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Pradhan Mantri Mudra Yojana

Why in News?

Recently, the Union Minister of State for Finance provided information about the Pradhan Mantri Mudra Yojana (PMMY) in the Rajya Sabha.

- The national-level targets under the scheme have been consistently met since its inception, except for FY 2020-21 due to the Covid-19 pandemic.

What is PMMY?

- The government launched it in 2015 for providing loans up to Rs.10 lakh to the non-corporate, non-farm small/micro-enterprises.
- It provides 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, which stands for Micro Units Development & Refinance Agency Ltd., is a government's financial institution. It does not lend directly to micro-entrepreneurs/individuals.
- MUDRA has created three products, i.e. 'Shishu', 'Kishore' and 'Tarun', as per the growth and funding needs of the beneficiary micro-units.

- Shishu: Covering loans up to Rs. 50,000.
- Kishore: Covering loans above Rs. 50,000 and up to Rs. 5 lakh.
- Tarun: Covering loans above Rs. 5 lakh and up to Rs. 10 lakh.

What are the Achievements of the Scheme?

- Over 32.53 crore loans involving a sanctioned amount of Rs. 17.32 lakh crore have been extended under PMMY since its inception in April 2015.
- Loans have been given to disadvantaged sections of society such as women entrepreneurs, SC/ST/OBC borrowers, Minority community borrowers, etc. The focus has also been on new entrepreneurs.
- As per a survey conducted by the Ministry of Labour and Employment, PMMY helped in generating 1.12 crore net additional employment from 2015 to 2018.
 - Out of the 1.12 crore of estimated increase in employment, women accounted for 69 lakh (62%).

What are the Steps Taken for the Improvement of the Scheme?

- Provision for online applications through psbloansin 59 minutes and udyamimitra portal.

- Some Public Sector Banks (PSBs) have put end-to-end digital lending for automated sanctions under PMMY.
- Intensive publicity campaigns by PSBs and Mudra Ltd. for increased visibility of the scheme amongst the stakeholders.
- Nomination of Mudra Nodal Officers in PSBs.
- Periodic monitoring of the performance of PSBs concerning PMMY etc

Central Media Accreditation Guidelines 2022

Why in News?

Recently, the Central government has released the Central Media Accreditation Guidelines-2022.

- Applications for accreditation are vetted by a Central Press Accreditation Committee headed by the DG, PIB. At present, there are 2,457 PIB-accredited journalists in the country.

What are the Provisions under Guidelines?

- Provisions to Withdraw/Suspend Accreditation:
 - If a journalist acts in a manner prejudicial to the country's security, sovereignty and integrity, friendly relations with foreign States, public order or is charged with a serious cognisable offence.
 - If actions are prejudicial to decency, or morality, or in relation to contempt of court, defamation or incitement to an offence.
 - Accredited media persons have been prohibited from using the words "Accredited to the government of India" on public/social media profiles, visiting cards, letter heads or on any other form or any published work.
- Provisions for Granting Accreditation:
 - Accreditation is only available for journalists living in the Delhi NCR region. There are multiple categories.
 - A journalist needs to have a minimum five years' professional experience as a full-time working journalist or a cameraperson in a news organisation, or a minimum of 15 years as a freelancer to become eligible.

Veteran journalists, with over 30 years of experience, and who are older than 65 years of age, too are eligible.

- A newspaper or a periodical needs to have a minimum daily circulation of 10,000, and news agencies must have at least 100 subscribers. Similar rules apply for foreign news organisations and foreign journalists.
- Journalists working with digital news platforms are also eligible, provided the website has a minimum of 10 lakh unique visitors per month.
- No accreditation will be granted to freelance journalists working for foreign news media organisations.
- Central Media Accreditation Committee (CMAC):
 - The Government shall constitute a Committee called the Central Media Accreditation Committee.
 - The Committee will be chaired by the Principal Director General, Press Information Bureau (PIB) and composed of up to 25 members nominated by the government to discharge the functions laid down under these guidelines.
 - The CMAC would function for a period of two years from the date of its first meeting and shall meet once in a quarter or more frequently, if necessary.

What are the Associated Concerns?

- The guidelines leave it to the discretion of government nominated officials to assess what is defamatory or prejudicial to the sovereignty or integrity of India while deciding on whether a journalist's accreditation should be suspended or withdrawn.
 - One of the core responsibilities of a journalist is to expose wrongdoing, whether by public officials, politicians, big businessmen, corporate groups, or other people in power.
 - This could result, at times, in such powers trying to intimidate journalists or to block information from coming out.
- Journalists often report on issues and policy decisions that the government may not like.
- Any investigative story on sensitive issues could be held to be in violation of any of these provisions.

How does Accreditation Help?

- Allow Access to Big Events:
 - In certain events where VVIPs or dignitaries such as the President, the Vice President or the Prime

Minister are present, only accredited journalists are allowed to report from the premises.

- Help in Protecting Identities:
 - Second, accreditation ensures that a journalist is able to protect the identity of his or her sources.
 - An accredited journalist does not have to disclose who he or she intends to meet when entering offices of union ministries, as the accreditation card is “valid for entry into buildings under the MHA (Ministry of Home Affairs) security zone”.
- Benefits the Journalist:
 - Accreditation brings certain benefits for the journalist and his or her family, like being included in the Central Government Health Scheme, and some concessions on railway tickets.

What are the Constitutional Provisions Related to Freedom of Press?

- The Indian Constitution guarantees freedom of speech and expression under **Article 19**, which deals with **Protection of certain rights regarding freedom of speech**, etc.
- Freedom of the press is **not expressly protected by the Indian legal system** but it is impliedly protected under **article 19(1) (a) of the constitution**.
 - However, Freedom of the press is also **not absolute**.
 - A law could impose only those restrictions on the exercise of this right, it faces certain restrictions under **article 19(2)**, which is as follows:
 - Sovereignty and integrity of India, Security of the State, Friendly relations with foreign States, Public order, decency or morality or in Contempt of court, Defamation, Incitement to an offence.

Content Regulatory Powers of the I&B Ministry

Why in News?

Recently, the Information and Broadcasting Ministry (I&B) informed a Malayalam-language news channel that its broadcast licence had been cancelled.

The cancellation order cited a Home Ministry order that had denied security clearance to the channel.

Which Sectors Can the I&B Ministry Regulate Content?

- Until 2021, it had the powers to regulate content across all sectors — TV channels, newspapers and magazines, movies in theatres and on TV, and the radio — barring the internet.
- In February, 2021, the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, extended its regulatory powers over internet content too, especially on digital news platforms and Over the Top (“OTT”) platforms.

What Kind of Powers Does it Have?

- Films Related:
 - For example, the Central Board of Film Certification (CBFC) has a mandate to give any film that will be played in a theatre, a rating indicating the kind of audience it is suitable for.
 - In practice, however, the CBFC has often suggested changes or cuts to a film before giving it a certification. While it isn’t the CBFC’s mandate to censor a film, it can withhold giving a rating unless the filmmaker agrees to its suggestions.
- TV Channels & OTT Related:
 - When it comes to TV channels, the government last year came up with a three-tier grievance redressal structure for viewers to raise concerns, if any.
 - A viewer can successively approach the channel, then a self-regulatory body of the industry, and finally the I&B Ministry, which can issue a show-cause notice to the channel, and then refer the issue to an Inter-Ministerial Committee (IMC).
 - For content on OTT platforms too, there is a similar structure.
 - The ministry also has the Electronic Media Monitoring Cell, which tracks channels for any violations of the programming and advertising codes mentioned in the Cable TV Network Rules, 1994.
 - Violation can lead to revocation of a channel’s uplinking licence (for sending content to a satellite) or downlinking licence (for broadcasting to viewers through an intermediary). It is these licences of Media One (Malayalam-language news channel) that the government revoked.

- Print Media and Website Related:
 - In print, based on the recommendations of the Press Council of India, the government can suspend its advertising to a publication.
 - And last year's IT rules allowed the I&B Ministry to issue orders to ban websites based on their content.

What Kind of Content is Not Allowed?

- There are no specific laws on content allowed or prohibited in print and electronic media, radio, films or OTT platforms.
- The content on any of these platforms has to follow the free speech rules of the country. Article 19(1) of the Constitution, while protecting freedom of speech, also lists certain "reasonable restrictions" including content related to:
 - The security of the state
 - Friendly relationship with foreign states
 - Public order
 - Decency
 - Morality etc.
- Action can be taken if any of these restrictions is violated.

Do Other Agencies Play a Role?

- There is no direct involvement, as the powers to regulate content rest only with the I&B Ministry. However, the ministry relies on inputs from other ministries, as well as intelligence agencies.
 - For Example: In the recent case the licences were revoked because the Home Ministry had denied it security clearance, which is essential as part of the policy.
- There is also a new mechanism the I&B Ministry adopts: It has used emergency powers it has under the new IT Rules to block certain YouTube channels and social media accounts based on inputs from intelligence agencies.
- The recourse available to anyone whose channel or account has been banned would be to go to the courts.

Parvatmala Scheme

Why in News?

Recently, the Union Finance Minister in the Union Budget for 2022-23 announced National Ropeways Development Programme – "Parvatmala" to improve connectivity in hilly areas.

What is the Scheme?

- The scheme will be taken up in PPP (Public Private Partnership) mode, which will be a preferred ecologically sustainable alternative in place of conventional roads in difficult hilly areas.
- The idea is to improve connectivity and convenience for commuters, besides promoting tourism.
- This may also cover congested urban areas, where conventional mass transit systems are not feasible.
- The scheme is being presently started in regions like Uttarakhand, Himachal Pradesh, Manipur, Jammu & Kashmir and the other North Eastern states.
- The Finance Minister announced that contracts for 8 ropeway projects for a length of 60 km would be awarded in 2022-23.

Who is the Nodal Ministry?

- The Ministry of Road Transport and Highways (MORTH) will have responsibility for development of ropeway and alternative mobility solutions technology, as well as construction, research, and policy in this area.
- In February 2021, the Government of India (Allocation of Business) Rules 1961 was amended, which enabled the MORTH to also look after the development of Ropeways and Alternate Mobility Solutions.
 - The move will give a boost to the sector by setting up a regulatory regime.
 - The MORTH has so far been responsible for development of Highways and regulating the road transport sector across the country.

What is the Significance?

- Economical mode of transportation:
 - Given that ropeway projects are built in a straight line over a hilly terrain, it also results in lower land acquisition costs.
 - Hence, despite having a higher cost of construction per km than roadways, ropeway projects' construction cost may happen to be more economical than roadways.
- Faster mode of transportation:
 - Owing to the aerial mode of transportation, ropeways have an advantage over roadway projects where ropeways can be built in a straight line, over a hilly terrain.

- Environmentally friendly:
 - Low dust emissions. Material containers can be designed so as to rule out any soiling of the environment.
- Last mile connectivity:
 - Ropeway projects adopting 3S (a kind of cable car system) or equivalent technologies can transport 6000-8000 passengers per hour.

What are the Benefits of Ropeways?

- Ideal for difficult/challenging/sensitive terrain:
 - Long rope spans: The system crosses obstacles like rivers, buildings, ravines, or roads without a problem.
 - Ropes guided over towers: Low space requirements on the ground, and no barrier for humans or animals.
- Economy:
 - Ropeways have multiple cars propelled by a single power-plant and drive mechanism.
 - This reduces both construction and maintenance costs.
 - The use of a single operator for an entire ropeway is a further saving in labour cost.
 - On level ground, the cost of ropeways is competitive with narrow-gauge railroads; in the mountains the ropeway is far superior.
- Flexible:
 - Transport of different materials - A ropeway allows for the simultaneous transport of different types of material.
- Ability to handle large slopes:
 - Ropeways and cableways (cable cranes) can handle large slopes and large differences in elevation.
 - Where a road or railroad needs switchbacks or tunnels, a ropeway travels straight up and down the fall line. The old cliff railways in England and ski resort ropeways in the mountains take advantage of this feature.
- Low footprint:
 - The fact that only narrow-based vertical supports are needed at intervals, leaving the rest of the ground free, makes it possible for ropeways to be constructed in built-up areas and in places where there is intense competition for land use.

Pradhan Mantri Matru Vandana Yojana

Why in News ?

Recently, the Government has clarified that Aadhaar of Husbands is not mandatory under the Pradhan Mantri Matru Vandana Yojana, PMMVY, to facilitate the inclusion of single mothers and abandoned mothers.

What is Aadhar?

- Aadhar is a **12-digit unique identification (UID) number**, which is mandated by **Unique Identification Authority of India (UIDAI)** to all the residents of India.
- UIDAI is a statutory authority **established on 12 July 2016 by the Government of India** under the jurisdiction of the **Ministry of Electronics and Information Technology**, following the provisions of the **Aadhaar Act 2016**.
- The UIDAI was initially set up by the Government of India in January 2009, as an attached office under the aegis of the Planning Commission.

What is PMMVY ?

- It is a maternity benefit programme being implemented in **all districts** of the country with effect from 1st January, 2017.
- It is a centrally sponsored scheme being executed by the Ministry of Women and Child Development.
- Cash benefits are provided to pregnant women in their bank account directly to meet enhanced nutritional needs and partially compensate for wage loss.

What makes this Scheme Different ?

- Implementation of the scheme is closely monitored by the central and state governments through the Pradhan Mantri Matru Vandana Yojana - Common Application Software (PMMVY-CAS).
- PMMVY-CAS is a web based software application that enables tracking the status of each beneficiary under the scheme, resulting in expedited, accountable and better grievance redressal.

Who are the Beneficiaries ?

- All Pregnant Women and Lactating Mothers (PW&LM), excluding those who are in regular employment with the Central Government or the State Governments or

PSUs or those who are in receipt of similar benefits under any law for the time being in force.

- All eligible Pregnant Women and Lactating Mothers who have their pregnancy on or after 1st January 2017 for the first child in the family.

What are the Benefits under the Scheme ?

- Beneficiaries receive a cash benefit of Rs. 5,000 in three installments on fulfilling the following conditions:
 - Early registration of pregnancy
 - Ante-natal check-up
 - Registration of the birth of the child and completion of the first cycle of vaccination for the first living child of the family.
- The eligible beneficiaries also receive cash incentive under Janani Suraksha Yojana (JSY). Thus, on an average, a woman gets Rs. 6,000.

What is the Nai Roshni Scheme?

- Nai Roshni-a Leadership Development Programme for Minority Women is a Central Sector Scheme for women belonging to minority communities in the age group of 18 to 65 years.
- It was started in 2012-13.
- The objective of the scheme is to empower and instil confidence among minority women, including their neighbours from other communities living in the same village/locality, by providing knowledge, tools and techniques for interacting with Government systems, banks and other institutions at all levels.
- It is run with the help of NGOs, Civil societies and Government Institutions all over the country.
- It includes various training modules like Leadership of women, Educational Programmes, Health and Hygiene, Swachh Bharat, Financial Literacy, Life Skills, Legal Rights of Women, Digital Literacy and Advocacy for Social and behavioral change.

What is the Significance of the Scheme?

- Empowerment of women per se is not only essential for equity, but also constitutes a critical element in our fight for poverty reduction, economic growth and strengthening of civil society.
- Women and children are always the worst sufferers in a poverty stricken family and need support. Empowering women, especially mothers, is even more important as it is in homes that she nourishes, nurtures and molds the character of her offspring.
- It helps embolden minority women to move out of the confines of their home and community and assume leadership roles and assert their rights, collectively or individually, in accessing services, facilities, skills, and opportunities besides claiming their due share of development benefits of the Government for improving their lives and living conditions.

What are the Other Schemes related to Women?

- Indira Gandhi Matritva Sahyog Yojna (IGMSY).
- Kudumbashree in Kerala.
- Poshan Abhiyaan.
- Integrated Child Development Services (ICDS) Scheme.

Nai Roshni Scheme

Why in News?

Recently, the Ministry of Minority Affairs has informed the Rajya Sabha that the Government has sanctioned Rs 26 crore under the Nai Roshni scheme in the last three years (2018-19 to 2020-21) through which around one Lakh women have been trained.

What are the other schemes related to Minority Women?

- **Garib Nawaz Employment Scheme**
- Seekho aur Kamao
- Begum Hazrat Mahal Girls scholarships
- **Nai Manzil**
- Usttad (Upgrading the Skills and Training in Traditional Arts/Crafts for Development)

Intensified Mission Indradhanush 4.0

Why in News?

Recently, the Ministry of Health virtually launched Intensified Mission Indradhanush (IMI) 4.0.

- India is implementing the largest immunisation programme globally where it annually covers more than three crore pregnant women and 2.6 crore children through the Universal Immunisation Programme (UIP).

What is IMI 4.0?

- It will ensure that Routine Immunization (RI) services reach unvaccinated and partially vaccinated children and pregnant women.
 - Children upto two years will be covered in this drive.
- While the pace of routine immunisation has slowed down due to Covid-19 pandemic, IMI 4.0 will immensely contribute in filling the gaps and make lasting gains towards universal immunisation.
- Three rounds of IMI 4.0 will be conducted in 416 districts, including 75 districts identified for Azadi ka Amrit Mahotsav across 33 States/UTs.
 - These districts have been identified based on vaccination coverage as per the latest National Family Health Survey-5 report, Health Management Information System (HMIS) data and burden of vaccine-preventable diseases.

What is the Universal Immunisation Programme?

- The Immunization Programme in India was introduced in 1978 as 'Expanded Programme of Immunization (EPI) by the Ministry of Health and Family Welfare.
- In 1985, the Programme was modified as 'Universal Immunization Programme (UIP)'. UIP prevents mortality and morbidity in children and pregnant women against 12 vaccine-preventable diseases.
 - But in the past, it was seen that the increase in immunization coverage had slowed down and it increased at the rate of 1% per year between 2009 and 2013.
- To accelerate the coverage, Mission Indradhanush was envisaged and implemented since 2015 to rapidly increase the full immunization coverage to 90%.

What is Mission Indradhanush (MI)?

- It was launched to fully immunize more than 89 lakh children who are either unvaccinated or partially vaccinated under UIP.
- It provides vaccination against 12 Vaccine-Preventable Diseases (VPD) i.e. diphtheria, Whooping cough, tetanus, polio, tuberculosis, hepatitis B, meningitis and pneumonia, Haemophilus influenzae type B infections, Japanese encephalitis (JE), rotavirus vaccine, pneumococcal conjugate vaccine (PCV) and measles-rubella (MR).
 - However, vaccination against Japanese Encephalitis and Haemophilus influenzae type B is being provided in selected districts of the country.
- Mission Indradhanush was also identified as one of the flagship schemes under Gram Swaraj Abhiyan and Extended Gram Swaraj Abhiyan.

What is Intensified Mission Indradhanush (IMI)?

- It was launched in October 2017.
- Under IMI, greater focus was given on urban areas which were one of the gaps of Mission Indradhanush.
- It focused to improve immunisation coverage in select districts and cities to ensure full immunisation to more than 90% by December 2018 instead of 2020.

What is Intensified Mission Indradhanush 2.0?

- It was a nationwide immunisation drive to mark the 25 years of Pulse polio programme (2019-20).
- It had targets of full immunization coverage in 272 districts spread over 27 States.
- It aimed to achieve at least 90% pan-India immunisation coverage by 2022.

What is Intensified Mission Indradhanush 3.0?

- IMI 3.0 was launched in 2021.
- Focus of the IMI 3.0 was the children and pregnant women who had missed their vaccine doses during the Covid-19 pandemic.
 - Beneficiaries from migration areas and hard to reach areas were targeted as they might have missed their vaccine doses during Covid-19.

What are the Achievements So Far?

- As of April 2021, during the various phases of Mission Indradhanush, a total of 3.86 crore children and 96.8 lakh pregnant women have been vaccinated.
- The first two phases of Mission Indradhanush resulted in 6.7% increase in full immunisation coverage in a year.
 - A survey (IMI- CES) carried out in 190 districts covered in Intensified Mission Indradhanush (5th Phase of Mission Indradhanush) shows 18.5% points increase in full immunisation coverage as compared to National Family Health Survey (NFHS)-4.
- The Full Immunisation Coverage among children aged 12-23 months of age has increased from 62% (NFHS-4) to 76.4% (NFHS-5).

Pradhan Mantri Jan Arogya Yojana & NFSA Integration

Why in News?

Recently, the Union Health Ministry has said that the National Health Authority (NHA) is working to integrate the database of Socio-Economic Caste Census (SECC) 2011 beneficiaries with the National Food Security Act (NFSA) portal.

- This step envisages that beneficiaries can seek information regarding their entitlements under the Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) using their ration card number.

What is NHA?

- The **National Health Authority (NHA)** has been constituted as an autonomous entity under the **Society Registration Act, 1860** for effective implementation of PM-JAY in alliance with state governments.
 - Inter-alia, this will include, formulation of AB PMJAY policies, development of operational guidelines, implementation mechanisms, coordination with state governments, monitoring and oversight of AB PMJAY amongst other.
- The **State Health Agency (SHA)** is the apex body of the State Government responsible for the implementation of AB PM-JAY in the State.

What are the Intended Benefits of this Proposal?

- Integrating Fair Price Shops With Health: The proposal will allow NHA to use Fair Price Shops or ration shops for providing information related to the scheme and entitlement under the scheme to eligible beneficiaries.
- Developing More Service Points: This will provide an additional avenue to beneficiaries along with the existing Common Service Center for card creation.
 - This will make the beneficiary identification process very convenient.
- Common Identity Enabler: Aadhaar being a common identity across the majority of government databases will enable this integration.
 - Further, Aadhaar also ensures certainty regarding beneficiary identification through e-KYC.
 - e-KYC enables paperless delivery of services in a targeted manner.
- Cross-Platform Integration: The NHA will collaborate with various ministries implementing welfare schemes to strengthen the different aspects of scheme implementation including beneficiary awareness campaigns, beneficiary database (SECC 2011) enrichment etc.
- Towards Universal Health Coverage: The vast ambition of the AB-PMJAY programme presents an opportunity to pursue the systemic reform that India requires to meet its Universal Health Coverage (UHC) aims.

What are the Major Provisions of AB PM-JAY?

- AB PM-JAY offers a sum insured of Rs.5 lakh per family for secondary care as well as tertiary care, under a cashless and paperless access to health services framework.
- Under PMJAY, cashless and paperless access to services are provided to the beneficiaries at the point of service.
- Health Benefit Packages covers surgery, medical and day care treatments, cost of medicines and diagnostics.
 - Packaged rates (Rates that include everything so that each product or service is not charged for separately).
 - They are flexible, but they can't charge the beneficiary once fixed by the hospitals.
 - The scheme also has prescribed a daily limit for medical management.
- It is an entitlement-based scheme that targets the beneficiaries as identified by latest SECC data.

What are the Main Features of the NFSA 2013?

- Objective: To provide for food and nutritional security in the human life cycle approach, by ensuring access to adequate quantities of quality food at affordable prices to people to live a life with dignity.
- Coverage: 75% of the rural population and upto 50% of the urban population for receiving subsidized foodgrains under Targeted Public Distribution System (TPDS).
 - Overall, NFSA caters to 67% of the total population.
- Major Provisions:
 - 5 Kgs of foodgrains per person per month at Rs. 3/2/1 per Kg for rice/wheat/coarse grains.
 - Meal and maternity benefit of not less than Rs. 6,000 to pregnant women and lactating mothers during pregnancy and six months after the child birth.
 - Meals for children upto 14 years of age.
 - Food security allowance to beneficiaries in case of non-supply of entitled foodgrains or meals.
 - Setting up of grievance redressal mechanisms at the district and state level.

