nations** is celebrated on **20th June every year** and celebrates the strength and courage of people who have been forced to flee their home country to escape conflict or persecution.

- ⌚ The **United Nations High Commissioner for Refugees (UNHCR)** has released its annual **Global Trends report** before the **World Refugee Day 2020**.
 - ⌚ **Global Trends** is published every year to count and track the numbers of refugees, internally displaced people, people who have returned to their countries or areas of origin, asylum-seekers, stateless people and other populations of concern to UNHCR.

United Nations High Commissioner for Refugees

- ⌚ It is a **UN Refugee Agency** and a global organization dedicated to saving lives, protecting the rights and building a better future for refugees, forcibly displaced communities and stateless people.
- ⌚ It was **created in 1950** to help millions of Europeans who had fled or lost their homes.
- ⌚ It is headquartered at **Geneva, Switzerland**.

Sankalp Parva: Plantation of Trees

Why in News

The **Ministry of Culture** is celebrating 'Sankalp Parva' to plant trees from **28th June to 12th July 2020**.

Key Points

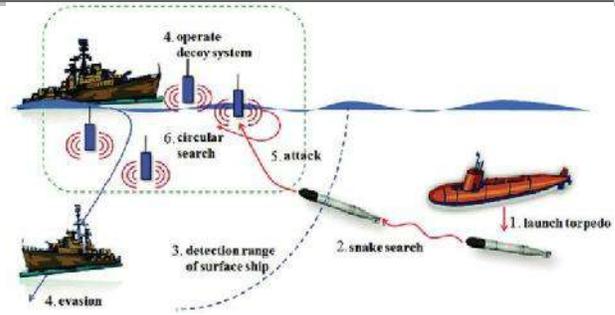
- ⌚ The Ministry of Culture has recommended planting **five trees** which represent the herbal heritage of the country.
- ⌚ These trees are: **Bargad, Awla, Pepal, Ashok and Bel**. These are also medicinal plants.
- ⌚ **Other Initiatives Related to Plantation of Trees:**
 - ⊙ Recently, the government has announced implementation of the **Nagar Van (Urban Forest) Scheme** which aims to develop 200 Urban Forests across the country in the next five years.
 - ⊙ The **Compensatory Afforestation Fund (CAF) Act was passed in 2016** to manage the funds collected for compensatory afforestation which till then was managed by Ad hoc **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.
 - ⌘ **Compensatory afforestation** means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
 - ⊙ The **National Medicinal Plants Board (NMPB, under the Ministry of AYUSH)** intends to establish herbal gardens of various types to popularize the usefulness of commonly available and frequently used medicinal plants among the various stakeholders.
 - ⊙ The Jajpur district administration in Odisha has made **plantation a mandatory precondition for granting licenses for eight services** including society registration, license for minor minerals, setting up crusher units, purchase of new vehicles, issuance of solvency certificate, etc.

Advanced Torpedo Decoy System: Maareech

Why in News

The Indian Navy has inducted an **Advanced Torpedo Defence System (ATDS)** called '**Maareech**' that is capable of being fired from all frontline ships.

- ⌚ Torpedoes are self propelled weapons with a warhead and can be used **under or on the water surface**. They are one of the mainstay of sea-warfare attack systems.



Key Points

- ⌚ **Description:**
 - ⊙ '**Maareech**' has been designed and developed indigenously by the **Defence Research and Development Organization (DRDO)** and it is capable of detecting, locating and neutralizing incoming torpedoes.
 - ⊙ **Bharat Electronics Limited**, a Defence PSU, would undertake the production of this decoy system.
- ⌚ **Working:**
 - ⊙ Maareech detects and locate the incoming torpedo and applies countermeasures to protect the naval platform against attack.
 - ⊙ It **first detects and then confuses and divert** the torpedo attacks on ships from under the water.
 - ⊙ By diverting the torpedoes' original course, it forces it to **lose its energy thus preventing it from being effective on target**.
- ⌚ **Significance:**
 - ⊙ This induction not only stands testimony to the joint resolve of the Indian Navy and DRDO towards indigenous development of defence technology, but has also given a major fillip to the government's '**Make in India**' initiative and the country's resolve to become '**Atmanirbhar**' in niche technology.