Collegium System for the Appointment of Judges

Why in News?

Recently, the Supreme Court Collegium has recommended appointing Justice Munishwar Nath Bhandari as Chief Justice of Madras High Court.

What is a Collegium System and How Did It Evolve?

- It is the system of appointment and transfer of judges that has evolved through judgments of the Supreme Court (SC), and not by an Act of Parliament or by a provision of the Constitution.
- Evolution of the System:
 - First Judges Case (1981):
 - It declared that the “primacy” of the CJI’s (Chief Justice of India) recommendation on judicial appointments and transfers can be refused for “cogent reasons.”
 - The ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.

- Second Judges Case (1993):
 - SC introduced the Collegium system, holding that “consultation” really meant “concurrence”.
 - It added that it was not the CJI’s individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.
- Third Judges Case (1998):
 - SC on the President’s reference (Article 143) expanded the Collegium to a five-member body, comprising the CJI and four of his senior-most colleagues.

Who Heads the Collegium System ?

- The SC collegium is headed by the CJI (Chief Justice of India) and comprises four other senior most judges of the court.
- A HC collegium is led by its Chief Justice and four other senior most judges of that court.
 - Names recommended for appointment by a HC collegium reaches the government only after approval by the CJI and the SC collegium.
- Judges of the higher judiciary are appointed only through the collegium system and the government has a role only after names have been decided by the collegium.

What are the Procedures for Judicial Appointments ?

- For CJI:
 - The President of India appoints the CJI and the other SC judges.
 - As far as the CJI is concerned, the outgoing CJI recommends his successor.
 - In practice, it has been strictly by seniority ever since the supersession controversy of the 1970s.
- For SC Judges:
 - For other judges of the SC, the proposal is initiated by the CJI.
 - The CJI consults the rest of the Collegium members, as well as the senior-most judge of the court hailing from the High Court to which the recommended person belongs.
 - The consultees must record their opinions in writing and it should form part of the file.

- The Collegium sends the recommendation to the Law Minister, who forwards it to the Prime Minister to advise the President.
- For Chief Justice of High Courts:
 - The Chief Justice of the High Court is appointed as per the policy of having Chief Justices from outside the respective States.
 - The Collegium takes the call on the elevation.
 - High Court judges are recommended by a Collegium comprising the CJI and two senior-most judges.
 - The proposal, however, is initiated by the outgoing Chief Justice of the High Court concerned in consultation with two senior-most colleagues.
 - The recommendation is sent to the Chief Minister, who advises the Governor to send the proposal to the Union Law Minister.
- SC advised the trial judges that they should not be swayed in favour of death penalty merely because of the dreadful nature of the crime and its harmful impact on the society. They should equally consider the mitigating factors in favour of life imprisonment.
- SC referred to the evolution of the principles of penology and said that penology had grown to accommodate the philosophy of “preservation of human life”.
 - Penology is a sub-component of criminology that deals with the philosophy and practice of various societies in their attempts to repress criminal activities, and satisfy public opinion via an appropriate treatment regime for persons convicted of criminal offences.
- SC noted that though capital punishment serves as a deterrent and a “response to the society’s call for appropriate punishment in appropriate cases”,
 - The principles of penology have “evolved to balance the other obligations of the society, i.e., of preserving the human life, be it of accused, unless termination thereof is inevitable and is to serve the other societal causes and collective conscience of society”.

What is Critical about the Collegium System ?

- Opaqueness and a lack of transparency.
- Scope for nepotism.
- Embroilment in public controversies.
- Overlooks several talented junior judges and advocates.

What were Attempts to reform the Appointment System ?

- The attempt made to replace it by a ‘National Judicial Appointments Commission’ (through Ninety-ninth Amendment Act, 2014) was struck down by the court in 2015 on the ground that it posed a threat to the independence of the judiciary.

SC on Death Penalty

Why in News?

Recently, the Supreme Court (SC) commuted the death sentence of a man, convicted of the rape and murder of a seven-year-old girl, to life imprisonment.

- The judgment may become a significant precedent to the anti-death penalty cause.

What was SC’s Ruling in the Current Case?

- SC commuted the death sentence to life imprisonment, with the rider that he shall not be entitled to “premature release or remission before undergoing actual imprisonment” for a period of 30 years.

What is a Death Penalty?

- Capital punishment, also called the death penalty, is the execution of an offender sentenced to death after conviction by a court of law of a criminal offence. It is the highest penalty awardable to an accused. Generally, it is awarded in extremely severe cases of murder, rapes, treason etc.
- The death penalty is seen as the most suitable punishment and effective deterrent for the worst crimes. Those who oppose it, however, see it as inhumane. Thus, the morality of the death penalty is debatable and many criminologists and socialists all across the globe, have been long demanding abolition of the death penalty.

What are the Arguments in Favour of the Death Penalty?

- Retribution: One of the key principles of retribution is that people should get what they deserve in proportion to the severity of their crime.
 - This argument states that real justice requires people to suffer for their wrongdoing and to suffer in a way appropriate for the crime.

- Deterrence: Capital punishment is often justified with the argument that by executing convicted murderers, we will deter would-be murderers from killing people.
 - It is often argued that the death penalty provides closure for victims' families.

What are the Arguments Against the Death Penalty?

- Deterrence Ineffective: The statistical evidence doesn't confirm that deterrence works. Some of those executed may not have been capable of being deterred because of mental illness or defect.
 - Death has been prescribed in rape cases since 2013 (Sec. 376A of IPC), still, rapes continue to happen and in fact, the brutality of rapes has increased manifold. This compels one to think of the death penalty is an effective deterrent to crime.
- Execution of the Innocent: The most common argument against capital punishment is that sooner or later, innocent people may get killed, because of mistakes or flaws in the justice system.
 - According to Amnesty International: As long as human justice remains fallible, the risk of executing the innocent can never be eliminated.
 - Death has been abolished as a form of punishment in most of the developed countries.
- No Rehabilitation: Capital punishment doesn't rehabilitate the prisoner and return them to society.

What is the Status of Death Penalty in the Indian Context?

- Prior to the Criminal Procedure (Amendment) Act (Cr PC) of 1955, the death penalty was the rule and life imprisonment an exception in India.
 - Further, the courts were bound to give an explanation for awarding a lighter penalty than death for capital offences.
- After the amendment of 1955 courts were at liberty to grant either death or life imprisonment.
 - As per Section 354 (3) of the Cr PC, 1973 the courts are required to state reasons in writing for awarding the maximum penalty.
 - The situation has been reversed and a life sentence is the rule and death penalty an exception in capital offences.

- Moreover, despite a global moratorium against the death penalty by the United Nation, India retains the death penalty.
 - India is of view that allowing criminals guilty of having committed intentional, cold-blooded, deliberate and brutal murders to escape with a lesser punishment will deprive the law of its effectiveness and result in travesty of justice.
- In concurrence of this, a proposal for the scrapping of the death penalty was rejected by the Law Commission in its 35th report 1967.
 - In India as per official statistics, 720 executions have taken place in India after it became independent in the year 1947, which is a minuscule fraction of the people who were awarded death penalty by the trial courts.
 - In the majority of the cases, death was commuted to life imprisonment and some were acquitted by the higher courts.

What are the SC's Previous Rulings on the Death Penalty?

- *Jagmohan Singh v. State of UP 1973 case*: SC held that according to Article 21 deprivation of life is constitutionally permissible if that is done according to the procedure established by law.
 - Thus the death sentence imposed after a trial in accordance with legally established procedures under Cr.PC and the Indian Evidence Act 1872 is not unconstitutional under Article 21.
- *Rajendra Prasad v. State of UP 1979 case*: SC held that, if the murderous operation of a criminal jeopardizes social security in a persistent, planned and perilous fashion then his enjoyment of fundamental rights may be rightly annihilated.
- *Bachan Singh v. the State of Punjab 1980 case*: SC propounded the dictum of 'rarest of rare cases' according to which death penalty is not to be awarded except in the 'rarest of rare cases' when the alternative option is unquestionably foreclosed.
 - Rarest of Rare Cases can be described:
 - When the murder is committed in an extremely brutal, ridiculous, diabolical, revolting, or reprehensible manner so as to awaken intense and extreme indignation of the community.
 - When total depravity and cruelty are the motives behind a murder.

- *Machhi Singh v. State of Punjab 1983 case:* The Supreme Court laid down certain considerations for determining whether a case falls under the category of rarest of rare cases or not.

Misuse of Section 498A IPC

Why in News?

The Supreme Court in a recent judgement highlighted the growing misuse of Section 498A IPC, with friction rising in marriages.

- The incorporation of section 498A was aimed at preventing cruelty committed upon a woman by her husband and her in-laws by facilitating rapid state intervention.
- The court held that there is an increased tendency to employ provisions such as Section 498A IPC as instruments to settle personal scores against the husband and his relatives.

What is Section 498A IPC?

- Section 498A of the Indian Penal Code 1860 was passed by the Indian Parliament in 1983.
- The section of 498A of the Indian Penal Code is a criminal law.
- It is defined that if the husband or the relative of the husband of a woman, subjected such woman towards cruelty would be punished with imprisonment for a term which might extend to 3 years and may also be liable for fine.
- Section 498 A of Indian Penal Code is one of the greatest rescues for Violence against Woman (VAW), which is a reflection of the pathetic reality of the domestic violence occurring within the four walls of a house.

What are Acts of Domestic Violence?

- **Physical violence**, such as slapping, hitting, kicking and beating.
- **Sexual violence**, including forced sexual intercourse and other forms of sexual coercion.
- **Emotional (psychological) abuse**, such as insults, belittling, constant humiliation, intimidation, threats of harm, threats to take away children.
- **Controlling behaviors**, including isolating a person from family and friends, monitoring their movements and restricting access to financial resources, employment, education or medical care.

What are Indian laws that help curb the instances of violence against women?

- The Dowry Prohibition Act, 1961
- The Indecent Representation of Women (Prohibition) Act, 1986
- The Commission of Sati (Prevention) Act, 1987
- Protection of Women from Domestic Violence Act, 2005
- The Sexual Harassment of Women at Workplace Act, 2013
- The Criminal Law (Amendment) Act, 2013

How Section 498A is Misused?

- **Against Husband & Relatives:** With the rise in the rate of education, financial security, and modernization, the more independent and the radical feminists have made Section 498A of IPC as a weapon in their hands than a shield.
 - Due to this, many helpless husbands and their relatives have become the victims of the vengeful daughters-in-law of their house.
- **Blackmail Attempts:** These days in many cases where Section 498A is invoked, they turn out to be false cases as they turn out to be mere blackmail attempts by the wife (or her close relatives) when troubled with a stressed marriage.
 - Due to this, in most cases the Section 498A complaint is generally followed by the demand of a huge amount of money to settle the case outside the court.
- **Degradation of Marriage:** The court held specifically that there is misuse and exploitation of the provisions to such an extent that it was hitting on the basis that is the foundation of marriage itself.
 - This has ultimately proved to be not a good sign for the health of society for the public at large.
 - Women have begun misusing Section 498 of IPC as this law is a tool for their vengeance or to get out of wedlock.
- **Malimath Committee Report, 2003:** Similar views were also expressed by the 2003 Malimath Committee report on reforms in the criminal justice system.
 - The committee noted that the “general complaint” of Section 498A of the IPC to be a subject to gross misuse.

Criminalization of Politics

Why in News?

According to data compiled by the Amicus Curiae, a total of 4,984 criminal cases involving legislators were pending in various courts across the country as of 1st December, 2021.

- The Amicus Curiae was appointed by the Supreme Court for helping the court in setting up special courts to fast-track cases against MPs and MLAs.
- This trend highlights the increasing instance of criminalization of politics.
- An amicus curiae (literally, “friend of the court”) is someone who is not a party to a case and may or may not have been solicited by a party and who assists a court by offering information, expertise, and bearing on issues of the case.

What is Criminalization of Politics?

- The criminalization of politics means the participation of criminals in politics which includes that criminals can contest in the elections and get elected as members of the Parliament and the State legislature.
- It takes place primarily due to the nexus between politicians and criminals.

What are the Legal Aspects of Disqualification of Criminal Candidates?

- In this regard, Indian Constitution does not specify as to what disqualifies a person from contesting elections for the Parliament, Legislative assembly or any other legislature.
- The Representation of Peoples Act 1951 mentions the criteria for disqualifying a person for contesting an election of the legislature.
 - Section 8 of the act, i.e. disqualification on conviction for certain offences, according to which an individual punished with a jail term of more than two years cannot stand in an election for six years after the jail term has ended.
 - The law does not bar individuals who have criminal cases pending against them from contesting elections therefore the disqualification of candidates with criminal cases depends on their conviction in these cases.

What are the Reasons for Criminalization of Politics?

- Lack of Enforcement: Several laws and court judgments have not helped much, due to the lack of enforcement of laws and judgments.
- Vested Interests: Publishing of the entire criminal history of candidates fielded by political parties may not be very effective, as a major chunk of voters tend to vote through a narrow prism of community interests like caste or religion.
- Use of Muscle and Money Power: Candidates with serious records seem to do well despite their public image, largely due to their ability to finance their own elections and bring substantive resources to their respective parties.
 - Also, sometimes voters are left with no options, as all competing candidates have criminal records.

What are the Effects of Criminalization of Politics?

- Against the Principle of Free and Fair Election: It limits the choice of voters to elect a suitable candidate.
 - It is against the ethos of free and fair election which is the bedrock of a democracy.

- Affecting Good Governance: The major problem is that the law-breakers become law-makers, this affects the efficacy of the democratic process in delivering good governance.
 - These unhealthy tendencies in the democratic system reflect a poor image of the nature of India's state institutions and the quality of its elected representatives.
- Affecting Integrity of Public Servants: It also leads to increased circulation of black money during and after elections, which in turn increases corruption in society and affects the working of public servants.
- Causes Social Disharmony: It introduces a culture of violence in society and sets a bad precedent for the youth to follow and reduces people's faith in democracy as a system of governance.

Hijab & Freedom of Religion

Why in News?

Recently, six students were banned from entering a college in Karnataka's Udupi district for wearing a hijab (a head covering worn in public by some Muslim women).

- The issue throws up legal questions on reading the freedom of religion and whether the right to wear a hijab is constitutionally protected.

How is Religious Freedom Protected under the Constitution?

- Article 25(1) of the Constitution guarantees the "freedom of conscience and the right freely to profess, practise and propagate religion".
- It is a right that guarantees a negative liberty — which means that the state shall ensure that there is no interference or obstacle to exercise this freedom.
 - However, like all fundamental rights, the state can restrict the right for grounds of public order, decency, morality, health and other state interests.
- The implications of this are:
 - Freedom of conscience: Inner freedom of an individual to mould his relation with God or Creatures in whatever way he desires.
 - Right to Profess: Declaration of one's religious beliefs and faith openly and freely.
 - Right to Practice: Performance of religious worship, rituals, ceremonies and exhibition of beliefs and ideas.

- Right to Propagate: Transmission and dissemination of one's religious beliefs to others or exposition of the tenets of one's religion.

What is the Essential Religious Practices Test?

- Over the years, the Supreme Court (SC) has evolved a practical test of sorts to determine what religious practices can be constitutionally protected and what can be ignored.
- In 1954, the SC held in the *Shirur Mutt* case that the term "religion" will cover all rituals and practices "integral" to a religion. The test to determine what is integral is termed the "essential religious practices" test.
- The test, a judicial determination of religious practices, has often been criticized by legal experts as it pushes the court to delve into theological spaces.
 - In criticism of the test, scholars agree that it is better for the court to prohibit religious practices for public order rather than determine what is so essential to a religion that it needs to be protected.
- In several instances, the court has applied the test to keep certain practices out.
 - In a 2004 ruling, the SC held that the Ananda Marga sect had no fundamental right to perform Tandava dance in public streets, since it did not constitute an essential religious practice of the sect.
 - While these issues are largely understood to be community-based, there are instances in which the court has applied the test to individual freedoms as well.
 - For example, in 2016, the SC upheld the discharge of a Muslim airman from the Indian Air Force for keeping a beard.
 - Armed Force Regulations, 1964, prohibits the growth of hair by Armed Forces personnel, except for "personnel whose religion prohibits the cutting of hair or shaving of face".
 - The court essentially held that keeping a beard was not an essential part of Islamic practices.

How have courts ruled so far on the issue of a hijab?

- While this has been put to courts on several occasions, two set of rulings of the Kerala High Court, particularly on the right of Muslim women to dress according to the tenets of Islam, throw up conflicting answers.

- In 2015, at least two petitions were filed before the Kerala High Court challenging the prescription of dress code for All India Pre-Medical Entrance which prescribed wearing “light clothes with half sleeves not having big buttons, brooch/badge, flower, etc. with Salwar/Trouser” and “slippers and not shoes”.
 - Admitting the argument of the Central Board of School Education (CBSE) that the rule was only to ensure that candidates would not use unfair methods by concealing objects within clothes, the Kerala HC directed the CBSE to put in place additional measures for checking students who “intend to wear a dress according to their religious custom, but contrary to the dress code”.
- In *Amna Bint Basheer v Central Board of Secondary Education (2016)*, the Kerala HC examined the issue more closely.
 - The Court held that the practice of wearing a hijab constitutes an essential religious practice but did not quash the CBSE rule.
 - The court once again allowed for the “additional measures” and safeguards put in place in 2015.
- However, on the issue of a uniform prescribed by a school, another Bench ruled differently in *Fathima Tasneem v State of Kerala (2018)*.
 - A single Bench of the Kerala HC held that collective rights of an institution would be given primacy over individual rights of the petitioner.

Motion of Thanks

Why in News

Recently, amendments to the Motion of Thanks to the President’s Address were proposed (However, not passed).

- The amendment proposal mentioned the government’s alleged use of Pegasus spyware and its handling of the Covid-19 pandemic.

What is the Motion of Thanks?

- Article 87 provides for the special address by the President.
- The article provides that at the commencement of the first session after each general election to the

House of the People and at the commencement of the first session of each year, the President shall address both Houses of Parliament assembled together and inform Parliament of the causes of its summons.

- Such an Address is called ‘special address’, and it is also an annual feature.
- This Address has to be to both Houses of Parliament assembled together.

What is the Content of the President of Address?

- The President’s Address is the statement of policy of the Government and, as such, is drafted by the Government.
- The Address contains a review of various activities and achievements of the Government during the previous year and sets out the policies, projects and programmes which the Government of the day wishes to pursue with regard to the important national and international issues.
- The Address also indicates, in broad terms, items of legislative business which are proposed to be brought during the sessions to be held in that year.
- The address of the president, which corresponds to the ‘speech from the Throne in Britain’, is discussed in both the Houses of Parliament on a motion called the ‘Motion of Thanks’.
- If any of the amendments are put forward and accepted then the Motion of Thanks is adopted in the amended form.
 - Amendments may refer to matters contained in the Address as well as to matters which, in the opinion of the member, the Address has failed to mention.
- At the end of the discussion, the motion is put to vote.

What is the Significance of Motion of Thanks?

- The Motion of Thanks must be passed in the House. Otherwise, it amounts to the defeat of the government. It is one of the ways through which the Lok Sabha can also express a lack of confidence in the government. The other ways are:
 - Rejection of a money bill.
 - Passing a censure motion or an adjournment motion.
 - The defeat of the government on a vital issue.
 - Passing a cut motion.

Other Motions in Indian Parliament

	<ul style="list-style-type: none"> ➤ It is moved by a member when he feels that a minister has committed a breach of privilege of the House or one or more of its members by withholding facts of a case or by giving wrong or distorted facts. Its purpose is to censure the concerned minister.
Privilege Motion	<ul style="list-style-type: none"> ➤ It can be moved in Rajya Sabha as well as Lok Sabha. ➤ It should state the reasons for its adoption in the Lok Sabha. It can be moved against an individual minister or a group of ministers or the entire council of ministers.
Censure Motion	<ul style="list-style-type: none"> ➤ It is moved to censure the council of ministers for specific policies and actions. It can be moved only in Lok Sabha. ➤ It is introduced in the Parliament by a member to call the attention of a minister to a matter of urgent public importance, and to seek an authoritative statement from him on that matter.
Call-Attention Motion	<ul style="list-style-type: none"> ➤ It can be moved in Rajya Sabha as well as Lok Sabha. ➤ It is introduced in the Lok Sabha to draw the attention of the House to a definite matter of urgent public importance. It involves an element of censure against the government.
Adjournment Motion	<ul style="list-style-type: none"> ➤ It can be moved only in Lok Sabha. ➤ It is a motion that has been admitted by the Speaker but no date has been fixed for its discussion.
No-Day-Yet-Named Motion	<ul style="list-style-type: none"> ➤ It can be moved in Rajya Sabha as well as Lok Sabha. ➤ Article 75 of the Constitution says that the council of ministers shall be collectively responsible to the Lok Sabha. In other words, the Lok Sabha can remove the ministry from office by passing a no-confidence motion. The motion needs the support of 50 members to be admitted.
No Confidence Motion	<ul style="list-style-type: none"> ➤ It can be moved only in Lok Sabha.

Cut Motions

- A cut motion is a **special power vested in members of the Lok Sabha to oppose a demand being discussed for specific allocation by the government** in the Finance Bill as part of the Demand for Grants.
- If the motion is adopted, it amounts to a **no-confidence vote**, and if the government fails to jot up numbers in the lower House, it is obliged to resign according to the norms of the House.
- A motion may be moved to reduce the amount of a demand in any of the following ways:
 - **Policy Cut Motion:** It is moved so that the amount of the demand be reduced to Re.1 (**represents disapproval of the policy underlying the demand**).
 - **Economy Cut Motions:** It is moved so that the amount of the demand will be reduced by a **specified amount**.
 - **Token Cut Motions:** It is moved so that the amount of the demand is reduced by Rs.100 (**expresses a specific grievance**).
- It can be moved only in Lok Sabha.

Role and Power of Governor

Why in News?

The Governor acts in '**Dual Capacity**' as the **Constitutional head of the state and as the representative of the Union government.**

- In recent years, the **bitterness between states and Governors** has been largely about the **selection of the party to form a government, deadline for proving majority, sitting on Bills, and passing negative remarks on the state administration.**
- Due to this, Governor is referred to with negative terms like an **agent of the Centre, Puppet and rubber stamps.**

What are Constitutional Provisions Related to the Governor?

- Article 153 says that there shall be a Governor for each State. One person can be appointed as Governor for two or more States.
 - A Governor is appointed by the President and is a nominee of the Central Government.
- It is stated that the Governor has a dual role.
 - He is the constitutional head of the state, bound by the advice of his Council of Ministers (CoM).
 - He functions as a vital link between the Union Government and the State Government.
- Articles 157 and 158 specify eligibility requirements for the post of governor.
- Governor has the power to grant pardons, reprieves, etc. (Article 161).
- There is a CoM with the CM at the head to aid and advise the Governor in the exercise of his functions, except some conditions for discretion. (Article 163)
- The Governor appoints the Chief Minister and other Ministers (Article 164).
- Governor assents, withholds assent, or reserves the bill for the consideration of the President passed by the Legislative Assembly (Article 200).
- Governors may promulgate the Ordinances under certain circumstances (Article 213).

What are the Friction Points in Governor-State Relations?

- Governor is envisaged as an apolitical head who must act on the advice of the council of ministers. However, the Governor enjoys certain discretionary powers granted under the Constitution. For example,
 - Giving or withholding assent to a Bill passed by the state legislature,
 - Determining the time needed for a party to prove its majority, or
 - Which party must be called first to do so, generally after a hung verdict in an election.
- There are no provisions laid down for the manner in which the Governor and the state must engage publicly when there is a difference of opinion.
- The Governor has a 5-year tenure, he can remain in office only until the pleasure of the President.

- In 2001, the National Commission to Review the Working of the Constitution, held that the Governor owes his appointment and his continuation to the Union.
- There is the apprehension that he is likely to act in accordance with the instructions received from the Union Council of Ministers.
- In the Constitution, there are no guidelines for exercise of the Governor’s powers, including for appointing a CM or dissolving the Assembly.
- There is no limit set for how long a Governor can withhold assent to a Bill.
- The Governor sends a report to the centre which forms the basis of the Union cabinet’s recommendations to the President for invoking Article 356 (President’s Rule).

What Reforms have been Suggested?

- On Appointment and Removal of Governor:
 - The “Punchhi commission - 2010” recommended that there should be a provision for the impeachment of the governor by the state legislature.
 - The state chief minister should have a say in the governor’s appointment.
- On the Use of Article 356:
 - The “Punchhi commission - 2010” recommended that Articles 355 & 356 be amended.
 - The Sarkaria Commission (1988) recommended that Article 356 should be used in very rare cases when it becomes unavoidable to restore the breakdown of constitutional machinery in the State.
 - Recommendations have also been given by the Administrative Reforms Commission (1968), Rajamannar Committee (1971) and Justice V.Chelliah Commission (2002).
- On Dismissal of State Government under Article 356:
 - S.R. Bommai Judgment (1994): The case put an end to the arbitrary dismissal of State governments by a hostile Central government.
 - The verdict ruled that the floor of the Assembly is the only forum that should test the majority of the government of the day, and not the subjective opinion of the Governor.
- On Discretionary Powers:
 - The Supreme Court in the *Nabam Rebia judgment* (2016) ruled that the exercise of Governor’s discretion Article 163 is limited and his choice of action should not be arbitrary or fanciful.

Dilution of Lokayukta Powers in Kerala

Why in News?

Recently, the Kerala government has proposed to amend the Kerala Lokayukta Act, 1999 with an ordinance, a move that has drawn criticism from the opposition.

- The proposed ordinance envisages limiting the powers of the anti-corruption watchdog.

What are the Proposed Changes?

- The Kerala cabinet has recommended to the Governor that he promulgates the ordinance.
- The proposal sought to give the government powers to “either accept or reject the verdict of the Lokayukta, after giving an opportunity of being heard”.
- By this ordinance, the quasi-judicial institution will turn into a toothless advisory body, whose orders will no longer be binding on the government.

What is the Concept of Lokpal and Lokayuktas?

- The Lokpal and Lokayukta Act, 2013 provided for the establishment of Lokpal for the Union and Lokayukta for States.
- These institutions are statutory bodies without any constitutional status.
- They perform the function of an “ombudsman” and inquire into allegations of corruption against certain public functionaries and for related matters.
- The Lokpal and Lokayuktas Act, 2013 provides for establishing a Lokpal headed by a Chairperson, who is or has been a Chief Justice of India, or is or has been a judge of the Supreme Court, or an eminent person who fulfills eligibility criteria as specified.
 - Of its other members, not exceeding eight, 50% are to be judicial members, provided that not less than 50% belong to the SCs, STs, OBCs, minorities, or are women.
 - The Lokpal was appointed in March 2019 and it started functioning since March 2020 when its rules were framed. The Lokpal is at present headed by former Supreme Court Justice Pinaki Chandra Ghose.

- The Lokpal has jurisdiction to inquire into allegations of corruption against anyone who is or has been Prime Minister, or a Minister in the Union government, or a Member of Parliament, as well as officials of the Union government under Groups A, B, C and D.
- Also covered are chairpersons, members, officers and directors of any board, corporation, society, trust or autonomous body either established by an Act of Parliament or wholly or partly funded by the Centre.
- It also covers any society or trust or body that receives foreign contributions above Rs. 10 lakh.

What is the Historical Background of Ombudsman in India?

- In 1809, the institution of ombudsman was inaugurated officially in Sweden.
- In the 20th century, the Ombudsman as an institution developed and grew most significantly after the Second World War (1939-45).
- In 1967, on the recommendations of the Whyatt Report of 1961, Great Britain adopted the institution of the ombudsman and became the first large nation in the democratic world to have such a system.
- In India, the concept of constitutional ombudsman was first proposed by the then law minister Ashok Kumar Sen in parliament in the early 1960s.
- The terms Lokpal and Lokayukta were coined by Dr. L. M. Singhvi.
- In 1966, the First Administrative Reforms Commission recommended the setting up of two independent authorities- at the central and state level, to look into complaints against public functionaries, including MPs.
- In 1968, Lokpal bill was passed in Lok Sabha but lapsed with the dissolution of Lok Sabha and since then it lapsed in the Lok Sabha many times.
- In 2002, the Commission to Review the Working of the Constitution headed by M.N. Venkatachaliah recommended the appointment of the Lokpal and Lokayuktas; also recommended that the PM be kept out of the ambit of the authority.
- In 2005, the Second Administrative Reforms Commission chaired by Veerappa Moily recommended that the office of Lokpal should be established without delay.

- In 2011, social movement “India Against Corruption movement” led by Anna Hazare put pressure on the government at the Centre and resulted in the passing of the Lokpal and Lokayuktas Bill, 2013.

How does Lokayukta Work in the States?

- Section 63 of the Lokpal and Lokayuktas Act, 2013 states: “Every state shall establish a body to be known as the Lokayukta for the State, if not so established, constituted or appointed, by a law made by the State Legislature”.
- It will be created to deal with complaints relating to corruption against certain public functionaries, within a period of one year from the date of commencement of this Act.
 - However, the law is a mere framework, leaving it to the states to decide the specifics.
 - Given that states have autonomy to frame their own laws, the Lokayukta’s powers vary from state to state on various aspects, such as tenure, and need of sanction to prosecute officials.
- When the 2013 Act was passed, Lokayuktas were already functioning in some states - including in Madhya Pradesh and Karnataka where they were very active.
 - Following the Act and the intervention of the Supreme Court, most states have now set up a Lokayukta.

Draft National Higher Education Qualification Framework

Why in News?

Recently, the University Grants Commission (UGC) has released a Draft National Higher Educational Qualification Framework (NHEQF) as a part of the National Education Policy (NEP) 2020 to assess students at different levels.

- The NEP 2020 aims at making “India a global knowledge superpower”.
- Given the size of the higher education system and the diversity of institutions and programmes of study in India, the country needs to move towards developing a nationally accepted and internationally comparable and acceptable qualifications framework to facilitate transparency and comparability of higher education qualifications at all levels.

What is Draft NHEQF?

- The framework is not intended to promote a uniform curriculum or national common syllabus. The purpose is to bring up/elevate all HEIs (Higher Education Institutions) to a common level of benchmarking to ensure that all institutions are providing quality education.
- The draft framework has outlined several learning level “descriptors” or parameters based on which students can be assessed at every level.
- These parameters include generic learning outcomes, constitutional, ethical, and moral values, employment ready skills, entrepreneurship mindset, and application of knowledge and skills among others.
- The NHEQF has divided parameters into levels 5 to 10.
 - Levels 1 to 4 cover the school education.
 - The NHEQF level 5 represents learning outcomes appropriate to the first year (first two semesters) of the undergraduate programme of study, while Level 10 represents learning outcomes appropriate to the doctoral-level programme of study.
- The NHEQF envisages that students on completion of a programme of study must possess and demonstrate the expected graduate profile/attributes acquired.
- It also fixes the number of credits required to clear the different levels of the four-year undergraduate programme, postgraduate degrees and doctoral degrees.
 - The NEP 2020 allows multiple entry and exits at the undergraduate level. It effectively means that students can exit after completing one year of undergraduate programme with a certificate, after two years with a diploma, after three years with a bachelor’s degree, or can complete four years and get an honours degree with a honours/research degree.
 - A credit is a unit by which the coursework is measured.

What is the Background of the National Qualifications Framework in India?

- India recognized the need for NQF both for general education and for Vocational Education and Training (VET).

- The Ministry of Labour and Employment developed the National Vocational Qualifications Framework (NVQF) and the Ministry of Human Resource Development (renamed as Ministry of Education, after NEP 2020 recommendations) developed the Vocational Education Qualifications Framework (NVEQF).
- These two frameworks were considered and used while developing the National Skills Qualifications Framework (NSQF) notified in 2013.

University Grants Commission (UGC)

- It came into existence on 28th December, 1953 but became a statutory organization of the Government of India by the UGC Act, 1956, under the Ministry of Education.
- The UGC's mandate includes:
 - Promoting and coordinating university education.
 - Determining and maintaining standards of teaching, examination and research in universities.
 - Framing regulations on minimum standards of education.
 - Monitoring developments in the field of collegiate and university education; disbursing grants to the universities and colleges.
 - Serving as a vital link between the Union and state governments and institutions of higher learning.
 - Advising the Central and State governments on the measures necessary for improvement of university.

Common Electoral Roll and Simultaneous Elections

Why in News?

Recently, the Law and Justice Minister told the Rajya Sabha that the Centre was not planning on amending the Representation of the People Act, 1951 to enable a common electoral roll and simultaneous elections to all electoral bodies in the country.

What is the Common Electoral Roll?

- About:
 - Under the Common Electoral Roll, only one voter list will be used for Lok Sabha, Vidhan Sabha and other elections.

Types of Electoral Rolls in India Currently:

- Some state laws allow the SEC (State Election Commission) to borrow and use the Election Commission of India's voter's rolls for the local body elections.
- In others, the state commission uses the EC's voters list as the basis for the preparation and revision of rolls for municipality and panchayat elections.
- Few states have their own electoral rolls and do not adopt EC's roll for local body polls like those of Uttar Pradesh, Uttarakhand, Odisha, Assam, Madhya Pradesh, Kerala, Odisha, Assam, Arunachal Pradesh, Nagaland and the Union Territory of Jammu and Kashmir.
- The distinction stems from the fact that the supervision and conduct of elections in our country are entrusted with two constitutional authorities — the Election Commission (EC) of India and the State Election Commissions (SECs).
 - Election Commission (EC) of India: It was set up in 1950, the EC is charged with the responsibility of conducting polls to:
 - the offices of the President and Vice-President of India,
 - to Parliament, the state assemblies and the legislative councils.
 - State Election Commissions (SECs): The SECs, on the other hand, supervise municipal and panchayat elections. They are free to prepare their own electoral rolls for local body elections, and this exercise does not have to be coordinated with the EC.
- Need:
 - A common electoral roll and simultaneous elections as a way to save an enormous amount of effort and expenditure.
 - It is argued that the preparation of a separate voters list causes duplication of the effort and the expenditure.
 - Earlier Recommendations:
 - The Law Commission recommended it in its 255th report in 2015 for a single electoral roll.
 - The EC too adopted a similar stance in 1999 and 2004.

- Sub-schemes approved under the programme include:
 - Sustainable technology and environmental promotion; Integrated Development of Leather Sector (IDLS); establishment of institutional facilities; Mega Leather Footwear and Accessories Cluster Development; brand promotion; and development of design studios.
- Development of design studios (proposed outlay Rs 100 crore) is a new sub-scheme and it would promote marketing/export linkages, facilitate buyer-seller meets, display designs to international buyers and work as an interface for the trade fairs.
- Women employment is predominant in Leather products industry with about 30% share. The Leather industry in India has one of the youngest workforces with 55% of the workforce below 35 years of age.
- The major markets for Indian Leather & Leather Products are USA, Germany, UK, Italy, France, Spain, Netherlands, UAE, etc.

Interim Report of J&K Delimitation Commission

Why in News

Recently, in its interim report, the Jammu and Kashmir (J&K) Delimitation Commission has proposed significant changes to the electoral map of J&K.

- The delimitation exercise had started in June 2021 in the state.

What is the Impact of erstwhile IFLADP ?

- The programme has a direct benefit towards quality employment generation especially for women, skill development, decent work, making the industry more environment friendly and prompting a sustainable production system.
- The leather clusters located in different parts of the country have accrued benefit in terms of reduction of poverty, gender equality, sector specific skill/education, etc., thus touching many of the Sustainable Development Goals (SDGs).
- Other National Development Plans (NDPs) such as economic growth, generation of employment, good health and well-being, infrastructure development, affordable and clean energy and other environmental benefits are well-served by the IFLAD Programme.
 - Most of the NDPs align with the SDGs.

What is the current status of India's Leather Industry?

- India is the second largest producer of footwear and leather garments after China in the world and is the second largest exporter (after China) of leather garments in the world.
- The industry is known for its consistency in high export earnings and it is among the top ten foreign exchange earners for the country.
- India has an abundance of raw materials with access to 20% of world's cattle and buffalo and 11% of the world's goat and sheep population.
- The Leather industry is an employment intensive industry providing job to more than 4 mn people, mostly from the weaker sections of the society.

What was the Previous Distribution of J&K Constituencies?

- The erstwhile J&K State had an 87-member assembly, with 37 constituencies in the Jammu region and 46 in the Kashmir division and four in Ladakh . Besides, 24 seats are reserved and vacant for Pakistan occupied Kashmir (PoK).
- J&K lost its special status and was divided into two Union Territories (J&K and Ladakh) after the abrogation of its special status under Article 370, on 5th August, 2019.

What are the Major Recommendations of J&K Delimitation Commission?

➤ About:

○ Increased Assembly Strength:

- The Commission has, as per the mandate granted under the J&K Reorganisation Act, 2019, added seven assembly constituencies to J&K, increasing its strength from 87 to 90.
- The interim report proposes an increase of six seats for the Jammu province, taking the number of constituencies to 43, and an increase of one seat in the Kashmir province, taking the seat strength to 47, almost bringing the two regions at par with each other.
- The Commission has suggested redrawing of boundaries of most of the Assembly segments in J&K. It has named and reconfigured 28 new constituencies and deleted 19 assembly segments.

○ Reservation in Assemblies:

- The Commission has proposed to reserve seven seats for Scheduled Castes (SCs) Hindus that mainly populate the Samba-Kathua-Jammu-Udhampur belt and nine seats for Scheduled Tribes (STs) which will help Gujjar and Bakerwals, mostly non-Kashmiri speaking Muslims inhabiting the Rajouri-Poonch belt in the Jammu province.

○ Increased Lok Sabha Seats:

- The Commission has proposed a reframing of Lok Sabha constituencies, with J&K having five parliamentary constituencies, which included three seats from Kashmir and two from Jammu.
- It has proposed a Lok Sabha seat, disjointed geographically, by merging three districts of south Kashmir and two districts of Rajouri and Poonch in the Pir Panjal valley. It will be named Anantnag-Rajouri seat.

➤ Criticism:

○ Kashmir has Larger Population:

- This seat sharing was criticised on the grounds that the Kashmir province has more population at 68.88 lakhs against 53.50 lakhs in the Jammu province.
- However, the commission argued that it has taken into account the topography, means of communication and convenience available and not just the population size.

○ Reorganisation Unconstitutional:

- It has been claimed that the J&K Reorganisation Act, 2019 was “palpably unconstitutional” and it has already been challenged in the Supreme Court.

○ Arbitrary Process:

- Critics have also questioned the formula applied in case of J&K by the commission and termed the Commission’s report an arbitrary overhaul, with no regard for even the terrain, let alone the population that tends to be a basic parameter for redrawing the boundaries of assembly and parliamentary segments.

What is Delimitation?

- Delimitation is the act of fixing or redrawing the limits or boundaries of territorial constituencies (Assembly or Lok Sabha seat) in a country or a province having a legislative body, as per the Election Commission.
- The delimitation exercise is carried out by an independent high-powered panel known as the Delimitation Commission whose orders have the force of law and cannot be questioned by any court.
- The exercise has been carried out over the years to redefine the area of a constituency-based on its population size (based on the last Census).
- Aside from changing the limits of a constituency, the process may result in change in the number of seats in a state.
- This exercise also involves reservation of Assembly seats for SC & ST in accordance with the Constitution.
- The key aim is to have equal representation to equal segments of the population in order to ensure a fair division of geographical areas so that all political parties or candidates contesting elections have a level playing field in terms of a number of voters.

What is the Constitutional Basis for Delimitation?

- Under Article 82, the Parliament enacts a Delimitation Act after every Census.
- Under Article 170, States also get divided into territorial constituencies as per Delimitation Act after every Census.
- Once the Act is in force, the Union government sets up a Delimitation Commission.

- The delimitation commission is an independent body constituted under Article 82 after the Parliament enacted a Delimitation Act after every census.
- However, the first delimitation exercise was carried out by the President (with the help of the Election Commission) in 1950-51.
 - The Delimitation Commission Act was enacted in 1952.
- Delimitation Commissions had been set up four times — 1952, 1963, 1973 and 2002 under the Acts of 1952, 1962, 1972 and 2002.
 - There was no delimitation after the 1981 and 1991 Censuses.

Who is Included in a Delimitation Commission?

- The Delimitation Commission is appointed by the President of India and works in collaboration with the Election Commission of India.
- Composition:
 - Retired Supreme Court judge
 - Chief Election Commissioner
 - Respective State Election Commissioners.

Why is Delimitation Needed?

- The uneven growth of population in different constituencies in different parts of the country as well as within the same state.
- Also, continuous migration of people / electorate from one place to another especially from rural areas to urban areas have resulted in strikingly different sizes of electoral constituencies even within the same State.

What are the Issues with Delimitation?

- States that take little interest in population control could end up with a greater number of seats in Parliament. The southern states that promoted family planning faced the possibility of having their seats reduced.
- In 2002-08, Delimitation was done based on the 2001 census, but the total number of seats in the Assemblies and Parliament decided as per the 1971 Census was not changed.
- The Constitution has also capped the number of Lok Shaba & Rajya Sabha seats to a maximum of 550 & 250 respectively and increasing populations are being represented by a single representative.

Draft Anti-Conversion Bill: Haryana

Why in News?

Recently, the Haryana government released the draft of the Haryana Prevention of Unlawful Conversion of Religious Bill, 2022.

- The bill aims at prohibiting religious conversions which are affected through misrepresentation, force, undue influence, coercion, allurement or by any fraudulent means or by marriage or for marriage by making it an offense.
- Other States like Karnataka, Arunachal Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh and Uttarakhand have also passed laws restricting religious conversion.

What is the Need for Anti-Conversion Laws?

- No Right to Proselytize: The Constitution confers on each individual the fundamental right to profess, practice and propagate his religion.
 - The individual right to freedom of conscience and religion cannot be extended to construe a collective right to proselytize.
 - For the right to religious freedom belongs equally to the person converting and the individual sought to be converted.
- Fraudulent Marriages: In the recent past, several instances have come to the notice that whereby people marry persons of other religion by either misrepresentation or concealment of their own religion and after getting married they force such other person to convert to their own religion.
- SC Observations: Recently, the Supreme Court also took judicial notice of such instances.
 - According to the court, such incidents not only infringe the freedom of religion of the persons so converted but also militate against the secular fabric of our society.

What are the Provisions of the Draft Bill?

- The Bill provides for greater punishment for such conversions in respect of minors, women, Scheduled Castes and the Scheduled Tribes.

- It also provides that the burden of proof as to whether a conversion was not affected through misrepresentation, use of force, under threat, undue influence, coercion, allurement or by any fraudulent means or by marriage or for marriage for the purpose of carrying out conversion lies on the accused.
- Every individual converting from one religion to another shall submit to the prescribed authority a declaration that the conversion affected through was not by any fraudulent means.
- Besides, it provides for declaring marriages null and void, which were solemnized by concealment of religion.

What is the Status of Anti-Conversion Laws in India?

- Constitutional Provision: The Indian Constitution under Article 25 guarantees the freedom to profess, propagate, and practise religion, and allows all religious sections to manage their own affairs in matters of religion; subject to public order, morality, and health.
 - However, no person shall force their religious beliefs and consequently, no person should be forced to practice any religion against their wishes.
- Existing Laws: There has been no central legislation restricting or regulating religious conversions.
 - However, since 1954, on multiple occasions, Private Member Bills have been introduced in (but never approved by) the Parliament, to regulate religious conversions.
 - Further, in 2015, the Union Law Ministry stated that Parliament does not have the legislative competence to pass anti-conversion legislation.
 - Over the years, several states have enacted 'Freedom of Religion' legislation to restrict religious conversions carried out by force, fraud, or inducements.

What are the Issues Associated with Anti-Conversion Laws?

- Uncertain and Vague Terminology: The uncertain and vague terminology like misrepresentation, force, fraud, allurement presents a serious avenue for misuse.

- These terms leave room for ambiguities or are too broad, extending to subjects far beyond the protection of religious freedom.
- Antithetical to Minorities: Another issue is that the present anti-conversion laws focus more on the prohibition of conversion to achieve religious freedom.
 - However, the broad language used by the prohibitive legislation might be used by officials to oppress and discriminate against minorities.
- Antithetical to Secularism: These laws may pose a threat to the secular fabric of India and the international perception of our society's intrinsic values and legal system.

What are Supreme Court Judgements on Marriage and Conversion?

- Hadiya Judgement 2017:
 - Matters of dress and of food, of ideas and ideologies, of love and partnership are within the central aspects of identity.
 - Neither the State nor the law can dictate a choice of partners or limit the free ability of every person to decide on these matters.
 - The principle that the right to marry a person of one's choice is integral to Article 21.
- K.S. Puttaswamy or 'privacy' Judgment 2017:
 - Autonomy of the individual was the ability to make decisions in vital matters of concern to life.
- Other Judgements:
 - The SC in its various judgments, has held that faith, the state and the courts have no jurisdiction over an adult's absolute right to choose a life partner.
 - India is a "free and democratic country" and any interference by the State in an adult's right to love and marry has a "chilling effect" on freedoms.
 - Intimacies of marriage lie within a core zone of privacy, which is inviolable and the choice of a life partner, whether by marriage or outside it, is part of an individual's "personhood and identity".
 - The absolute right of an individual to choose a life partner is not in the least affected by matters of faith.

Misuse of Prevention of Money Laundering Act

Why in News

The Supreme Court (SC) is examining allegations of rampant misuse of Prevention of Money Laundering Act 2002 (PMLA) by the government and the Enforcement Directorate (ED).

What are the Major Allegations?

- Being Used for Ordinary Crimes:
 - PMLA is pulled into the investigation of even “ordinary” crimes and assets of genuine victims have been attached.
 - PMLA was enacted in response to India’s global commitment (including the Vienna Convention) to combat the menace of money laundering. Instead, rights have been “cribbed, cabined and confined”.
 - PMLA was a comprehensive penal statute to counter the threat of money laundering, specifically stemming from trade in narcotics.
 - Currently, the offences in the schedule of the Act are extremely overbroad, and in several cases, have absolutely no relation to either narcotics or organised crime.
- Lack of Transparency and Clarity:
 - Even the Enforcement Case Information Report (ECIR) - an equivalent of the FIR - is considered an “internal document” and not given to the accused.
 - The ED treats itself as an exception to these principles and practises [of criminal procedure law] and chooses to register an ECIR on its own whims and fancies on its own file.
 - There is also a lack of clarity about ED’s selection of cases to investigate. The initiation of an investigation by the ED has consequences which have the potential of curtailing the liberty of an individual.

What is the Prevention of Money Laundering Act ?