Anthropause Period

Why in News

Recently, researchers have coined the term '**anthropause**' to refer to the **Covid-19** induced **lockdown** period and they will study its impact on other species.

Key Points

- ⌚ **Etymology:**

- ⊙ The shortened form or prefix ‘anthropo-’ (for ‘human’) and ‘pause’.
- ⊙ It is a more precise term for the lockdown period which is also being referred to as the ‘Great Pause’.
- ⌚ **Impact:**
 - ⊙ As a result of the lockdown, **nature appears to have changed** especially in **urban environments**.
 - ⊙ The **unprecedented curbs led to reports of unusual animal behaviour** and **unexpected animals are being spotted** more frequently.
 - ⊙ On the other hand, lockdown may have been **more difficult and challenging for various urban-**

dwelling animals such as rats, gulls and monkeys who **depend on food provided or discarded by humans**.

⌚ **Significance of the Study:**

- ⊙ Studying this period will provide valuable **insights into the relationship between human-wildlife interactions** in the 21st century.
- ⊙ The linkages of human and animal behaviour can help **provide invaluable information**, useful in **preserving global biodiversity**, maintaining the **integrity of ecosystems** and **predicting global zoonoses** and **environmental changes**.



OCS SELECTIONS OF 2018

1 SELECTION IN EVERY
2 SELECTION ARE FROM VANIK

7 IN TOP 10 11 IN TOP 20 24 IN TOP 50 47 IN TOP 100 48% SELECTION FROM VANIK



DEBASIS PANDA



RITUPARNA MOHAPATRA



AKASH KUMAR PANDA



SANTOSHINI DAS



NARAYANI P. PANDA



SHAKTI MOHAPATRA



SMARANIKA TULO



Sampat Ku. Dash



Serada P. Panda



Sidhant Narayan



Akash Pattnaik



Priti R. Rath



Rajiv Das



Abhishek Sahu



Annanya Tripathy



Prasenjit Mishra



Debajyoti Panda



Avipsa Mohanty



Dillip Satapathy



Nibedita Parida



Rashmi Prava Das



Asima Padhi



Om Prasad



Jyotibikash Dash



Narayan Behera



Suvasnigdha



Subrat Ku. Swain



Biswa Tripathy



Upasana Padhi



Bibhuti Satapathy



Avilash Purshit



Birendra Tripathy



Himanshu B. Pale



Sambit Ku. Majhi



Subhadra



Byomakesh



Bishnu Govind



Tanmaya Nayak



Ashutosh Matarji



Anshuman Sarangi



Krishna Padhi



Madhusmita Nanda



Adarsh A. Tripathy



Sanishree Mallick



Om Prakash Parida



Md. Azharuddin Khan



Rajesh Ku. Samal



Tattwomasi



Amit Biswal



Agurba R. Aich



Trisandhya Patra



Bani Satabdi Dash



Harekrushna Sahu



Nirmal Ku. Bhouli



Ajit Ku. Uttaray



Manoja Ku. Behera



Ananda Ch. Palei



Sushree Supriya



Dhiren Ku. Nayak



Nivedita Nayak



Biranchi N. Jagat



Sridhar Ku. Sethi



Ananta Ku. Nayak



Abhijit S. Swain



Gyanaranjan Majhi



John Major Dalai



Jyoti P. Sethi



Arjun Majhi



Subha P. Kanungo



Deepak Ku. Jena



Rashmirani Sonapat



Subha Kanta Naik



Madhusmita Samal



Gitu Behera



Madhusmita Singh



Manaranjan Suna



Prachi



Tapan Ku. Malik



Manoj Ku. Behera



Manaswee Sethi



Bhabani Pradhan



Upanjali Majhi



Satyabrata Naik



Sagar Palo



Prasanti Pradhan



D. Satyabhusan



Prem Chand Jani



Mrutunjaya Sabar



Gouranga Ghosh



Meera Naik



Deepak Bara



Debasish Patra



Bhabesh Majhi



Vikas Mundari



Sandeep Singh



Prafulla Muduli



Smrutiranjana Tudu



Lalit Ku. Naik



Phalguni Sabar



Sunita Panda

And Many More Selections