- The provisions of this act are applicable to all financial institutions, banks (Including RBI), mutual funds, insurance companies, and their financial intermediaries.

- PMLA (Amendment) Act, 2012:
 - Adds the concept of ‘reporting entity’ which would include a banking company, financial institution, intermediary etc.
 - PMLA, 2002 levied a fine up to Rs 5 lakh, but the amendment act has removed this upper limit.
 - It has provided for provisional attachment and confiscation of property of any person involved in such activities.

What is Money Laundering?

- About:
 - Money laundering is the process of making large amounts of money generated by criminal activity, such as drug trafficking or terrorist funding, appear to have come from a legitimate source.
 - Criminal activities like illegal arms sales, smuggling, drug trafficking and prostitution rings, insider trading, bribery and computer fraud schemes produce large profits.
 - Thereby it creates the incentive for money launderers to “legitimise” the ill-gotten gains through money laundering.
 - The money generated is called ‘dirty money’ and money laundering is the process of conversion of ‘dirty money’, to make it appear as ‘legitimate’ money.
- Process of Money Laundering:
 - Money laundering is a three-stage process :
 - Placement: The first stage is when the crime money is injected into the formal financial system.
 - Layering: In the second stage, money injected into the system is layered and spread over

various transactions with a view to obfuscate the tainted origin of the money.

- Integration: In the third and the final stage, money enters the financial system in such a way that original association with the crime is sought to be wiped out and the money can then be used by the offender as clean money.

- Some of the Common Methods of Money Laundering:

- Bulk Cash Smuggling, Cash Intensive Businesses, Trade-based laundering, Shell companies and trusts, Round-tripping, Bank Capture, Gambling, Real Estate, Black Salaries, Fictional Loans, Hawala, False invoicing.

What is the Enforcement Directorate?

- Directorate of Enforcement is a specialised financial investigation agency under the Department of Revenue, Ministry of Finance..
- On 1st May 1956, an ‘Enforcement Unit’ was formed, in the Department of Economic Affairs, for handling Exchange Control Laws violations under Foreign Exchange Regulation Act, 1947.
- In the year 1957, this Unit was renamed as ‘Enforcement Directorate’.
- ED enforces the following laws:
 - Foreign Exchange Management Act, 1999 (FEMA)
 - Prevention of Money Laundering Act, 2002 (PMLA)

Free Legal Aid

Why in News?

Recently, the Ministry of Law and Justice informed Lok Sabha about the Pan India Legal Awareness and Outreach Campaign, which was launched in October 2021 on the occasion of National Legal Service Day (NLSA).

What is NLSA and Related Constitutional Provisions ?

- About:
 - NLSA was first started by the Supreme Court of India in 1995 to provide help and support to poor and weaker sections of the society.
 - Free legal services are provided in matters before Civil, Criminal and Revenue Courts, Tribunals or any other authority exercising judicial or quasi judicial functions.
 - It is observed to make the citizens of the country aware of the various provisions under the Legal Services Authorities Act and the rights of the litigants. On this day, each jurisdiction organizes legal aid camps, Lok adalats, and legal aid programmes.
- Constitutional Provisions:
 - Article 39A of the Constitution of India provides that State shall secure that the operation of the legal system promotes justice on a basis of equal opportunity, and shall in particular, provide free legal aid, by suitable legislation or schemes or in any other way, to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disability.
 - Articles 14 and 22(1) also make it obligatory for the State to ensure equality before law and a legal system which promotes justice on a basis of equal opportunity to all.

What are the Objectives of Legal Service Authorities?

- Provide free legal aid and advice.
- Spread legal awareness.
- Organize lok adalats.
- Promote settlements of disputes through Alternative Dispute Resolution (ADR) Mechanisms. Various kinds of ADR mechanisms are Arbitration, Conciliation, Judicial settlement including settlement through Lok Adalat, or Mediation.
- Provide compensation to victims of crime.

What are the Institutions for providing Free Legal Services?

- National Level:
 - National Legal Services Authority (NALSA). It was constituted under the Legal Services Authorities Act, 1987. The Chief Justice of India is the Patron-in-Chief.

- State Level:
 - State Legal Services Authority. It is headed by the Chief Justice of the State High Court who is its Patron-in-Chief.
- District Level:
 - District Legal Services Authority. The District Judge of the District is its ex-officio Chairman.
- Taluka/Sub-Division Level:
 - Taluka/Sub-Divisional Legal Services Committee. It is headed by a senior Civil Judge.
- High Court: High Court Legal Services Committee
- Supreme Court: Supreme Court Legal Services Committee.

Who is Eligible for Getting Free Legal Services?

- Women and children
- Members of SC/ST
- Industrial workmen
- Victims of mass disaster, violence, flood, drought, earthquake, industrial disaster.
- Disabled persons
- Persons in custody
- Those persons who have annual income of less than the amount prescribed by the respective State Government, if the case is before any court other than the Supreme Court, and less than Rs. 5 Lakhs, if the case is before the Supreme Court.
- Victims of Trafficking in Human beings or begar.



Economic Scenario

Highlight s

- Reduction of Agri-cess for Crude Palm Oil
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Reduction of Agri-cess for Crude Palm Oil

Why in News?

The central government has reduced Agricultural Infrastructure Development Cess (AIDC) for Crude Palm Oil (CPO) from 7.5% to 5% with effect from 12th February, 2022.

What is Palm Oil?

- Palm oil is currently the **world's most consumed vegetable oil**.
- It is used extensively in the production of detergents, plastics, cosmetics, and biofuels.
- **Top consumers** of the commodity are India, China, and the European Union (EU).

What is AIDC?

- Cess is a kind of special-purpose tax which is levied over and above basic tax rates.
- The purpose of the new AIDC is to **raise funds to finance spending on developing agriculture infrastructure**.

- The AIDC is **proposed to be used to improve agricultural infrastructure** aimed at not only boosting production but also in helping conserve and process farm output efficiently.

How will this Step be Beneficial?

- This decision is in view to provide further relief to consumers and to keep in check any further rise in the prices of domestic edible oils due to rise in the prices of edible oils globally.
 - After reduction of the agri-cess, the import tax gap between CPO (Crude Palm Oil) and Refined Palm Oil has increased to 8.25%.
 - The increase in the gap between the CPO and Refined Palm Oil will benefit the domestic refining industry to import Crude Oil for refining.

What other Steps are taken to Check the Prices of Edible Oils?

- Extended the Current Basic Rate:
 - The government has extended the current basic rate of import duty of zero percent on Crude Palm

Oil, Crude Soyabean oil and Crude Sunflower Oil upto 30th September, 2022.

- The rate of import duty on Refined Palm Oils at 12.5%, Refined Soyabean oil and Refined Sunflower Oil at 17.5% will remain in force up to 30th September, 2022.
 - This measure will help in cooling down the prices of edible oils which are witnessing an upward trend in the international market due to lower availability and other international factors.
- Imposed Stock Limit Quantities:
- The government had earlier imposed stock limit quantities on edible oils and oilseeds for a period upto 30th June, 2022 under the Essential Commodities Act, 1955 to check hoarding.
 - This measure is expected to curtail any unfair practices like hoarding, black marketing etc. of edible oils and oilseeds in the market which may lead to any increase in the prices of edible oils.
- National Edible Oil Mission-Oil Palm (NMEO-OP):
- In August, 2021, the government has announced the National Edible Oil Mission-Oil Palm (NMEO-OP) scheme for self-reliance in edible oil and involves investment of over Rs. 11,000 crore (over a five year period).

What about the Edible Oil Economy in India?

- There are two major features, which have significantly contributed to the development of this sector. One was the setting up of the Technology Mission on Oilseeds in 1986 which was converted into a National Mission on Oilseeds and Oil Palm (NMOOP) in 2014.
 - Further it was merged with NFSM (National Food Security Mission).
 - This gave a thrust to Government's efforts for augmenting the production of oilseeds.
- The other dominant feature which has had significant impact on the present status of edible oilseeds/oil industry has been the program of liberalization under which the Government's economic policy allows greater freedom to the open market and encourages healthy competition and self regulation rather than protection and control.
- The Yellow Revolution is one of the color revolutions that was launched to increase the production of Edible oilseeds in the country to meet domestic demand.

- The government has also launched the Kharif Strategy 2021 for oilseeds.
 - It will bring an additional 6.37 lakh hectare area under oilseeds and is likely to produce 120.26 lakh quintals of oilseeds and edible oil amounting to 24.36 lakh quintals.
- Oils Commonly Used in India: The major edible oils consumed in the country are mustard, soyabean, groundnut, sunflower sesame oil, niger seed, safflower seed, castor, and linseed (primary source) and coconut, palm oil, cottonseed, rice bran, solvent extracted oil, tree and forest origin oil.

Why is India not Self Sufficient in Edible Oils Production?

- Micro-irrigation, quality seeds, marketing infrastructure and government policies are the four main concerns for oil seed and oil producers in India.
- According to the Ministry of Consumer Affairs, Food, and Public Distribution the total domestic demand of edible oils in the country is approximately 250 lakh metric tonnes per year.
 - From which around 60% of the edible oils consumed in the country is met through imports. Palm oils (crude + refined) import constitutes around 60% of the total edible oil imported, out of which 54% is imported from Indonesia and Malaysia.

National Single Window System

Why in News?

Recently, Jammu & Kashmir became the first Union Territory to be onboarded the National Single Window System (NSWS).

- This marks a major leap in Ease of Doing Business (EoDB) in the Union Territory.
- NSWS is linked with India Industrial Land Bank (IILB) which hosts 45 industrial parks of J&K. This will help Investors to discover available land parcels in J&K.

What is the National Single Window System?

- The platform was soft launched in September 2021 by the Ministry of Commerce and Industry.
- It is a one-stop digital platform that aims at allowing investors to apply for various pre-operations approvals required for commencing a business in the country.

- It makes the business registration process easier, allowing the beneficiary to get significant approvals online, without having to run to the government offices for approvals and can avail themselves of services with just a click.

What is the Significance ?

- It would become a “one stop shop” for state and Central government compliances and bring transparency, accountability and responsiveness in the ecosystem.
- It will also offer a Know Your Approvals service to inform businesses of the details of all the approvals they need to obtain as well as a common registration form, document repository and e-communication module.
- It will provide strength to other schemes e.g. Make in India, Startup India, PLI scheme etc.

What are Other Initiatives to Improve EoDB ?

- In the Union Budget speech 2020, the Investment Clearance Cell (ICC) was announced.
 - ICC will provide “end to end” facilitation and support to investors, including pre-investment advisory, provide information related to land banks and facilitate clearances at Centre and State level. The cell was proposed to operate through an online digital portal.
- Amendments to Insolvency and Bankruptcy Code (IBC) and Decriminalisation under Companies Act, 2013.
- Reduction of corporate tax from 30% to 25% for mid-sized companies.
- The Ministry of Corporate Affairs (MCA), has initiated the MCA21 project, which enables easy and secure access to MCA services in an assisted manner for corporate entities, professionals, and the general public.
 - It has also launched the Simplified Proforma for Incorporating Company Electronically Plus (SPICe+) web form.
- The Central Board of Indirect Taxes & Customs (CBIC) has launched eSanchit (e-Storage and Computerised Handling of Indirect Tax documents) for paperless processing, uploading of supporting documents and to facilitate the trading across Borders.
- E-assessment scheme for taxpayers.

Crop Diversification

Why in News?

In the annual Economic Survey, the Department of Economic Affairs said that there is an urgent need for Crop Diversification in view of the severe water stress in areas where paddy, wheat and sugarcane are grown as well as to increase oil seed production and reduce dependency on imports of cooking oil.

What is it?

- Crop diversification refers to the addition of new crops or cropping systems to agricultural production on a particular farm taking into account the different returns from value-added crops with complementary marketing opportunities.
 - Cropping System: It refers to the crops, crop sequences and management techniques used on a particular agricultural field over a period of years.
 - Types: Major cropping systems in India are sequential-cropping, monocropping, intercropping, relay Cropping, mixed-cropping and alley cropping.
- Many farmers also use the mixed crop-livestock system to increase their standards of living and income.
 - Animal husbandry or Animal Agriculture is the branch of science dealing with the practice of breeding, farming and care of farm animals (livestocks) such as cattle, dogs, sheep and horses by humans for advantages.
 - It refers to livestock raising and selective breeding. It is a branch of agriculture.

What is the Need for Crop Diversification?

- Adversities and Climatic Vagaries:
 - A farmer may confront a series of adversities and climatic vagaries during agricultural production, such as erratic rainfall, stone hail, drought, flood, and so on.
 - In addition, challenges like post-harvest losses, storage and unavailability of accessible proper marketing are further aggravating the problem.
 - Currently, the human-wildlife and / or human-crops conflict, forest fires, organic matter deficit soil, monoculture, plant disease and infestation,

migration and the reluctance of youth towards agriculture are a new array of problems.

- Problems in Maintaining Input Cost:
 - For more than five decades, Indian agriculture has been facing severe problems related to an increase in input cost to increase productivity.
 - However, the productivity proportional to input maintains for a certain time before plateauing and then progressively declines in many cases.
- Following Same Pattern extract Specific Nutrients from the Soil:
 - Farmers have been using the common government-promoted Green Revolution cropping pattern — rice-wheat-rice for a longer time to enhance productivity.
 - Unilaterally, following the same cropping pattern for a longer period of time has extracted the specific nutrients from the soil, resulting in soil deficiency in those nutrients along with a declined population of microfauna in the soil.
 - The microfaunal population is responsible for the mobilisation and absorption of particular nutrients in the crop rhizosphere.
 - Reduction of the microfaunal population in the soil is a serious issue because without microfaunal activities, the soil is lost to self-perpetuate and its ecology for crop production.
 - The mono-cropping pattern also reduces resource-use efficiency.
 - Furthermore, mono-cropping patterns have more chances to be attacked by the same types of insects and pests, which in turn are controlled by pumping the insecticides and pesticides.

What is Agroforestry and its role in Sustaining Crop Diversification?

- About:
 - It is a part of primitive and tribal agriculture nourished with indigenous technical knowledge.
 - Agroforestry is a land-use system that includes trees, crops and/or livestock in a spatial and temporal manner, balancing both ecological and economic interactions of biotic and abiotic components. It harnesses the complementarity between trees and crops for efficient utilisation of available resources.

○ Agroforestry is practiced for diversification around the world in different spheres of biological, ecological, economical and sociological considerations.

- In North America, for instance, farmers preferred agroforestry over agriculture to improve their economic gain and natural resource conservation.
- In Europe, agroforestry trees are dominated by oaks, pines, junipers and firs. In Australia, *Pinus radiata* and *Eucalyptus globulus* while in the African continent, coffee, cocoa, coconut, oil palm, and rubber are common agroforestry trees on farms.
- The home gardens of the southern part of India are a classic example of maintaining temporal and spatial arrangement for crop diversity, with trees resulting in sustainable productivity from the unit area.

➤ Role in Sustaining Crop Diversification:

- Agroforestry can generate food, feed, fruits, fibre, fuel, fodder, fish, flavour, fragrance, floss, gum and resins as well as other non-wood products for food and nutritional security. It can also support livelihoods and promote productive, resilient agricultural environments in all ecologies.
- Agroforestry contributes to a multifunctional production system which enhances biodiversity due to the creation of diverse habitat for macro- and micro-organisms and maintaining landforms for future generations.
- It provides opportunities to integrate traditionally grown crops, with other commercial crops such as cereals, oilseeds, pulses, vegetables, fruits in agrihorticulture, hortisilviculture, silviculture, silvofloriculture, silvimedical, agrihortisilviculture, aquaforestry, silvipasture, hortipasture.

Surge in India's Coal Demand

Why in News?

The demand for coal in the country is expected to be in the range of 1.3-1.5 billion tonnes by 2030, according to Economic Survey 2021-2022, despite the push for renewable energy.

- This is an increase of 63% from the current (2019-2020) demand of 955.26 million tonnes.

What is the reason for increasing coal demand?

- Iron and steel production uses coal and there are not many technologies to replace the fuel immediately.
- Continued expansion of India's economy is expected during 2022-2024, with annual average GDP growth of 7.4%, fuelled at least partially by coal.
- India's push to domestic coal mining through both Coal India and auction of coal blocks to private companies, coal usage in India will increase as it plateaus in other parts of the world, including China.
- The central government has opened up coal mining for the private sector, claiming it as one of its most ambitious coal sector reforms.
 - The government anticipates that it will bring efficiency and competition in coal production, attract investments and best-in-class technology, and help create more jobs in the coal sector.

What are the Concerns?

- The freeway to coal will raise the local pollution in the country. The government has notified new emission norms for coal-based thermal power plants. But the implementation on the ground has been inadequate.
- Coal- and lignite-based thermal power plants on an annual basis emit 1.3 billion tonnes of carbon dioxide equivalent/year, which is a third of the total greenhouse gas emissions in the country.
- By afforesting about one-third the area of Delhi (about 1,50,000 hectares), the government claims reduction of 0.04% CO₂ emissions per annum.
 - In a densely populated country, including afforestation to be a route to Net Zero might not prove very promising.
 - Switching to renewable energy by coal companies was another effort towards turning into a low-carbon economy. As on 31st March, 2021, the PSUs installed renewable capacity of 1,496 megawatts and during the next five years, it planned to install an additional 5,560 megawatts of renewable capacity with substantial carbon offset potential.
 - However, this is just 1% of what the Prime Minister had committed at the recent Glasgow conference — 500 gigawatts of installed capacity through non-fossil fuels and 50% of its energy requirement from renewables by 2030.

Coal

- It is one of the most abundantly found fossil fuels. It is used as a domestic fuel, in industries such as iron and steel, steam engines and to generate electricity. Electricity from coal is called thermal power.
- The coal which we are using today was formed millions of years ago when giant ferns and swamps got buried under the layers of earth. Coal is therefore referred to as Buried Sunshine.
- The leading coal producers of the world include China, US, Australia, Indonesia, India.
- The coal producing areas of India include Raniganj, Jharia, Dhanbad and Bokaro in Jharkhand.
- Coal is also classified into four ranks: anthracite, bituminous, subbituminous, and lignite. The ranking depends on the types and amounts of carbon the coal contains and on the amount of heat energy the coal can produce.

Promoting Blue Economy

Why in News?

Recently, the union minister of science and technology and earth science said that the Blue Economy is the sixth dimension of Government of India's Vision of New India by 2030.

- A Draft Policy document on Blue Economy has been prepared by the Ministry Of Earth Sciences taking into consideration the reports of the expert working groups which emphasizes holistic development and growth of India's Blue Economy.

What is India's Vision of New India by 2030?

- In the **Union Budget of India 2019** the Finance Minister **laid out the Vision 2030** while highlighting India's transformation in the last five years.
- India is **poised to become a USD5 tn economy by 2025** and aspires to become a **USD10 tn economy by 2030**.
- The dimensions of Vision-2030 outlined are as follows:
 - To **create physical and social infrastructure** for ten trillion dollar economy and to provide ease of living.
 - Digital India **led by the youths** with innumerable start-ups and million of jobs.

- To **make India pollution free** by focusing on Electrical Vehicles and renewables
- **Rural industrialisation** using modern technologies to generate massive employment.
- **Clean rivers, with safe drinking water** to all Indians and efficient use of water in irrigation using micro-irrigation techniques.
- Besides scaling up **Sagarmala**, India's coastline and ocean waters will power development
- Through our space programme – Gaganyaan India becoming the launch-pad of satellites for the World
- Self sufficiency in food production and producing food in the most organic way.
- A **healthy India by 2030** and a distress free health care and wellness system for all. **Ayushman Bharat and women participation** would be an important component in it.
- Employees working with elected Government, **transforming India into Minimum Government Maximum Governance nation.**

What is the Blue Economy?

- The concept was introduced by Gunter Pauli in his 2010 book- "The Blue Economy: 10 years, 100 innovations, 100 million jobs".
- It is the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health.
- It advocates the greening of ocean development strategies for higher productivity and conservation of ocean's health.
- Blue Economy emphasizes on integration of development of the ocean economy with social inclusion, environmental sustainability, combined with innovative business models.
- It encompasses–
 - Renewable Energy: Sustainable marine energy can play a vital role in social and economic development.
 - Fisheries: Sustainable fisheries can generate more revenue, more fish and help restore fish stocks.
 - Maritime Transport: Over 80% of international goods traded are transported by sea.
 - Tourism: Ocean and coastal tourism can bring jobs and economic growth.

Climate Change: Oceans are an important carbon sink (blue carbon) and help mitigate climate change.

- Waste Management: Better waste management on land can help oceans recover.

What is the Significance of the Blue Economy?

- High Return on Investment: According to a research commissioned by the high-level panel for a sustainable ocean economy shows that USD1 invested in key ocean activities yields five times i.e. USD5 in return, often more.
- Synergy With SDG: It supports all of the United Nations' Sustainable Development Goals (SDGs), especially SDG14 'life below water'.
- Sustainable Energy: Supporting the increasing demand for renewable energy, offshore regions have tremendous potential in the form of offshore wind, waves, ocean currents including tidal currents, and thermal energy.
- Importance For India: With an over 7,500-km-long coastline spread across nine coastal states, 12 major, and 200 minor ports, India's blue economy supports 95% of the country's business through transportation and contributes an estimated 4% to its Gross Domestic Product (GDP).

What are the Steps taken to Promote Blue Economy?

- Deep Ocean Mission: It was launched with an intention to develop technologies to harness the living and non-living resources from the deep-oceans.
- India-Norway Task Force on Blue Economy for Sustainable Development: It was inaugurated jointly by both the countries in 2020 to develop and follow up joint initiatives between the two countries.
- Sagarmala Project: The Sagarmala project is the strategic initiative for port-led development through the extensive use of IT enabled services for modernization of ports.
- O-SMART: India has an umbrella scheme by the name of O-SMART which aims at regulated use of oceans, marine resources for sustainable development.
- Integrated Coastal Zone Management: It focuses on conservation of coastal and marine resources, and improving livelihood opportunities for coastal communities etc.

- National Fisheries Policy: India has a National Fisheries policy for promoting 'Blue Growth Initiative' which focuses on sustainable utilization of fisheries wealth from marine and other aquatic resources.

Import Duty Changes in Budget 2022

Why in News?

The Finance Minister introduced a host of changes in Customs duty on several items in the Union Budget for 2022-23.

- This would mean that imports become more expensive or cheaper depending on the change in customs duties.

What are the Changes in the Import Duty?

- The customs duty on umbrellas was doubled to 20%, while exemptions provided on import of parts of umbrellas were withdrawn.
- Similarly, the customs duty on single or multiple loudspeakers, whether or not mounted in their enclosures was hiked to 20% from 15%.
- Import duty was reduced for cut and polished diamonds, asafoetida, cocoa beans, methyl alcohol and acetic acid.
- Duty on capital goods and project imports was rationalized by phasing out concessional rates and applying a moderate tariff of 7.5%.
 - Under Project Import Scheme, goods imported by a company are placed under a single tariff in the Customs Tariff Act, 1975 to facilitate faster assessment and clearances of goods.
 - The tariff changes will come into effect from 1st May 2022, as per the Finance Bill 2022-23.

What is the Reason behind increasing the Import Duty?

- For Protecting Domestic Industries:
 - The hike in import duty for items, such as umbrellas, are in line with the increase in import duty on toys last year.

- The hike is being done for industries which manufacture items that do not deploy any major technology.
 - Umbrellas, for instance, are manufactured in small units spread across 10-12 districts with Kerala being the major manufacturing state.
- The government seems to be offering protection to such industries.
- For Popularising One Station-One Product:
 - It also falls in line with the other Budget announcement of popularising one station-one product to popularise local businesses and supply chains as announced in Budget 2022.
 - One station-one product as a concept aims to promote a local product from each stop of the Indian Railways by making the railway station of that area a promotional and sales hub for the product.
 - The concept of 'One station one product' has based itself on the successful One District One Product (ODOP) scheme. Based on a district's strengths, ODOP has been a transformational step towards realising the true potential of a district, fueling economic growth, generating employment and rural entrepreneurship.

How have import duty changes been made in Recent Years?

- In 2021, customs duty exemptions were given to the steel scrap industry, which has now been extended for another year.
 - It is likely to provide relief to micro, small and medium-scale secondary steel producers.
- Over the last five years, import duty hikes have been made on several occasions such as almonds, apples, and others. Other items such as cellphone parts and solar panels have seen the most regular hikes, with an aim to protect and nurture the domestic industry growth.
- Prior to the large-scale hikes, India's peak customs duty — the highest of the normal rates — on non-agriculture products had come down steeply from 150% in 1991-92 to 40% in 1997-98 and subsequently, to 20% in 2004-05 and 10% in 2007-08.

Budget 2022-23: Direct Taxes

Why in News

Recently, the Finance Minister presented the Union Budget 2022-23 in Parliament.

- The proposals relating to taxes and duties aim to simplify the tax system, promote voluntary compliance by taxpayers, and reduce litigation. No changes have been proposed to the income tax slabs and tax rates (individual taxpayers).
- A direct tax is a tax that a person or organisation pays directly to the entity that imposed it. Example: income tax, real property tax, personal property tax, or taxes on assets.

What is there for Individuals?

- Updated Return:
 - The government has proposed to provide a one-time window to correct omissions in Income Tax Returns (ITRs) filed.
 - Taxpayers can file the updated returns within two years from the assessment years.
- Tax relief to persons with disability:
 - The government proposed to allow the payment of annuity and lump sum amount to the differently abled dependent during the lifetime of parents/guardians, i.e., on parents/guardians attaining the age of sixty years.
 - The present law provides for deduction to the parent or guardian only if the lump sum payment or annuity is available to the differently abled person on the death of the subscriber i.e. parent or guardian.
- Parity between employees of State and Central government:
 - Tax deduction limit increased from 10% to 14% on employer's contribution to the National Pension

System account of State Government employees which brings them at par with central government employees.

- It would help in enhancing social security benefits.

What is there for Corporates Businesses & Co-operatives?

- Reduced Alternate minimum tax rate and Surcharge for Cooperatives:
 - To provide a level playing field between co-operative societies and companies, the government proposed to reduce this rate for the cooperative societies also to 15%.
 - Proposed to reduce the surcharge on co-operative societies from present 12% to 7% for those having total income of more than 1 crore and up to 10 crores.
 - This would help in enhancing the income of cooperative societies and its members who are mostly from rural and farming communities.
- Incentives for Start-ups:
 - Earlier, the eligible start-ups established before March 2022 had been provided a tax incentive for three consecutive years out of ten years from incorporation.
 - In view of the Covid pandemic, the government will extend the period of incorporation of the eligible start-up by one more year, that is, up to March 2023 for providing such tax incentive.

What about the Virtual Digital Assets?

- Scheme for taxation of virtual digital assets:
 - Specific tax regime for virtual digital assets introduced. Any income from transfer of any virtual digital asset to be taxed at the rate of 30%.
 - No deduction in respect of any expenditure or allowance to be allowed while computing such income except cost of acquisition.
 - Loss from transfer of virtual digital assets cannot be set off against any other income.
 - To capture the transaction details, Tax Deduction at Source (TDS) to be provided on payment made in relation to transfer of virtual digital assets at the rate of 1% of such consideration above a monetary threshold.

- Gift of virtual digital assets also to be taxed in the hands of the recipient.

What is there to make Taxation Simpler?

- Litigation Management:
 - In cases where the question of law is identical to the one pending in the High Court or Supreme Court, the filing of appeal by the department shall be deferred till such question of law is decided by the court.
 - To greatly help in reducing repeated litigation between taxpayers and the department.
- Deterrence against tax-evasion:
 - No set off of any loss to be allowed against undisclosed income detected during search and survey operations.
- Tax incentives to International Financial Services Centres (IFSC):
 - Subject to specified conditions, the following to be exempt from tax:
 - Income of anon-resident from offshore derivative instruments.
 - Income from over the counter derivatives issued by an offshore banking unit.
 - Income from royalty and interest on account of lease of ship.
 - Income received from portfolio management services in IFSC.

What has the Government done for Tax Rationalisation?

- Rationalising TDS Provisions:
 - Benefits passed on to agents as a business promotion strategy taxable in the hands of agents.
 - Tax deduction provided to the person giving benefits, if the aggregate value of such benefits exceeds Rs 20,000 during the financial year.
- Rationalisation of Surcharge:
 - Surcharge on AOPs (consortium formed to execute a contract) capped at 15% .
 - Done to reduce the disparity in surcharge between individual companies and AOPs.
 - Surcharge on long term capital gains arising on transfer of any type of assets capped at 15%.
 - To give a boost to the start up community.

Budget 2022-23 Highlights: Financing of Investments

Why in News?

Recently, the Finance Minister presented the Union Budget 2022-23.

- One of the Priority Areas is 'Financing of Investments'.

What is in the Budget related to Financing of Investments?

- Public Capital Investment:
 - Outlay for capital expenditure stepped up sharply by 35.4% to Rs. 7.50 lakh crore in 2022-23 in comparison to the current year. Outlay in 2022-23 to be 2.9% of GDP.
 - The 'Effective Capital Expenditure' of the Central Government is estimated at 10.68 lakh crore in 2022-23, which will be about 4.1% of GDP.
 - Capital expenditure is the money spent by the government on the development of machinery, equipment, building, health facilities, education, etc. It also includes the expenditure incurred on acquiring fixed assets like land and investment by the government that gives profits or dividends in future.
- Green Bonds: As a part of the government's overall market borrowings in 2022-23, sovereign Green Bonds will be issued for mobilizing resources for green infrastructure.
- GIFT-IFSC:
 - World-class foreign universities and institutions will be allowed in the Gujarat International Finance Tec-City (GIFT City) to offer courses in Financial Management, FinTech, Science, Technology, Engineering and Mathematics free from domestic regulations, except those by International Financial Services Centre Authority (IFSCA) to facilitate availability of high-end human resources for financial services and technology.
 - An International Arbitration Centre will be set up in the GIFT City for timely settlement of disputes under international jurisprudence.
 - Services for global capital for sustainable & climate finance in the country will be facilitated in the GIFT City.

- Infrastructure Status: Data Centres and Energy Storage Systems including dense charging infrastructure and grid-scale battery systems will be included in the harmonized list of infrastructure.
- Venture Capital and Private Equity Investment: The government will form an expert panel to encourage venture capital and private equity investments.
 - Venture Capital and Private Equity invested more than 5.5 lakh crore last year facilitating one of the largest start-up and growth ecosystems.
- Blended Finance for Sunrise Sectors: For encouraging important sunrise sectors such as Climate Action, Deep-Tech, Digital Economy, Pharma and Agri-Tech, the government will promote thematic funds for blended finance with the government share being limited to 20% and the funds being managed by private fund managers.
 - Government backed Funds National Investment and Infrastructure Fund (NIIF) and SIDBI Fund of Funds have provided scale capital creating a multiplier effect.
- Digital Rupee: Government will introduce Digital Rupee, using blockchain and other technologies, to be issued by the Reserve Bank of India starting 2022-23.
- Financial Assistance to States for Capital Investment:
 - The outlay for the 'Scheme for Financial Assistance to States for Capital Investment' is being enhanced from Rs. 10,000 crore in Budget Estimates 2021-22 to Rs. 15,000 crore in Revised Estimates 2021-22.
 - For 2022-23, the allocation is 1 lakh crore to assist the states in catalysing overall investments in the economy.
 - These fifty-year interest free loans are over and above the normal borrowings allowed to the states.
 - This allocation will be used for PM GatiShakti related and other productive capital investment of the states. It will also include components for:
 - Supplemental funding for priority segments of PM Gram Sadak Yojana, including support for the states' share,
 - Digitisation of the economy, including digital payments and completion of Optic Fibre Cable (OFC) network, and

- Reforms related to building byelaws, town planning schemes, transit-oriented development, and transferable development rights.
- In 2022-23, in accordance with the recommendations of the 15th Finance Commission, the states will be allowed a fiscal deficit of 4% of GSDP (Gross State Domestic Product) of which 0.5% will be tied to power sector reforms.

Budget 2022-23: Productivity Enhancement & Investment, Sunrise Opportunities, Energy Transition, and Climate Action

Why in News?

Recently, the Minister of Finance presented the Union Budget 2022-23.

- One of the priority areas is 'productivity enhancement and investment; sunrise opportunities; energy transition and climate action'.
- It aims to ensure ease of living and doing business and to attain the vision of promoting energy transition and climate action during the Amrit kaal.

How does the Budget promote Ease of Living and Doing Business?

- Next Phase of Ease of Doing Business & Ease of Living:
 - In recent years, over 25,000 compliances were reduced and 1486 union laws were repealed, result of 'minimum government & maximum governance', and Ease Of Doing Business (EODB).
 - For the Amrit Kaal, the next phase of Ease of Doing Business EODB 2.0 and Ease of Living, will be launched.
 - EODB 2.0 would entail digitisation of manual processes, integration of central and state level systems through IT bridges, single-point access for all citizen-centric services and standardisation and removal of overlapping compliance requirements.
 - The government will follow the idea of 'trust-based governance'.

- Green Clearances: Expansion of the single window portal, PARIVESH (Proactive and Responsive Facilitation by Interactive, Virtuous and Environmental Single-window Hub), for all green clearances, which was launched in 2018.
- e-Passport: e-Passports with embedded chip and futuristic technology to be rolled out.
- Urban Development: A high-level committee of reputed urban planners, urban economists and institutions will be formed to make recommendations on urban sector policies, capacity building, planning, implementation and governance.
- Urban Planning:
 - Modernization of building bye laws, Town Planning Schemes (TPS), and Transit Oriented Development (TOD) will be implemented.
 - Battery swapping policy to be brought out for setting up charging stations at scale in urban areas.
- Land Records Management:
 - Unique Land Parcel Identification Number for IT-based management of land records.
 - The facility for transliteration of land records across any of the Schedule VIII languages will also be rolled out.
 - The adoption or linkage with National Generic Document Registration System (NGDRS) with the 'One-Nation One-Registration Software' will be promoted as an option for uniform process for registration and 'anywhere registration' of deeds & documents.
- Amendments in Insolvency and Bankruptcy Code to facilitate cross border insolvency resolution.
- Accelerated Corporate Exit: The Center for Processing Accelerated Corporate Exit (C-PACE) with process re-engineering, will be established to facilitate and speed up the voluntary winding-up of these companies from the currently required 2 years to less than 6 months.
- Government Procurement: To enhance transparency and to reduce delays in payments, a completely paperless, end-to-end online e-Bill System will be launched for use by all central ministries for their procurements.
- AVGC Promotion Task Force: An Animation, Visual effects, Gaming, and Comic (AVGC) promotion task force to be set-up to realize the potential of this sector.
- Telecom Sector : A scheme for design-led manufacturing will be launched to build a strong ecosystem for 5G as part of the Production Linked Incentive Scheme.
- Export Promotion: The Special Economic Zones Act will be replaced with a new legislation that will enable the states to become partners in 'Development of Enterprise and Service Hubs'.
- AtmaNirbharta in Defence:
 - 68% of the capital procurement budget will be earmarked for domestic industry in 2022-23, up from 58% in 2021-22.
 - Defense R&D will be opened up for industry, startups and academia with 25% of defense R&D budget earmarked.
 - Independent nodal umbrella body to be set up for meeting testing and certification requirements.
- Sunrise Opportunities: Artificial Intelligence, Geospatial Systems and Drones, Semiconductor and its ecosystem, Space Economy, Genomics and Pharmaceuticals, Green Energy, and Clean Mobility Systems have immense potential to assist sustainable development at scale and modernize the country.

How does the Budget promote Energy Transition and Climate Action?

- Solar Power:
 - To facilitate domestic manufacturing for the ambitious goal of 280 GW of installed solar capacity by 2030, an additional allocation of 19,500 crore for Production Linked Incentive for manufacture of high efficiency modules, will be made.
- Circular Economy:
 - The Circular Economy transition is expected to help in productivity enhancement as well as creating large opportunities for new businesses and jobs.
 - The action plans for ten sectors such as electronic waste, end-of-life vehicles, used oil waste, and toxic & hazardous industrial waste are ready.
- Transition to Carbon Neutral Economy:
 - Five to seven per cent biomass pellets will be co-fired in thermal power plants resulting in CO₂ savings of 38 MMT annually.
 - This will also provide extra income to farmers and job opportunities to locals and help avoid stubble burning in agriculture fields.
 - Four pilot projects for coal gasification and conversion of coal into chemicals required for the industry will be set-up.
 - Financial support to farmers belonging to Scheduled Castes and Scheduled Tribes, who want to take up agro-forestry.

Reverse Repo Normalisation

Why in News?

In a recent report, State Bank of India has stated that it believes the stage is set for a Reverse Repo Normalisation in India.

- The Repurchase agreement (Repo) and the Reverse repo agreement are two key tools used by the Reserve Bank of India (RBI) to control the money supply.
- The tools used by the Central bank to control money supply can be quantitative or qualitative.

What are Repo and Reverse Repo Rates?

- About:
 - Repo rate is the rate at which the central bank of a country (RBI in case of India) lends money to commercial banks in the event of any shortfall of funds. Here, the central bank purchases the security.
 - The reverse repo is the interest rate that the RBI pays to the commercial banks when they park their excess “liquidity” (money) with the RBI. The reverse repo, thus, is the exact opposite of the repo rate.
- Significance:
 - Under normal circumstances, that is when the economy is growing at a healthy pace, the repo rate becomes the benchmark interest rate in the economy.
 - That’s because it is the lowest rate of interest at which funds can be borrowed. As such, the repo rate forms the floor interest rate for all other interest rates in the economy - be it the rate for a car loan or a home loan or the interest earned on fixed deposit etc.
 - When the RBI pumps more and more liquidity into the market but there are no takers of fresh loans — either because the banks are unwilling to lend or because there is no genuine demand for new loans in the economy.
 - In such a scenario, the action shifts from repo rate to reverse repo rate because banks are no longer interested in borrowing money from the RBI.
 - Rather they are more interested in parking their excess liquidity with the RBI. And that is how the reverse repo becomes the actual benchmark interest rate in the economy.

What is Reverse Repo Normalisation?

- About:
 - It means the reverse repo rates will go up i.e. raising the reverse repo rate in one or two stages.

- In the face of rising inflation, several central banks across the world have either increased interest rates or signalled that they would do so soon.
- In India, too, it is expected that the RBI will raise the repo rate. But before that, it is expected that the RBI will raise the reverse repo rate and reduce the gap between the two rates.
- Significance:
 - The process of normalisation is mainly aimed at curbing inflation.
 - However, it will not only reduce excess liquidity but also result in higher interest rates across the board in the Indian economy.
 - Thus reducing the demand for money among consumers (since it would make more sense to just keep the money in the bank) and making it costlier for businesses to borrow fresh loans.

What is Monetary Policy Normalisation?

- The RBI keeps changing the total amount of money in the economy to ensure smooth functioning. As such, when the RBI wants to boost economic activity it adopts a so-called “loose monetary policy”.
- There are two parts to such a policy:
 - **Injecting Liquidity in the Economy:** It does so by buying government bonds from the market. As the RBI buys these bonds, it pays back money to the bondholders, thus injecting more money into the economy.
 - **Lowering Interest Rate:** Two, the RBI also lowers the interest rate it charges banks when it lends money to them; this rate is called the repo rate.
 - By lowering the interest rate at which it lends money to commercial banks, the RBI hopes that the commercial banks (and the rest of the banking system), in turn, will feel incentivised to lower interest rates.
 - Lower interest rates and more liquidity, together, are expected to boost both consumption and production in the economy.
 - For a consumer, it would now pay less to keep the money in the bank — thus it incentivises current consumption. For firms and entrepreneurs, it would make more sense to borrow money to start a new enterprise because interest rates are lower.

The reverse of a loose monetary policy is a “tight monetary policy” and it involves the RBI raising interest rates and sucking liquidity out of the economy by selling bonds (and taking money out of the system).

- When any central bank finds that a loose monetary policy has started becoming counterproductive (for example, when it leads to a higher inflation rate), the central bank “normalises the policy” by tightening the monetary policy stance.

Repo Rate Unchanged

Why in News?

Recently, the six-member Monetary Policy Committee (MPC) of the Reserve Bank of India (RBI) kept key policy rates – Repo rate, Reverse repo rate and the Bank rate – unchanged and retained the accommodative policy stance.

- This is the tenth consecutive time that the repo rate has remained unchanged. The central bank had last revised the policy rate on 22nd May 2020.
- Global central banks, including the US Federal Reserve and the European Central Bank (ECB) have turned hawks and are also expected to hike rates soon.

What is the Monetary Policy Committee?

- It is a **statutory and institutionalized framework** under the Reserve Bank of India Act, 1934, for maintaining price stability, while keeping in mind the objective of growth.
- The **Governor of RBI** is ex-officio Chairman of the committee.
- The MPC determines the policy interest rate (repo rate) required to achieve the inflation target (4%).
- An RBI-appointed committee led by the then deputy governor Urjit Patel in 2014 recommended the establishment of the Monetary Policy Committee.

What are the Key Announcements?

- Repo Rate:
 - It has been retained at 4% to boost growth.
 - This means banks won't hike lending and deposit rates and EMIs on loans will remain unchanged.
 - Repo rate is the rate at which the central bank of a country (RBI in case of India) lends

money to commercial banks in the event of any shortfall of funds. Here, the central bank purchases the security.

- Reverse Repo Rate:
 - It has been retained at 3.35%.
 - Reverse repo rate is the rate at which the RBI borrows money from commercial banks within the country.
- Bank Rate:
 - The Bank Rate unchanged at 4.25%.
 - It is the rate charged by the RBI for lending funds to commercial banks.
- Marginal Standing Facility (MSF) Rate:
 - This rate has also been retained at 4.25%.
 - MSF is a window for scheduled banks to borrow overnight from the RBI in an emergency situation when interbank liquidity dries up completely.
- Inflation:
 - The RBI has projected a 5.3% consumer price (retail) inflation for the current financial year 2021-22 (FY22) despite rising crude oil prices.
 - The Consumer Price Index (CPI) monitors retail prices at a certain level for a particular commodity; price movement of goods and services at rural, urban and all-India levels. The change in the price index over a period of time is referred to as CPI-based inflation, or retail inflation.
 - Retail inflation for the next fiscal (FY23) is projected at 4.5%, below the earlier projections.
 - The MPC noted that inflation is likely to moderate in the first half of 2022-23 and move closer to the target rate, thereafter providing room to remain accommodative. Timely and apposite supply side measures from the government have substantially helped contain inflationary pressures.
 - An accommodative stance means the MPC is willing to either lower rates or keep them unchanged.
- Growth Forecast:
 - The central bank has projected the real GDP growth at 7.8% for the next financial year (2022-23).
 - Real GDP is a measurement of economic output that accounts for the effects of inflation or deflation.

- The difference between nominal GDP and real GDP is the adjustment for inflation. Since nominal GDP is calculated using current prices, it does not require any adjustments for inflation.

Why were Rates kept Unchanged?

- MPC was of the view that continued policy support – status quo on interest rates – was warranted for a durable and broad-based recovery after taking into consideration the outlook for inflation and growth, in particular the comfort provided by the improving inflation outlook, the uncertainties related to Omicron and global spill-overs.

Retrospective Taxation by Amending Income Tax Act

Why in News?

The Union Budget 2022-23 brought in some amendments to the Income Tax (IT) Act 1961 that would be effective retrospectively.

What is a Retrospective Tax?

- A retrospective tax is one that is charged for transactions in the long past. It can be a new or additional charge on transactions done in the past.
- Ideally, retrospective tax is to make adjustments when policies in the past and the present are so vastly different that tax paid before under the old policy could be said to have been less. Retrospective tax could correct that situation by charging tax under the existing policy.
- Retrospective taxation allows a nation to implement a rule to impose a tax on certain products, goods or services and deals and charge companies from a time before the date on which the law is passed.
- Countries use this form of taxation to rectify any deviations in the taxation policies that, in the past, allowed firms to take benefit from any loophole. It affects companies that had unknowingly or knowingly used the tax rules differently.
- Not only India, but many other countries like the US, UK, Australia, Netherlands, Belgium, Canada, and Italy have retrospectively taxed firms.

What are the Major Amendments in the Income Tax Act?

What is the Retrospective Change about Cess and Surcharge?

- Changes:
 - Making a retrospective amendment to the IT Act from 2005-06, the Budget has clarified that cess and surcharge will not be allowed to be claimed as deductions in the form of expenditure, a practice that some companies and businesses were resorting to in the absence of legal clarity.
 - Citing some court rulings over the years that had given benefit to taxpayers in claiming cess as expenditure and not tax, the tax department said the retrospective amendment is being done to correct the anomaly.
 - This amendment will take effect retrospectively from 1st April, 2005 and will accordingly apply in relation to the assessment year 2005-06 and subsequent assessment years.
 - The change is being brought from AY 2005-06 as education cess was brought in for the first time by the Finance Act, 2004.
- Significance:
 - The court rulings differentiated between income tax and education cess on income tax, and in absence of a specific disallowance for 'education cess', courts had taken a view beneficial for taxpayers in many cases.
 - In order to nullify the effect of such court rulings and to consider such rulings against the intention of the law, a clarificatory amendment has been introduced in the income tax law, providing that any surcharge or education cess on income tax shall not be allowed as business expenditure.

What is a Cess?

- Cess is a **form of tax levied over and above the base tax liability of a taxpayer.**
- Cess is resorted to only when there is a need to meet the particular expenditure for public welfare.
- Cess is **not a permanent source of revenue for the government**, and it is discontinued when the purpose of levying it is fulfilled.
- It can be **levied on both indirect and direct taxes.**

What is a Surcharge?

- A surcharge is an **extra fee, charge, or tax that is added on to the cost of a good or service**, beyond the initially quoted price.
- It is **added to an existing tax** and is not included in the stated price of the good or service.
- It is **levied for extra services** or to defray the cost of increased commodity pricing.

What are the other Amendments done Retrospectively?

- Changes:
 - The government has also allowed exemption of the amount received for medical treatment and on account of death due to Covid-19 retrospectively from April 2020.
 - Any sum of money received by an individual, from any person, in respect of any expenditure actually incurred by him on his medical treatment or treatment of any member of his family, in respect of any illness related to Covid-19 subject to such conditions, as may be notified by the Central Government in this behalf, shall not be the income of such a person.
 - It has also allowed exemption for amount received by a member of the family of a deceased person, from the employer of the deceased person (without limit), or from any other person or persons with such money not exceeding Rs 10 lakh, where the cause of death of such person is illness relating to Covid-19, and the payment is received within twelve months from the date of death of such person.
 - Separately, gifts and freebies to doctors shall not be treated as business expenditure under the Income-tax Act.
- Significance:
 - This has clarified that any expense incurred in providing various benefits in violation of the provisions of Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002 shall be inadmissible under law.
 - This step is likely to discourage pharma companies from giving freebies to medical professionals, and claim these expenses as deductions.

What are Key changes for Questioning Sources of Funding for Companies?

- Changes:
 - Government has made changes to the IT law, making space for questioning by the tax department to explain the source of funds at the hands of the creditor.
 - A provision has been introduced stating that the source of funding for loan and borrowings for a recipient will be treated as explained only if the source of funds is also explained in the hands of the creditor.
- Significance:
 - This could have an impact on funding of businesses, especially startups, if the creditor is not a venture capital fund, a venture capital company registered with SEBI.
 - Earlier, if any company used to have bogus entries, the taxpayer would just provide details such as PAN and other financial details of the creditor and that was enough for the tax department.
 - Now, it's upon the recipient to prove that it's the right source of income and they had the right net worth to provide this amount.

Farm Loan Waiver

Why in News?

Recently, the congress (political party) has promised a Waiver for Farm Loans for the 2022 Uttar Pradesh Assembly election.

What is a Farm Loan Waiver?

- Farm loan waivers are customised schemes announced by states to help the peasants.
- When there is a poor monsoon or natural calamity, farmers may be unable to repay loans. The rural distress in such situations often prompts States or the Centre to offer relief — reduction or complete waiver of loans.
- Essentially, the Centre or States take over the liability of farmers and repay the banks. Waivers are usually selective — only certain loan types, categories of farmers or loan sources may qualify.

- Loan waivers, originally intended for a one-time settlement. However, the past two decades have seen such schemes announced with increasing regularity, signalling the chronic distress of the agricultural sector in India.
- Though these demands seem more legitimate in the wake of the loss of livelihood due to lockdown amid Covid-19, yet such loan waivers may prove detrimental to the banking system and credit culture.

What is the History of Farm Loan Waivers in India?

- The first recorded instance of granting loans to peasants in medieval India dates back to the regime of Muhammad-bin-Tughluq (1325-51) so as to ameliorate the distress suffered by villagers.
 - However, faced with rebellion and famine, these loans were written off by Firoz Shah Tughluq, the subsequent ruler.
- There have only been two nationwide loan waiver programmes in India after Independence: in 1990 and 2008.
 - The first nationwide farm-loan waiver in independent India was implemented in 1990 by the VP Singh-led government. It cost the exchequer Rs 10,000 crore.
 - In 2008, the Agricultural Debt Waiver and Debt Relief Scheme, implemented by the UPA government, involved an outgo of Rs 71,680 crore.
- Since then, there has been a wave of such schemes by different State governments.

What is the Rationale Behind Waiving Off Farm Loans?

- **Small Land Holding:** More than 85% of small and marginal farmers in India possess less than 1-2 hectares of holdings and lack basic inputs for farming.
- **Dependency on Monsoon:** In India, the crop yield and production are highly dependent on monsoon.
- **Need of Credit:** In this context, the credit is a critical resource to farming households for carrying out crop production and meeting consumption & daily-life expenses.
- **Debt Trap:** Farmers invest heavily in crops by taking loans. If the crop fails due to lack of rains or insufficient market demand, farmers will get trapped in debt. Due to this, there has been an increase in farmer suicides.
 - Thereby, waiving farm loans address this humanitarian crisis.

What are the Issues Related to Farm Loan Waivers?

- **Reputational Consequences:** Loan waiver schemes will disrupt credit discipline as farm loan waivers may act as a temporary solution and can prove to be a moral hazard in future.
 - This is because those farmers who can afford to pay their loans might not pay it expecting a waiver.
- **Free Rider Problem:** Some farmers may take loans even if there is no need, in the hope of the next loan waiver scheme. This will impact the farmers who are genuinely in need of loans.
- **Decline in Formal Access to Credit:** After the implementation of debt waiver schemes and subsequent losses to the banking industry, banks will be reluctant to lend further to the farm sector.
 - This leads to a rise in farmer's dependence on informal sector lenders.
- **Impact on Banking Sector:** A report by the Indian Council for Research on International Economic Relations stated that the 2008 farm-loan waiver led to three-fold increase in non-performing assets of commercial banks between 2009–2010 and 2012–2013.

- This further affects credit-deposit ratio and risk-weighted capital adequacy ratio, return on assets and economic value of equity of banks.
- This downgrades the ratings of banks in particular and destabilised the functioning of the credit market in general.
- **Against the Interests of Depositors:** Banks receive money from the depositors and lend money to borrowers under different contracts and agreements.
 - Thus, the loss to the bank, due to loan waivers, is directly or indirectly against the interests of the depositors.
 - Moreover, banks being custodians of depositors' money, need to be guided primarily by the protection of depositors' interests.

India's Dairy and Livestock Sector

Why in News?

Union Budget 2022-23 is expected to boost the dairying and livestock sector with a host of measures to make it sustainable amid the ongoing .

What is the Current State of the Dairy and Livestock Sector?

- Dairy is the single-largest agri-commodity in India. It contributes 5% to the national economy and employs 80 million dairy farmers directly.
- A revival in economic activities, increasing per capita consumption of milk and milk products, changing dietary preferences and rising urbanisation in India, has driven the dairy industry to grow by 9-11% in 2021-22.
- The livestock sector has grown at a Compound Annual Growth Rate (CAGR) of 8.15% over the last five years ending 2020.
- Growth in the liquid milk segment, which accounts for over half of the dairy industry, is likely to remain stable (6-7%).
- The organised dairy segment, which accounts for 26-30% of industry (by value), has seen faster growth, compared to the unorganised segment.

What are the Initiatives taken in the Budget 2022-23 for this Sector?

- Infrastructure Development under Vibrant Villages Programme:
 - Border villages in northern India with a sparse population and limited connectivity, have been covered under the 'New Vibrant Villages Programme' in the new budget.
 - Some 95% of livestock farmers are concentrated in rural India. Hence, infrastructure development under the Vibrant Villages Programme will play a significant role in enhancing market access for these livestock farmers.
 - New Vibrant Villages Programme announced in the budget aims to improve social and financial infrastructure in remote habitations, primarily along the border with China, and will be an improved version of the existing border area development programme.
- Reducing Alternate Minimum Tax:
 - To provide a level playing field between co-operative societies and companies, alternate minimum tax has been reduced from 18.5% to 15%.
 - Government has also proposed to reduce the surcharge on co-operative societies to 7% from 12% at present for those having total income of more than Rs. 1 crore and up to Rs. 10 crore.
 - This would help enhance the income of cooperative societies and its members who are mostly from rural and farming communities.
- Enhanced allocation for Central Sector Schemes:
 - Allocation for the Rashtriya Gokul Mission and National Programme for Dairy Development has been increased by 20% in 2022-23.
 - It is expected to help in increasing the productivity of indigenous cattle and quality milk production.
 - Allocation for the livestock sector has been increased by more than 40% for 2022-23 and the enhanced allocation for central sector schemes by more than 48% shows commitment by the government for the growth of livestock and dairy farmers.
- Enhancement in allocation for Livestock Health and Disease Control:
 - An almost 60% enhancement in allocation for livestock health and disease control for 2022-23 over the previous year will ensure healthier livestock.

- Incentivising Digital Banking:
 - Incentivising digital banking, digital payments and fintech innovations will create a ripple effect in the livestock sector through greater transparency by streamlining payments during milk procurement.
 - A completely paperless, e-bill system will be launched by ministries for procurement.

What are the Current issues with the Sector?

- Dairy analogues, plant-based products and adulteration pose a major challenge and threat to the dairy industry.
- Shortage of fodder resources and ineffective control of animal diseases.
- Absence of field oriented conservation strategy for indigenous breeds.
- Lack of skills and quality services to farmers for improving productivity and improper infrastructure to support the sector.

What are the related Schemes for the Sector?

- Animal Husbandry Infrastructure Development Fund (AHIDF)
- National Animal Disease Control Programme
- Rashtriya Gokul Mission
- National Artificial Insemination Programme
- National Livestock Mission

Need to Boost Labour Income and Consumption Expenditure

Why in News?

- The Union Budget 2022-23 has projected a fiscal deficit of 6.4% of nominal GDP, a narrowing from the 6.9% assumed in the revised estimates for the current fiscal year ending on 31st March, 2022.
- In simple words, a fiscal deficit is a shortfall in a government's income compared with its spending.
 - Nominal GDP is GDP (Gross Domestic Product) evaluated at current market prices. It includes all of the changes in market prices that have occurred during the current year due to inflation or deflation.

What was the Economic Context to this year's Budget Formulation?

- Reduction in Labour Income and Consumption Expenditure:
 - Though every economic crisis involves sharp reduction in output growth rate, the specificity of the present crisis in India lies in the sharper reduction in labour income as compared to profits.
 - The consequent reduction in income share of labour was associated with a sharp fall in consumption-GDP ratio as well as absolute value of consumption expenditure during the pandemic.
- The four components of Gross Domestic Product (GDP) are personal consumption, business investment, government spending, and net exports.
- Structural Challenge:
 - It is pertaining to addressing the structural constraints of the Indian economy that restricted growth even during the pre-pandemic period.

What are the Key Shortcomings in the Budget-22 in this Regard?

- Revenue Expenditure:
 - The share of revenue and non-debt receipts in GDP has remained more or less unchanged, the objective of fiscal consolidation has been sought to be achieved primarily by reducing the expenditure-GDP ratio.
 - Fiscal consolidation refers to the ways and means of narrowing the fiscal deficit.
 - Hence, the brunt of this expenditure compression fell on revenue expenditure.
 - Expenditure on the payment of wages and salaries, subsidies or interest payments would be typically classified as revenue expenditure.
- Effect on Income and Livelihood of Labour:
 - Since the bulk of the revenue expenditure comprises food subsidies and current expenses in social and economic services, reduction in the allocation for revenue expenditure has been associated with fall in several key expenditure that affect the income and livelihood of labour.

- For example, allocation for both agriculture and allied activities and rural development registered a sharp decline in nominal absolute terms in 2022-23 as compared to 2021-22.
- Similarly, in the midst of the ongoing pandemic, total nominal expenditure on medical and public health registered a sharp fall in 2022-23 as compared to 2021-22. Such expenditure compression has been associated with the overall fall in the allocation for total social sector expenditure.
- Low Corporate Tax Ratio:
 - Despite sharp increase in profits during the pandemic, the corporate tax-GDP ratio has continued to remain below the 2018-19 level due to tax concessions. Despite the objective of fiscal consolidation, the corporate tax ratio continues to remain low and restrict revenue receipts.

What are the Implications for Development Spending?

- The objective of fiscal consolidation along with the inability to increase revenue receipts has posed a constraint on development expenditure.
 - Developmental expenditure refers to the expenditure of the government which helps in economic development by increasing production and real income of the country.
- With non-development expenditure comprising of interest payments, administrative expenditure and various other components which are typically rigid downward, the brunt of expenditure compression has fallen on development expenditure.

- The reduction in the allocation for development expenditure ratio for 2022-23 reflects reduction in the allocation for food subsidies, national rural employment guarantee program, expenditure in agriculture, rural development and social sector.

What is the Concern from a Macroeconomic Perspective?

- Impact on the Recovery of Labour Income and Consumption Expenditure:
 - Reduction in the allocation for development expenditure would have adverse impact on labour income and consumption expenditure.
 - The positive impact of higher capital expenditure on the recovery process would be largely curtailed by the adverse impact of more than proportionate fall in revenue expenditure.
- Dependent on External Factor for Economic Revival:
 - Given the fiscal consolidation strategy of the Government, the prospect and extent of economic revival at the present remains heavily dependent on external demand.
 - Despite the brief recovery in exports in the last few quarters, the possibility of sustained economic recovery relying exclusively on the export channel appears to be bleak at the present as different countries have already started pursuing fiscal consolidation at the dictate of the IMF (International Monetary Fund).

India's Solar Sector

Why in News?

The centre is set to come up with rules to pool solar tariffs and is also aiming to increase bundling of renewable energy in existing thermal Power Purchase Agreements (PPAs) to boost the procurement of renewable energy.

- The government is aiming to boost installed renewable energy capacity to 500 GW (GigaWatts) by 2030.
- A Power Purchase Agreement (PPA), or electricity power agreement, is a contract between two parties, one which generates electricity (power generating companies (gencos)) and one which is looking to purchase electricity (Discoms).

What is the Issue?

- Solar tariffs have fallen consistently over the past decade to a low of under Rs 2 per unit (1 unit = 1 kWh) in December 2020 due to the falling price of solar panels and lower financing cost.
- The trend of lower solar tariffs has led to many many players waiting on tariffs to fall further instead of entering into long term power procurement agreements.

How can this Step be Helpful?

- A move to pool tariffs could help speed up procurement of solar power by addressing concerns among discoms of losing out on lower solar tariffs in the future.
 - The government is planning to pool all solar power procurement in a given period and ask that all buyers pay an average of all the tariffs that are contracted in a pooling period.
- The government's step to bundle about 10,000 MW of Renewable energy based power with fossil fuel based power over the next 4-5 year would also help lower total cost of power procurement for certain discoms.
 - There are a number of old thermal power projects that are unviable because of high variable costs and don't get dispatched in merit order and hat discoms are forced to pay fixed costs due to requirements under existing PPAs.
 - The centre had in November 2021 issued guidelines which permitted thermal generation companies to supply power to customers from their renewable energy projects under the existing Power Purchase Agreements (PPAs) for coal-based electricity with gains from the bundling of renewable energy to be shared between generators and (discoms) on a 50:50 basis.

What is the Current state of India's Solar Sector?

- About:
 - The country's installed Renewable Energy (RE) capacity stands at 150.54 GW (solar: 48.55 GW, wind: 40.03 GW, Small hydro Power: 4.83, Bio-power: 10.62, Large Hydro: 46.51 GW) as on 30th Nov. 2021 while its nuclear energy based installed electricity capacity stands at 6.78 GW.

- India has the 4th largest wind power capacity in the world.
- This brings the total non-fossil based installed energy capacity to 157.32 GW which is 40.1% of the total installed electricity capacity of 392.01 GW.
- Push to RE in the Budget 2022-23:
 - About:
 - To facilitate domestic manufacturing for the ambitious goal of 280 GW of installed solar capacity by 2030, an additional allocation of 19,500 crore for Production Linked Incentive for manufacture of high efficiency modules will be made.
 - Issues:
 - Budget estimate for the Union Ministry of New and Renewable Energy (MNRE) for 2022-23 showed that the investment in Solar Energy Corporation of India (SECI) has been nearly halved — to less than Rs 1,000 crores from over Rs 1,800 crore.
 - SECI is the only Public Sector Undertaking of the Union government working on solar energy and is currently responsible for the development of the entire renewable energy sector.
 - A primary issue with the manufacturing of solar PhotoVoltaic (PV) modules in India over the years has been a lack of quality.
 - This could have been addressed by enhancing research and development related to technological aspects of fully integrated manufacturing units from polysilicon to solar PV modules.
 - However, any separate allocation for such R&D has not been announced.
- Related Initiatives:
 - Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM)
 - International Solar Alliance
 - One Sun, One World, One Grid (OSOWOG)
 - National Solar Mission
 - National Offshore Wind Energy Policy
 - Roof Top Solar programme Phase-II
 - National Wind-Solar Hybrid Policy 2018
 - Hydrogen Based Fuel Cells Vehicles

Surety Bonds

Why in News?

In the Budget 2022-23, the government has allowed the use of surety insurance bonds as a substitute for bank guarantees in case of government procurement and also for gold imports.

- Insurance Regulatory and Development Authority of India (IRDAI) has also released final guidelines to ensure orderly development of surety insurance business in India.
- The IRDAI (Surety Insurance Contracts) Guidelines, 2022 will come into effect from 1st April, 2022.

What is a Surety Bond?

- A surety bond is a legally binding contract entered into by three parties—the principal, the obligee, and the surety.
 - The obligee, usually a government entity, requires the principal, typically a business owner or contractor, to obtain a surety bond as a guarantee against future work performance.

- Surety bonds are mainly aimed at infrastructure development, mainly to reduce indirect cost for suppliers and work-contractors thereby diversifying their options and acting as a substitute for bank guarantee.
- Surety bond is provided by the insurance company on behalf of the contractor to the entity which is awarding the project.
- Surety bonds protect the beneficiary against acts or events that impair the underlying obligations of the principal. They guarantee the performance of a variety of obligations, from construction or service contracts to licensing and commercial undertakings.

What are the issues with the Decision taken in the Budget?

- Surety bonds, a new concept, are risky and insurance companies in India are yet to achieve expertise in risk assessment in such business.
- Also, there's no clarity on pricing, the recourse available against defaulting contractors and reinsurance options.
 - These are critical and may impede the creation of surety-related expertise and capacities and eventually deter insurers from writing this class of business.

How can it boost the Infra Project?

- The move to frame rules for surety contracts will help address the large liquidity and funding requirements of the infrastructure sector.
- It will create a level-playing field for large, mid and small contractors.
- The Surety insurance business will assist in developing an alternative to bank guarantees for construction projects.
 - This shall enable the efficient use of working capital and reduce the requirement of collateral to be provided by construction companies.
- Insurers shall work together with financial institutions to share risk information.
 - Hence, this shall assist in releasing liquidity in infrastructure space without compromising on risk aspects.

What are the IRDAI Guidelines on Surety Bonds?

- According to new guidelines Insurance companies can launch the much-anticipated surety bonds now.
- The regulator has said the premium charged for all surety insurance policies underwritten in a financial year, including all installments due in subsequent years for those policies, should not exceed 10% of the total gross written premium of that year, subject to a maximum of Rs 500 crore.
- As per Insurance Regulatory and Development Authority of India (IRDAI), Insurers can issue contract bonds, which provide assurance to the public entity, developers, subcontractors and suppliers that the contractor will fulfil its contractual obligation when undertaking the project.
 - Contract bonds may include: Bid Bonds, Performance Bonds, Advance Payment Bonds and Retention Money.
 - Bid Bonds: It provides financial protection to an obligee if a bidder is awarded a contract pursuant to the bid documents, but fails to sign the contract and provide any required performance and payment bonds.
 - Performance Bond: It provides assurance that the obligee will be protected if the principal or contractor fails to perform the bonded contract. If the obligee declares the principal or contractor as being in default and terminates the contract, it can call on the Surety to meet the Surety's obligations under the bond.
 - Advance Payment Bond: It is a promise by the Surety provider to pay the outstanding balance of the advance payment in case the contractor fails to complete the contract as per specifications or fails to adhere to the scope of the contract.
 - Retention Money: It is a part of the amount payable to the contractor, which is retained and payable at the end after successful completion of the contract.
- The limit of guarantee should not exceed 30% of the contract value.
- Surety Insurance contracts should be issued only to specific projects and not clubbed for multiple projects.

Virtual Digital Assets

Why in News

Recently, the Finance Minister, in her Budget 2022 announced a 30% tax on income from virtual digital assets.

- Additionally, she also proposed a Tax Deduction at Source (TDS) on payment made in relation to the transfer of virtual digital assets at 1% above a monetary threshold.

What is Tax Deduction at Source?

- A person (deductor) who is liable to make payment of specified nature to any other person (deductee) shall deduct tax at source and remit the same into the account of the Central Government.

What are Virtual Digital Assets?

- The finance bill defined the term “virtual digital asset” by entering a new clause (47A).
- As per the proposed new clause, a virtual digital asset is proposed to mean any information or code or number or token (not being Indian currency or any foreign currency), generated through cryptographic means.

What is the Rationale Behind Taxation?

- Virtual digital assets have gained tremendous popularity in recent times and the volumes of trading in such digital assets has increased substantially.
- Further, a market is emerging where payment for the transfer of a virtual digital asset can be made through another such asset.
- These factors have made it imperative to provide for a specific tax regime.

How are Virtual Digital Assets different from Digital Currency?

- A currency is a currency only when it is issued by the central bank even if it is a crypto.
 - However, anything which is outside of that loosely all of us refer it to be cryptocurrency but they are not currencies.
 - These can be referred to as Virtual Digital Assets.
 - Virtual Digital Assets also include Non-fungible tokens or NFTs, which are cryptographic assets on a blockchain with unique identification codes and

metadata that distinguish them from each other. NFTs can also be used to represent individuals' identities, property rights, and more.

- This differs from fungible tokens like cryptocurrencies, which are identical to each other and, therefore, can be used as a medium for commercial transactions.
- The Finance Minister clarified that what the RBI will issue in the next fiscal will be the digital currency.
 - This will be called Digital Rupee.

Budget 2022-23: PM GatiShakti

Why in News?

Recently, the Minister of Finance presented the Union Budget 2022-23.

- This section deals with proposals related to ‘PM GatiShakti’.

What is PM GatiShakti?

- About:
 - PM GatiShakti National Master Plan for Multi-Modal Connectivity, launched in October 2021, is an initiative aimed at coordinated planning and execution of infrastructure projects. The objective is to bring down logistics costs.
 - GatiShakti is a digital platform bringing development projects of 16 ministries, including railways and roadways, together for integrated planning and implementation.
 - When launched, the GatiShakti scheme subsumed the Rs 110 lakh crore National Infrastructure Pipeline announced in 2019.
- Focus Area for Budget 2022-23:
 - Its scope will encompass the seven engines (Roads, Railways, Airports, Ports, Mass Transport, Waterways and Logistics Infrastructure).
 - It will also include the infrastructure developed by the state governments as per the GatiShakti Master Plan.
 - The touchstone of the Master Plan will be world-class modern infrastructure and logistics synergy among different modes of movement – both of people and goods – and location of projects.

What are the Major Proposals for PM GatiShakti?

- Road Transport:
 - PM GatiShakti Master Plan for Expressways will be formulated in 2022-23 to facilitate faster movement of people and goods.
 - National Highways network to be expanded by 25,000 km in 2022-23. Rs. 20,000 crore to be mobilized for the expansion.
- Seamless Multimodal Movement of Goods and People:
 - The data exchange among all mode operators will be brought on Unified Logistics Interface Platform (ULIP), designed for Application Programming Interface (API).
 - This will provide real time information to all stakeholders, lead to efficient movement of goods through different modes, and improve international competitiveness.
 - Open-source mobility stack, for organizing seamless travel of passengers will also be facilitated.
- Multimodal Logistics Parks:
 - Contracts for implementation of Multimodal Logistics Parks at four locations through PPP (Public-Private Partnerships) mode will be awarded in 2022-23.
- Railways:
 - Railways will develop new products and efficient logistics services for small farmers and Small and Medium Enterprises, besides taking the lead in integration of Postal and Railways networks to provide seamless solutions for movement of parcels.
 - 'One Station-One Product' concept to help local businesses & supply chains.
 - As a part of Atmanirbhar Bharat, 2,000 km of network will be brought under Kavach, the indigenous world-class technology for safety and capacity augmentation in 2022-23.
 - 400 new-generation Vande Bharat Trains to be manufactured during the next three years.
 - 100 PM GatiShakti Cargo Terminals for multimodal logistics facilities will be developed during the next three years.
- Mass Urban Transport including Connectivity to Railways
 - Innovative ways of financing and faster implementation will be encouraged for building metro systems of appropriate type at scale.
 - Multimodal connectivity between mass urban transport and railway stations will be facilitated on priority.
- Parvatmala: National Ropeways Development Programme:
 - As a preferred ecologically sustainable alternative to conventional roads in difficult hilly areas, National Ropeways Development Programme will be taken up on PPP mode.
 - The aim is to improve connectivity and convenience for commuters, besides promoting tourism.
 - This may also cover congested urban areas, where conventional mass transit systems are not feasible.
- Capacity Building for Infrastructure Projects:
 - With technical support from the Capacity Building Commission, central ministries, state governments, and their infra-agencies will have their skills upgraded.

- This will ramp up capacity in planning, design, financing (including innovative ways), and implementation management of the PM GatiShakti infrastructure projects.

Budget 2022-23

Why in News?

Recently, the Minister of Finance presented the Union Budget 2022-23. With this Budget, India has marked the 75 years of Independence through Azadi ka Amrit Mahotsav.

- Apart from this, the budget also lays down a plan for next 25 years and refers to the same period as Amrit Kaal.
- It has also announced some important measures for taxpayers.

Budget and Constitutional Provisions

- According to **Article 112 of the Indian Constitution**, the Union Budget of a year is referred to as the Annual Financial Statement (AFS).
- It is a statement of the estimated receipts and expenditure of the Government in a Financial Year (which begins on 1st April of the current year and ends on 31st March of the following year).
- Overall, the **Budget contains:**
 - Estimates of revenue and capital receipts,
 - Ways and means to raise the revenue,
 - Estimates of expenditure,
 - Details of the actual receipts and expenditure of the closing financial year and the reasons for any deficit or surplus in that year, and
 - The economic and financial policy of the coming year, i.e., taxation proposals, prospects of revenue, spending programme and introduction of new schemes/projects.
- In Parliament, the Budget **goes through six stages:**
 - Presentation of Budget.
 - General discussion.
 - Scrutiny by Departmental Committees.
 - Voting on Demands for Grants.
 - Passing an Appropriation Bill.
 - Passing of Finance Bill.

- The Budget Division of the Department of Economic Affairs in the Ministry of Finance is the nodal body responsible for preparing the Budget.
- The first Budget of Independent India was presented in 1947.

What are the Key Highlights of Budget 2022?

- **Growth Rate:** India's economic growth in the current year (2021-22) is estimated to be 9.2% of GDP, the highest among all large economies.
 - The revised Fiscal Deficit in the current year is estimated at 6.9% of GDP (Gross Domestic Product) as against 6.8% projected in the Budget Estimates.
 - The Fiscal Deficit in 2022-23 is estimated at 6.4% of GDP, which is consistent with the broad path of fiscal consolidation announced last year to reach a fiscal deficit level below 4.5% by 2025-26.
- **Amrit Kaal:** India has entered into Amrit Kaal, the 25-year-long leadup to India@100. During the Amrit Kaal, the government aims to attain the following vision:
 - Complementing the macro-economic level growth focus with a micro-economic level all-inclusive welfare focus.
 - Promoting digital economy & fintech, technology enabled development, energy transition, and climate action.
 - Relying on a virtuous cycle starting from private investment with public capital investment helping to crowd-in private investment.
- **Blueprint of Amrit Kaal: Four Priorities:**
 - PM GatiShakti
 - Inclusive Development
 - Productivity Enhancement & Investment, Sunrise Opportunities, Energy Transition, and Climate Action
 - Financing of Investments
- **Productivity Linked Incentive:** 60 lakh new jobs to be created under the productivity linked incentive scheme in 14 sectors.
- **Other Major Announcements in Budget:**
 - **Railways:** One Station One Product concept to help local businesses & supply chains.
 - **Parvatmala:** It is a National Ropeways Development Program, Parvatmala to be taken up on PPP mode.

- Kisan Drones: For crop assessment, digitization of land records, spraying of insecticides and nutrients.
- MSME: Udyam, e-shram, NCS and ASEEM portals to be interlinked.
- Skill Development: Digital Ecosystem for Skilling and Livelihood (DESH-Stack e-portal) will be launched to empower citizens to skill, reskill or upskill through on-line training.
- Education: ‘One class-One TV channel’ programme of PM eVIDYA to be expanded to 200 TV channels.
- Health: An open platform for the National Digital Health Ecosystem to be rolled out.
- Saksham Anganwadi (New Generation Anganwadi): Integrated benefits to women and children through Mission Shakti, Mission Vatsalya, Saksham Anganwadi and Poshan 2.0.
- Vibrant Villages Programme: Vibrant Villages Programme for development of Border villages with sparse population, limited connectivity and infrastructure on the northern border.
- Sunrise Opportunities: Government contribution to be provided for R&D in Sunrise Opportunities like Artificial Intelligence, Geospatial Systems and Drones, Semiconductor and its eco-system, Space Economy, Genomics and Pharmaceuticals, Green Energy, and Clean Mobility Systems.
- GIFT-IFSC: World-class foreign universities and institutions to be allowed in the GIFT City.
 - An International Arbitration Centre to be set up for timely settlement of disputes under international jurisprudence.
- Digital Rupee: Introduction of Digital Rupee by the Reserve Bank of India starting 2022-23.

Economic Survey 2022: Concerns & Suggestions

Why in News?

Recently, the Economic Survey 2021-22 was tabled in Parliament by the Finance Minister soon after the President’s address to both Houses of Parliament.

What are the Key Challenges highlighted by Economic Survey 2022?

- Increased Inflation:
 - The Survey notes that supply chain disruptions and slow economic growth have contributed to an increase in inflation. The withdrawal of stimulus in developed economies in the upcoming fiscal (2022-23) is likely to affect capital flows into the country.
 - The surge in energy, food, non-food commodities, and input prices, supply constraints, disruption of global supply chains, and rising freight costs across the globe stoked global inflation during the year (2021-22).
 - Stimulus spending in developed economies and pent up demand during the pandemic could lead to “imported inflation” (Inflation due to increases in the prices of import) in India.
- PM-DevINE: New scheme Prime Minister’s Development Initiative for North-East Region (PM-DevINE) launched to fund infrastructure and social development projects in the North-East.

- Volatility in Capital:
 - The economic survey noted that major economies had begun the process of withdrawing liquidity that was extended during the pandemic in the form of stimulus checks and relaxed monetary policy to stimulate an economic recovery. Higher inflation has led to a winding down of pandemic related stimulus.
 - The likely withdrawal of liquidity by major central banks over the next year may also make global capital flows more volatile,” the survey said, noting that this may adversely affect capital flows, putting pressure on India’s exchange rate and slow economic growth.
 - India’s large and rising imports are also likely to put pressure on India’s exchange rate if capital flows to India decrease as a result of a withdrawal of stimulus in developed countries.
- Employment:
 - A lack of jobs also continues to be among the primary concerns for the Indian economy with unemployment levels and labour force participation rates remaining worse than pre-pandemic levels.
 - According to data from the PLFS, while the unemployment rate and labour force participation rate have improved somewhat from the start of the pandemic, they have still not recovered to pre-pandemic levels.
- It also has called for a standardised framework for Cross-Border insolvency as the Insolvency & Bankruptcy Code (IBC) at present does not have a standard instrument to restructure the firms involving cross border jurisdictions leading to several issues.
- It proposes use of the Agile approach to policy making with 80 high-frequency indicators in an environment of “extreme uncertainty”.
 - The approach, used in project management and technology development, assesses outcomes in short iterations while constantly making incremental adjustments. The suggestion is based on the availability of a “wealth of real-time data” to take feedback-based decisions.

Economic Survey 2022

Why in News?

Recently, the Economic Survey 2021-22 was tabled in Parliament by the Finance Minister soon after the President’s address to both Houses of Parliament.

- The central theme of this year’s Economic Survey is the “Agile approach”.
- This year’s survey uses various examples to highlight the use of satellite and geospatial data to reflect the infrastructural growth in the country.

What are the Major Suggestions?

- The Survey calls for emphasis on developing a supply-side strategy to deal with the long-term unpredictability of the post-Covid world, emanating mainly from factors such as changes in consumer behaviour, technological developments, geopolitics, climate change, and their potentially unpredictable interactions.
- It calls for a “diversified mix of sources of energy of which fossil fuels are an important part”, but simultaneously calls for focus on building storage for intermittent electricity generation from solar PV and wind farms to ensure on-demand energy supply.
 - It asks the government to focus on the pace of the shift from conventional fossil fuel-based sources; and encourage R&D to ensure an effortless switch to renewable sources of energy.

What is the Economic Survey?

- The Economic Survey of India is an annual document released by the Ministry of Finance.
- It contains the most authoritative and updated source of data on India’s economy.
 - It is a report that the government presents on the state of the economy in the past one year, the key challenges it anticipates, and their possible solutions.

- It is prepared by the Economics Division of the Department of Economic Affairs (DEA) under the guidance of the Chief Economic Advisor.
- It is usually presented a day before the Union Budget is presented in the Parliament.
 - The first Economic Survey in India was presented in the year 1950-51. Up to 1964, it was presented along with the Union Budget. From 1964 onwards, it has been delinked from the Budget.

What are the Key Points of the Economic Survey 2021-22?

- State of the Economy (GDP Growth):
 - The Indian economy is estimated to grow by 9.2% in real terms in 2021-22 (as per first advance estimates) subsequent to a contraction of 7.3% in 2020-21.
 - The Gross Domestic Product (GDP) projected to grow by 8-8.5% in real terms in 2022-23.
 - Projection comparable with World Bank and Asian Development Bank’s latest forecasts of real GDP growth of 8.7% and 7.5% respectively for 2022-23.
 - According to the International Monetary Fund’s latest World Economic Outlook projections, India’s real GDP is projected to grow at 9% in 2021-22 and 2022-23 and at 7.1% in 2023-2024, which would make India the fastest growing major economy in the world for all 3 years.
 - Combination of high Foreign Exchange Reserves, sustained Foreign Direct Investment, and rising export earnings will provide an adequate buffer against possible global liquidity tapering in 2022-23.
 - Tapering is the theoretical reversal of quantitative easing (QE) policies, which are implemented by a central bank and intended to stimulate economic growth.
- Fiscal Developments:
 - Sustained revenue collection and a targeted expenditure policy has contained the Fiscal Deficit for April to November, 2021 at 46.2% of Budget Estimates.
 - The revenue receipts from the Central Government (April to November, 2021) have gone up by 67.2% YoY (Year on Year) as against an expected growth of 9.6% in the 2021-22 Budget Estimates.

Gross Tax Revenue registers a growth of over 50% during April to November, 2021 in YoY terms.

- This performance is strong compared to pre-pandemic levels of 2019-2020 also.
- Tax Revenue forms part of the Receipt Budget, which in turn is a part of the Annual



Financial Statement of the Union Budget.

- During April-November 2021, Capex (Capital Expenditure) has grown by 13.5% (YoY) with focus on infrastructure-intensive sectors.
- With the enhanced borrowings on account of Covid-19, the Central Government debt has gone up from 49.1% of GDP in 2019-20 to 59.3% of GDP in 2020-21, but is expected to follow a declining trajectory with the recovery of the economy.
- Buoyant tax revenues and government policies have created “headroom for taking up additional fiscal policy interventions”.
- Stressing the need to continue the focus on capital expenditure, it has indicated that the government is on course to achieve the fiscal deficit target of 6.8% of GDP for the current year (2021-22).

➤ External Sectors:

- India’s merchandise exports and imports rebounded strongly and surpassed pre-Covid levels during the current financial year.
- There was significant pickup in net services with both receipts and payments crossing the pre-pandemic levels, despite weak tourism revenues.
- Net capital flows were higher at USD 65.6 billion in the first half of 2021-22, on account of continued in flow of foreign investment, revival in net external commercial borrowings, higher banking capital and additional Special Drawing Rights (SDR) allocation.



- As of end-November 2021, India was the fourth largest forex reserves holder in the world after China, Japan and Switzerland.

- Monetary Management and Financial Intermediation:
 - The liquidity in the system remained in surplus.
 - Repo rate was maintained at 4% in 2021-22.
 - Reserve Bank of India undertook various measures such as G-Sec Acquisition Programme and Special Long-Term Repo Operations to provide further liquidity.
 - The economic shock of the pandemic has been weathered well by the commercial banking system:
 - Bank credit growth accelerated gradually in 2021-22 from 5.3% in April 2021 to 9.2% as on 31st December 2021.
 - The Gross Non-Performing Advances ratio of Scheduled Commercial Banks (SCBs) declined from 11.2% at the end of 2017-18 to 6.9% at the end of September, 2021.
 - Net Non-Performing Advances ratio declined from 6% to 2.2% during the same period.
 - Capital to risk-weighted asset ratio of SCBs continued to increase from 13% in 2013-14 to 16.54% at the end of September 2021.
 - The Return on Assets and Return on Equity for Public Sector Banks continued to be positive for the period ending September 2021.
 - Exceptional year for the capital markets:
 - Rs. 89,066 crore was raised via 75 Initial Public Offering (IPO) issues in April-November 2021, which is much higher than in any year in the last decade.
- Prices and Inflation:
 - The average headline Consumer Price Index (CPI) -Combined inflation moderated to 5.2% in 2021-22 (April-December) from 6.6% in the corresponding period of 2020-21.
 - The decline in retail inflation (CPI) was led by easing food inflation. Food inflation averaged at a low of 2.9% in 2021-22 (April to December) as against 9.1% in the corresponding period last year.
 - Effective supply-side management kept prices of most essential commodities under control during the year. Proactive measures were taken to contain the price rise in pulses and edible oils.
 - Reduction in central excise and subsequent cuts in Value Added Tax by most States helped ease petrol and diesel prices.
- Wholesale inflation based on Wholesale Price Index (WPI) rose to 12.5% during 2021-22 (April to December). This has been attributed to:
 - Low base in the previous year,
 - Pick-up in economic activity,
 - Sharp increase in international prices of crude oil and other imported inputs, and
 - High freight costs.
- Divergence between CPI-C and WPI Inflation: The divergence peaked to 9.6% points in May 2020. However in 2021 there was a reversal in divergence with retail inflation falling below wholesale inflation by 8.0% points in December 2021. This divergence can be explained by factors such as:
 - Variations due to base effect,
 - Difference in scope and coverage of the two indices,
 - Price collections,
 - Items covered,
 - Difference in commodity weights, and
 - WPI being more sensitive to cost-push inflation led by imported inputs.
- With the gradual waning of base effect in WPI, the divergence in CPI-C and WPI is also expected to narrow down.
- Sustainable Development and Climate Change:
 - India's overall score on the NITI Aayog Sustainable Development Goals (SDG) India Index and Dashboard improved to 66 in 2020-21 from 60 in 2019-20 and 57 in 2018-19.
 - India has the tenth largest forest area in the world. In 2020, India ranked third globally in increasing its forest area during 2010 to 2020.
 - In 2020, the forests covered 24% of India's total geographical area, accounting for 2% of the world's total forest area.
 - In August 2021, the Plastic Waste Management Amendment Rules, 2021, was notified which is aimed at phasing out single use plastic by 2022.
 - Draft regulation on Extended Producer Responsibility for plastic packaging was notified.
 - The Compliance status of Grossly Polluting Industries (GPIs) located in the Ganga main stem and its tributaries improved from 39% in 2017 to 81% in 2020.

- The Prime Minister, as a part of the national statement delivered at the 26th Conference of Parties (COP 26) in Glasgow in November 2021, announced ambitious targets to be achieved by 2030 to enable further reduction in emissions.
 - The need to start the one-word movement 'LIFE' (Lifestyle for Environment) urging mindful and deliberate utilisation instead of mindless and destructive consumption was underlined.
- Agriculture and Food Management:
 - The Agriculture sector experienced buoyant growth in the past two years, accounting for a sizable 18.8% (2021-22) in Gross Value Added (GVA) of the country registering a growth of 3.6% in 2020-21 and 3.9% in 2021-22.
 - Minimum Support Price (MSP) policy is being used to promote crop diversification.
 - Net receipts from crop production have increased by 22.6% in the latest Situation Assessment Survey (SAS) compared to the SAS Report of 2014.
 - Allied sectors including animal husbandry, dairying and fisheries are steadily emerging to be high growth sectors and major drivers of overall growth in the agriculture sector.
 - The Livestock sector has grown at a CAGR of 8.15% over the last five years ending 2019-20.
 - Government facilitates food processing through various measures of infrastructure development, subsidised transportation and support for formalisation of micro food enterprises.
 - India runs one of the largest food management programmes in the world.
 - Government has further extended the coverage of the food security network through schemes like PM Gareeb Kalyan Yojana (PMGKY).
- Industry and Infrastructure:
 - The Index of Industrial Production (IIP) grew at 17.4% during April-November 2021 as compared to (-)15.3% in April-November 2020.
 - Capital expenditure for the Indian railways has increased to Rs. 155,181 crores in 2020-21 from an average annual of Rs. 45,980 crores during 2009-14 and it has been budgeted to further increase to Rs. 215,058 crores in 2021-22 – a five times increase in comparison to the 2014 level.
 - Extent of road construction per day increased substantially in 2020-21 to 36.5 Kms per day from 28 Kms per day in 2019-20 – a rise of 30.4%.
 - Net profit to sales ratio of large corporations reached an all-time high of 10.6% in July-September quarter of 2021-22 despite the pandemic (RBI Study).
 - Introduction of Production Linked Incentive (PLI) scheme, major boost provided to infrastructure-both physical as well as digital, along with measures to reduce transaction costs and improve ease of doing business, would support the pace of recovery.
- Services:
 - Gross Value Added:
 - GVA of services crossed pre-pandemic level in July-September quarter of 2021-22; however, GVA of contact intensive sectors like trade, transport, etc. still remain below pre-pandemic level.
 - Overall service Sector GVA is expected to grow by 8.2% in 2021-22.
 - Foreign Direct Invest:
 - During the first half of 2021-22, the service sector received over USD 16.7 billion Foreign Direct Invest – accounting for almost 54% of total FDI inflows into India.
 - Reforms:
 - Major government reforms include, removing telecom regulations in IT-BPO sector and opening up of the space sector to private players.
 - Exports:
 - Services exports surpassed pre-pandemic level in January-March quarter of 2020-21 and grew by 21.6% in the first half of 2021-22 - strengthened by global demand for software and IT services exports.
 - Start-Ups:
 - India has become the 3rd largest start-up ecosystem in the world after the US and China. Number of new recognized start-ups increased to over 14000 in 2021-22 from 733 in 2016-17.

- 44 Indian start-ups have achieved unicorn status in 2021 taking the overall tally of unicorns to 83, most of which are in the services sector.
- Social Infrastructure and Employment:
 - Employment:
 - With revival of the economy, employment indicators bounced back to pre-pandemic levels during the last quarter of 2020-21.
 - As per the quarterly Periodic Labour Force Survey (PFLS) data up to March 2021, employment in urban sector affected by pandemic has recovered almost to the pre-pandemic level.
 - According to Employees Provident Fund Organisation (EPFO) data, formalisation of jobs continued during the second Covid wave; adverse impact of Covid on formalisation of jobs much lower than during the first Covid wave.
 - Social Infrastructure:
 - Expenditure on social services (health, education and others) by Centre and States as a proportion of GDP increased from 6.2% in 2014-15 to 8.6% in 2021-22 (BE)
 - As per the National Family Health Survey-5:
 - Total Fertility Rate (TFR) came down to 2 in 2019-21 from 2.2 in 2015-16.
 - Infant Mortality Rate (IMR), under-five mortality rate and institutional births have improved in 2019-21 over year 2015-16.
 - Under Jal Jeevan Mission (JJM), 83 districts have become 'Har Ghar Jal' districts.
 - Increased allotment of funds to Mahatma Gandhi National Rural Employment Guarantee Scheme (MNRGS) to provide buffer for unorganised labour in rural areas during the pandemic.
 - In addition to the National Health Mission, Union Budget 2021-22, announced Ayushman Bharat Health Infrastructure Mission, a new Centrally Sponsored Scheme to develop capacities of primary, secondary and tertiary Health Care Systems, strengthen existing national institutions, and create new institutions to cater to detection and cure of new and emerging diseases.
 - India is among the few countries producing Covid vaccines. The country started with two made in India Covid vaccines. In line with

India's vision of Atmanirbhar Bharat, India's first domestic Covid -19 vaccine, Whole Virion Inactivated Coronavirus Vaccine (COVAXIN), was developed and manufactured by Bharat Biotech International Limited in collaboration with National Institute of Virology of Indian Council of Medical Research (ICMR).

- The progress of vaccination should be seen not just as a health response indicator, but also as a buffer against economic disruptions caused by repeated pandemic waves.

Patent Waiver Plan for Vaccines

Why in News?

Recently, the Geneva Health Files, a Switzerland-based newsletter portal, revealed that a small group of World Trade Organisation (WTO) members were discussing to exclude drug manufacturers in India and China from prospective waivers to Intellectual Property Rights obligations under Trade-Related Aspects of Intellectual Property Rights (TRIPS).

- In 2020, India and South Africa had proposed a waiver from the implementation and application of certain provisions of the TRIPS Agreement (waiving IP rights like patents, copyright, and trademarks) for prevention, containment or treatment of Covid-19.

What is the TRIPS Agreement & its Relationship with Indian Patent Law?

- The TRIPS agreement was negotiated in 1995 at the WTO, it requires all its signatory countries to enact domestic law.
 - It guarantees minimum standards of IP protection.
 - Such legal consistency enables innovators to monetise their intellectual property in multiple countries.
- In 2001, the WTO signed the Doha Declaration, which clarified that in a public health emergency, governments could compel companies to license their patents to manufacturers, even if they did not think the offered price was acceptable.
- This provision, commonly referred to as "compulsory licensing", was already built into the TRIPS Agreement and the Doha declaration only clarified its usage.

- Under Section 92 of the 1970 Indian Patents Act, the central government has the power to allow compulsory licenses to be issued at any time in case of a national emergency or circumstances of extreme urgency.

What is the Need for Invoking Compulsory Licensing?

- **Plugging Shortage of Vaccine:** The richest countries have cornered about 80% of vaccine supplies so far.
 - While India needs to supplement its output to ensure that a population of over 900 million which is above 18 years of age gets about 1.8 billion doses at the earliest.
 - Thus, compulsory licensing can be used to augment the supply of drugs and other therapeutics.
- **Nudging Voluntary Licensing:** An assertive posture on compulsory licences would also have the advantage of forcing several pharmaceutical companies to offer licences voluntarily.
- **Leading By Example:** Licensing Covaxin widely would enable India to live up to its reputation of being the ‘pharmacy of the world’ and also put pressure on developed countries to transfer their vaccine technology to developing countries.
 - Thus, the government should not only transfer Covaxin’s technology to domestic pharmaceutical companies, to boost national supplies, but also offer it to foreign corporations.
 - By unlocking its vaccine technical know-how to the world, India would demonstrate its resolve to walk the talk on the TRIPS waiver.
- **Favourable Regulatory Environment:** A commitment to supply vaccines to India requires trust in the country’s regulatory and institutional environment, which the government must strive to instil through dependable commitments.
 - Such confidence, combined with the expedited process for vaccine approval, can help India quickly overcome its supply shortage.

Why are the Issues With TRIPS Waiver?

- **Complex Intellectual Property Mechanism:** The process of vaccine development and manufacturing has several steps, and involves a complex intellectual property mechanism.

- Different types of IP rights apply to different steps and there is no one kind of IP that could unlock the secret to manufacturing a vaccine.
- The expertise to manufacture it may be protected as a trade secret, and the data from clinical trials to test vaccine safety and efficacy may be protected by copyright.
- **Complex Manufacturing Mechanism:** Manufacturers will need to design the process for manufacturing the vaccines, source necessary raw materials, build production facilities, and conduct clinical trials to get regulatory approvals.
 - The manufacturing process itself has different steps, some of which may be subcontracted to other parties.
 - Thus, a patent waiver alone does not empower manufacturers to start vaccine production immediately.

Budget 2022-23: Inclusive Development

Why in News?

- Recently, the Finance Minister presented the Union Budget 2022-23 in Parliament.
- In this section we will discuss the ‘Inclusive Development’ Pillar of the Budget 2022-23.

What is New for Agriculture & Food Processing?

- **Agriculture:**
 - Rs. 2.37 lakh crore direct payment to 1.63 crore farmers for procurement of wheat and paddy.
 - Chemical-free Natural Farming will be promoted throughout the country, with a focus on farmers’ lands in 5-km wide corridors along river Ganga, at the first stage.
 - 2023 has been announced as the International Year of Millets. Support will be provided.
 - A comprehensive scheme to increase domestic production of oilseeds will be implemented.
 - For delivery of digital and hi-tech services to farmers, a scheme in Public Private Partnership (PPP) mode will be launched.

- NABARD to facilitate funds with blended capital to finance startups for agriculture & rural enterprise.
- 'Kisan Drones' for crop assessment, digitization of land records, spraying of insecticides and nutrients.
- Ken Betwa project:
 - 1400 crore outlay for implementation of the Ken – Betwa link project. 9.08 lakh hectares of farmers' lands to receive irrigation benefits by Ken-Betwa link project.
 - Draft DPRs (Detailed Project Reports) of five river links, namely Damanganga-Pinjal, Par-Tapi-Narmada, Godavari-Krishna, Krishna-Pennar and Pennar-Cauvery have been finalised.
- Food Processing:
 - For farmers to adopt suitable varieties of fruits and vegetables, and to use appropriate production and harvesting techniques, government will provide a comprehensive package with participation of state governments.
- 130 lakh MSMEs provided with additional credit under Emergency Credit Linked Guarantee Scheme (ECLGS)
 - ECLGS to be extended up to March 2023. Guarantee cover under ECLGS to be expanded by Rs. 50,000 Crore to total cover of Rs. 5 Lakh Crore.
- Rs 2 lakh Crore additional credit for Micro and Small Enterprises to be facilitated under the Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE).
- Raising and Accelerating MSME Performance (RAMP) programme with outlay of Rs 6000 Crore to be rolled out. This will help the MSME sector become more resilient, competitive and efficient.
- Skill Development:
 - Digital Ecosystem for Skilling and Livelihood (DESH-Stack e-portal) will be launched to empower citizens to skill, re skill or upskill through on-line training.
 - Startups will be promoted to facilitate 'Drone Shakti' and for Drone-As-A-Service (DrAAS).

What is there for Industry & Skill Development?

- Micro, Small and Medium Enterprises (MSMEs):
 - Udyam, e-shram, National Career Service and Atma Nirbhar Skilled Employee Employer Mapping (ASEEM) portals to be interlinked.

What About the Education & Health Sector?

- Education:
 - 'One class-One TV channel' programme of PM eVIDYA to be expanded to 200 TV channels.
 - Virtual labs and skilling e-labs to be set up to promote critical thinking skills and simulated learning environment.
 - High-quality e-content will be developed for delivery through Digital Teachers.
 - Digital University for world-class quality universal education with personalised learning experience to be established.

- Health:
 - An open platform for the National Digital Health Ecosystem to be rolled out. National Tele Mental Health Programme for quality mental health counselling and care services to be launched.
 - A network of 23 tele-mental health centres of excellence will be set up, with NIMHANS being the nodal centre and International Institute of Information Technology-Bangalore (IIITB) providing technology support.
 - Integrated benefits to women and children through Mission Shakti, Mission Vatsalya, Saksham Anganwadi and Poshan 2.0.
 - Two lakh anganwadis to be upgraded to Saksham Anganwadis.

What is there for Upgrading Basic Amenities?

- Har Ghar, Nal Se Jal:
 - Rs. 60,000 crore allocated to cover 3.8 crore households in 2022-23 under Har Ghar, Nal Se Jal.
- Housing for All:
 - Rs. 48,000 crore allocated for completion of 80 lakh houses in 2022-23 under PM Awas Yojana.
- Prime Minister's Development Initiative for North East Region (PMDevINE):
 - New scheme PM-DevINE launched to fund infrastructure and social development projects in the North-East.
 - An initial allocation of Rs. 1,500 crore was made to enable livelihood activities for youth and women under the scheme.
- Vibrant Villages Programme:
 - Border villages with sparse population, limited connectivity and infrastructure often get left out from the development gains. Such villages on the northern border will be covered under the new Vibrant Villages Programme.
 - The activities will include construction of village infrastructure, housing, tourist centres, road connectivity, provisioning of decentralised renewable energy, direct to home access for Doordarshan and educational channels, and support for livelihood generation.

How is the Budget Promoting Digital Payments?

- Anytime – Anywhere Post Office Savings: In 2022, 100% of 1.5 lakh post offices will come on the core banking system enabling financial inclusion and access to accounts through net banking, mobile banking, ATMs, and also provides online transfer of funds between post office accounts and bank accounts.
- Digital Banking: It has been proposed to set up 75 Digital Banking Units (DBUs) in 75 districts of the country by Scheduled Commercial Banks.
- Digital Payments: The financial support for the digital payment ecosystem announced in the previous Budget will continue in 2022-23.

Budget 2022-23: Indirect Taxes

Why in News?

The Union Budget 2022-23, while continuing with the declared policy of a stable and predictable tax regime, intends to bring more reforms that will take ahead the vision to establish a trustworthy tax regime.

- An indirect tax is a tax that is levied upon goods and services before they reach the customer who ultimately pays the indirect tax as a part of market price of the goods or service purchased. For example, Goods and Services Tax (GST), Import duties.

What are the Key Proposals?

- Record GST Collection: GST collections touched a record of Rs 1.40 lakh crore in January 2022 on rapid economic recovery (despite the coronavirus pandemic).
 - GST showcases the spirit of Cooperative Federalism and fulfills the dream of India as one market-one tax.
- Special Economic Zones: Customs Administration of SEZs shall be fully IT driven and function on the Customs National Portal with a focus on higher facilitation and with only risk-based checks.
- Customs Reforms and Duty Rate Changes: Faceless Customs has been fully established. Customs' reforms have played a very vital role in:
 - Domestic capacity creation,
 - Providing a level playing field to MSMEs,
 - Easing the raw material supply side constraints,
 - Enhancing ease of doing business

- Being an enabler to other policy initiatives such as PLIs and Phased Manufacturing Plans.
- Project Imports and Capital Goods: National Capital Goods Policy, 2016 aims at doubling the production of capital goods by 2025.
 - This would create employment opportunities and result in increased economic activity.
 - However, several duty exemptions, even extending to over three decades in some cases, have been granted to capital goods for various sectors like power, fertilizer, textiles, leather, footwear, food processing and fertilizers.
 - These exemptions have hindered the growth of the domestic capital goods sector.
 - The budget proposed gradual phasing out of the concessional rates in capital goods and project imports.
 - The Budget provided for applying a moderate tariff of 7.5% which will be conducive to the growth of the domestic sector and 'Make in India'.
- Sector-specific Proposals:
 - Electronics: Customs duty rates to be balanced to provide a graded rate structure - to facilitate domestic manufacturing of wearable devices and electronic smart meters.
 - Announced a new Phased Manufacturing Programme (PMP) for producing wrist wearable devices, hearable devices and electronic smart meters in the country.
 - The PMP incentivises the manufacture of low value accessories initially, and then moves on to the manufacture of higher value component.
 - Gems and Jewelry: Customs duty on cut and polished diamonds and gemstones being reduced to 5%.
 - Nil customs duty to be imposed on simply sawn diamond.
 - MSME & Exports: Exemption being rationalised on implements and tools for agri-sector which are manufactured in India.
 - Further, to incentivise exports, exemptions are being provided on many items.
 - Tariff to Encourage Blending of Fuel: Tariff measures will be introduced to encourage the blending of fuel.

- Meanwhile, unblended fuel will attract an additional differential excise duty of Rs 2/ litre from 1st October, 2022, to further encourage the blending of fuel.

Saffron Bowl Project

Why in News?

North East Center for Technology Application and Reach (NECTAR) under Saffron Bowl project has identified a few locations in Arunachal Pradesh and Meghalaya for saffron cultivation.

- The total cost of the whole project is Rs. 17.68 lakhs for Arunachal Pradesh and Meghalaya.
- NECTAR is an autonomous body under the Department of Science & Technology (DST), which supported a pilot project to explore the feasibility of growing saffron in the North East region of India, with the same quality and higher quantity.

What is the Reason for Extending Saffron Cultivation to the North-East?

- Initially, Saffron production was confined to very few and specific regions of Kashmir.
- Though the National Saffron Mission brought in several measures, the area of production was too low. There were not enough bore wells in the saffron growing regions.
- India cultivates about 6 to 7 tonnes of saffron while the demand is 100 tonne.
- To meet the growing demand of saffron the Ministry of Science and Technology, through the DST, is now looking at extending its cultivation to some states in the Northeast (Sikkim now, and later to Meghalaya and Arunachal Pradesh).
- There is a huge similarity of climate and geographical conditions between Kashmir and few regions of Northeast.
 - In Arunachal Pradesh, there is a good growth of organic saffron with flowers. In Meghalaya, sample plantations were grown at Cherrapunji, Mawsmai and Lalingtop sites.
- It will also diversify agriculture and provide new opportunities to the farmers in the North-East.

What is Saffron and Why is it Important?

- Saffron:
 - Saffron is a plant whose dried stigmas (thread-like parts of the flower) are used to make saffron spice.
 - Saffron cultivation is believed to have been introduced in Kashmir by Central Asian immigrants around the 1st Century BCE.
 - It has been associated with traditional Kashmiri cuisine and represents the rich cultural heritage of the region.
 - It is a very precious and costly product.
 - In ancient Sanskrit literature, saffron is referred to as 'bahukam'.
 - It is cultivated and harvested in the Karewa (highlands) of Jammu and Kashmir.
- Importance:
 - It rejuvenates health and is used in cosmetics and for medicinal purposes.
 - It has been associated with traditional Kashmiri cuisine and represents the rich cultural heritage of the region.

What are the Seasons and Conditions of Cultivation?

- Season:
 - In India, saffron Corms (seeds) are cultivated during the months of June and July and at some places in August and September.
 - It starts flowering in October.
- Conditions:
 - Altitude: Saffron grows well at an altitude of 2000 meters above sea level. It needs a photoperiod (sunlight) of 12 hours.
 - Soil: It grows in many different soil types but thrives best in calcareous (soil that has calcium carbonate in abundance), humus-rich and well-drained soil with a pH between 6 and 8.
 - Climate: For saffron cultivation, we need an explicit climatological summer and winter with temperatures ranging from no more than 35 or 40 degree Celsius in summer to about -15 or -20 degree Celsius in winter.
 - Rainfall: It also requires adequate rainfall that is 1000-1500 mm per annum.

What are the Major Saffron Producing Regions in India ?

- Saffron production has long been restricted to a limited geographical area in the Union territory of Jammu & Kashmir.
- Pampore region, commonly known as Saffron bowl of Kashmir, is the main contributor to saffron production.
 - Pampore Saffron Heritage of Kashmir is one of the Globally Important Agricultural Heritage systems (GIAHS) recognised sites in India.
- Other districts producing saffron are Budgam, Srinagar, and Kishtwar districts.
- Recently, the Kashmir saffron got Geographical Indication (GI) tag status.

What are Other Initiatives to Promote Saffron Cultivation ?

- The National Saffron Mission was sanctioned by the central government in the year 2010 in order to extend support for creation of irrigation facilities through tube wells and sprinkler sets which would help in production of better crops in the area of saffron production.
- Recently, the Institute of Himalayan Bioresource Technology (CSIR-IHBT) and the Government of Himachal Pradesh, have jointly decided to increase the production of the two spices namely, Saffron and Heeng (asafoetida).
 - Under this plan, IHBT will be introducing new varieties of saffron and heeng from the exporting countries and will be standardized under Indian conditions.

Index of Industrial Production

Why in News?

Recently, as per official estimates for the Index of Industrial Production (IIP), India's industrial recovery slowed sharply in December 2021, with output growing just 0.4% year-on-year, and manufacturing activity contracting 0.1%.

- Contrary to expected growth of 2.5%, growth has come in at 0.4% which is disappointing.

What is the Index of Industrial Production?

- IIP is an indicator that measures the changes in the volume of production of industrial products during a given period.
 - It is compiled and published monthly by the National Statistical Office (NSO), Ministry of Statistics and Programme Implementation.
 - It is a composite indicator that measures the growth rate of industry groups classified under:
 - Broad sectors, namely, Mining, Manufacturing, and Electricity.
 - Use-based sectors, namely Basic Goods, Capital Goods, and Intermediate Goods.
 - Base Year for IIP is 2011-2012.
- Significance of IIP:
 - It is used by government agencies including the Ministry of Finance, the Reserve Bank of India, etc, for policy-making purposes.
 - IIP remains extremely relevant for the calculation of the quarterly and advance GDP (Gross Domestic Product) estimates.
 - About Eight Core Sectors:
 - These comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).
 - The eight core sector industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.



International Relations

Highlights

- India-Sri Lanka Bilateral Meeting
- China and Russia Relations
- Second Phas of CPEC
- India-Russia Cooperation at the UNSC
- One Ocean Summit
- Solomon Islands
- Pakistan-China Relationship & India
- Restoration of JCPOA
- Island Islands Issue
- India and WFP to Supply Wheat to Afghanistan
- US' Indo-Pacific Strategy
- India-Australia Interim Trade Agreement

India-Sri Lanka Bilateral Meeting

Why in News?

Recently, in a bilateral meeting India has agreed to provide a grant to Sri Lanka to implement a 'Unitary Digital Identity framework', apparently modelled on the Aadhaar card.

- Both sides also discussed the fishermen's issue and India provided financial assistance of 2.4 billion USD to Sri Lanka.
- Earlier, India and Sri Lanka agreed to a four-pronged approach to discuss initiatives on food and energy security to help mitigate Sri Lanka's economic crisis.

What is the Unitary Digital Identity framework?

- About:
 - It is similar to India's own Aadhaar and under the proposed Unitary Digital Identity framework, Sri Lanka is expected to introduce a:

- Personal identity verification device based on biometric data
- Digital tool that can represent the identities of individuals in cyberspace and
- Identification of individual identities that can be accurately verified in digital and physical environments by combining the two devices

➤ Previous Attempts:

- This is not the first time that Sri Lanka is attempting to digitise its citizens' identities. Just a few years ago from 2015 to 2019, the Sri Lankan government mooted a similar Electronic-National Identity Card — or E-NIC — that privacy advocates opposed on grounds that the state would have full access to citizens' personal data in a central database.
- Government also tried initiating the project as early as 2011. Neither project was implemented.

What is the Recent Economic Support that India is Providing to Sri Lanka?

- Beginning January 2022, India has been providing crucial economic support to the island nation in the grip of a severe dollar crisis that, many fear, might lead to a sovereign default, and a severe shortage of essentials in the import-reliant country.
- The relief extended by India from the beginning of this year totals over USD 1.4 billion — a USD 400 currency swap, a USD 500 loan deferment and a USD 500 Line of Credit for fuel imports.
- Sri Lanka is further negotiating a USD 1 billion assistance from India to help the country as it faces an unprecedented economic crisis.

What was India’s Stand on Bilateral Relations?

- Expediently take forward mutually beneficial projects”, which include:
 - Proposals to enhance air and sea connectivity between India and Sri Lanka
 - Economic and investment initiative
 - Steps to enhance Sri Lanka’s energy security
 - Keeping the neighbours’ “shared maritime domain safe from various contemporary threats”, and cooperation in combating Covid-19 pandemic.

What are Some Major Issues in India-Sri Lanka Relations?

- Killing of Fisherman:
 - Killing of Indian fishermen by the Sri Lankan Navy is a lingering issue between these two nations.
 - In 2019 and 2020, a total of 284 Indian fishermen were arrested and a total of 53 Indian boats were confiscated by the Sri Lankan authorities.
 - In the current meeting both the countries discussed the Palk Bay fisheries conflict and reiterated the longstanding consensus to handle fishermen issues through “humanitarian approach and refrain from the use of violence”.
- East Coast Terminal project:
 - This year (2021) Sri Lanka cancelled an MoU signed with India and Japan for the East Coast Terminal project.
 - India protested the cancellation though it later agreed to the West Coast Terminal being developed by the Adani group.
- Influence of China:
 - China’s rapidly growing economic footprint (and political clout as a corollary) in Sri Lanka is straining India-Sri Lanka relations.
 - China is already the largest investor in Sri Lanka, accounting for 23.6% of the total Foreign Direct Investment (FDI) during 2010-2019 as against 10.4% from India.
 - China is also one of the largest export destinations for Sri Lankan goods and holds over 10% of its external debt.
- 13th Amendment of the Sri Lankan Constitution:
 - It envisages devolution of necessary powers to the provincial councils to address the just demand of

the Tamil people for equality, justice, peace, and respect within a united Sri Lanka.

What should be the Way Forward for India?

- A subterranean trust deficit exists between India and Sri Lanka yet neither Sri Lanka nor India can afford to have strained ties.
- However, as a much larger country, the onus is on India to carry Sri Lanka along. India needs to be extremely patient and avoid reacting to any pinpricks and engage Sri Lanka even more regularly and closely, especially at the highest levels.
- There is a need to step up our people-centric developmental activities while scrupulously staying clear of any interference in Colombo’s domestic affairs.
- Nurturing the Neighbourhood First policy with Sri Lanka is important for India to preserve its strategic interests in the Indian Ocean region.

China and Russia Relations

Why in News

Recently, in a joint statement, China and Russia affirmed that their new relationship was superior to any political or military alliance of the Cold War era.

- The statement comes amid Russia’s standoff with North Atlantic Treaty Organisation (NATO) on Ukraine.

What are the Historical Dynamics of China-Russia Relations?

- Despite being together in rejecting US unipolarity, the relationship between Russia and China is complex and layered.

- Each has its distinct worldview and specific interests in its geographical region, and its own battles to fight.
- Relations between China and the former Soviet Union were frosty, marked by mistrust and doctrinal differences for most of the Cold War decades.
- The change came in 1989, when Mikhail Gorbachev became the first Soviet leader to visit China since Nikita Khrushchev in 1958.
- Russia and China declared “mutual respect for sovereignty and territorial integrity, mutual nonaggression, noninterference in each other’s internal affairs, equality and mutual benefit, and peaceful coexistence” as the basis of their bilateral relations.
- A decade after the Soviet Union broke up, disappointed and humiliated by the way the West had downgraded it, and deep in economic crisis, Russia turned to China.
- In 2001, the two countries signed the Treaty of Good-Neighbourliness and Friendly Cooperation, paving the way for expanding economic and trade ties, including sales of defence equipment and energy by Russia to China, and Russia’s backing for China’s position on Taiwan.
- In June 2021, the two countries extended the treaty at a virtual meeting where Russia claimed that “Russian-Chinese coordination plays a stabilising role in world affairs”.
- Earlier in January 2022, the two countries signed a deal for another pipeline, Power of Siberia 2, which will add 10 bcm of gas to the annual supply for 30 years.
- Since 2016, trade between the two countries has gone from USD 50 bn to over USD 147 bn.
- China is now Russia’s largest trading partner. Towards a modus vivendi in Central Asia, the two countries agreed to work towards speeding up the linking of the Russia-led Eurasian Economic Union and the Chinese Belt and Road Initiative.
- With their ties closer than ever before, the crisis in Ukraine has been an opportunity for each country to express solidarity with the other’s grievance against the US.
 - Should the West impose financial and banking sanctions on Russia, China is expected to assist Russia, perhaps with alternative payment methods.
- The recent joint statement backed the Russian opposition to any expansion of the Western military alliance in Europe.
- Russia reaffirmed support for the One-China principle, and opposed any form of independence for Taiwan.
- The statement also hit out “against the formation of closed bloc structures and opposing camps in the Asia-Pacific region” and “the negative impact” of the US’s Indo-Pacific strategy.

What are the Current Developments in China-Russia Relations?

- Russia’s 2014 annexation of Crimea in Ukraine led to a sharp downturn in Russia’s ties with the US, NATO, and European Union (EU).
 - This was also the turning point in Russia’s ties with China, which revealed the possibilities, potential, and the limits of the relationship.
- When the US, EU, and Australia imposed sanctions on Russia, Russia turned reflexively to China.
- Russia opened its doors wide for Chinese investments, and struck a USD 400 billion deal for Gazprom, the Russian state monopoly gas exporter, to supply 38 billion cubic metres (bcm) annually to China for 30 years from 2025.
- As several observers have pointed out, the China-Russia compact is not yet a formal security alliance against the West, nor is it an ideological partnership.
- Back in March 2014, in the vote on UN Security Council resolutions on the referendum in Crimea. China had abstained — and despite the recent bonhomie, has not recognised Crimea’s accession to Russia.
- China’s main security interests lie in Asia; Russia’s are in Europe. From Russia’s demands in ongoing negotiations with the West, it is clear that Russia is seeking the restructuring of European security.
- Russia, which wants to be recognised as a great power once again, has positions independent of China on many issues — including on the relationship with India.
- As the smaller economy — Russia’s Gross Domestic Product (GDP) is a tenth of China’s — but with a strong memory of its lost superpower status, Russia is not willing to become China’s junior partner.

How is Russia & China’s Interest Different?

- China drives a hard bargain. Russia is conscious that its gas exports to Germany and the rest of Europe gets much more revenue — and that China anyway has other pipelines to tap. Also, despite talk of Russia-China co-operation in Central Asia, Russia still sees the region as part of its sphere of influence.
- For China, war in Ukraine is the least suitable of options. It would take US military energies away from the South China Sea, but might also stall talks to resolve trade issues.
- China and the EU are each other's biggest trading partners — China's trade with Russia is small by comparison. China will not fight the war if it breaks out, but it will nonetheless find it messy and complicated to negotiate.
- As for Ukraine, it is a crucial link in Xi's BRI project. China is also Ukraine's biggest trading partner — and its agricultural exports, particularly corn, have sustained China during its trade war with the US.

What Policy Should India Follow?

- India's best bet would be to treat its relations with both countries and the US separately — or it runs the risk of shrinking its own space.
- India's relationship with Russia is not what it used to be, but there is much that both sides continue to see as mutually beneficial.
 - The Russia-China statement did not mention China's border dispute with India; it only made a reference to developing cooperation among the three countries.
 - After the Russian-linked Redfish media teased a documentary that drew parallels between Kashmir and Palestine, the Russian embassy clarified that Redfish was not official media, and reiterated that Kashmir was an issue for India and Pakistan to resolve bilaterally.
- The structural constraints posed by the great power dynamic and vastly different appreciation of the regional security environment could be reduced if matters improve between the US and Russia.
 - A less conflictual relationship between the two will be a huge relief for India.

- Also, the US-China quest for power or Russia's deepening ties with China would have mattered less to India if its relations with China were more peaceful and stable.
- India should also promote mutually beneficial trilateral cooperation between Russia, China and India that could contribute towards the reduction of mistrust and suspicion between India and China.
 - In this context, the BRICS, Shanghai Cooperation Organisation (SCO) and RIC trilateral forum must be leveraged.

Second Phase of CPEC

Why in News?

Recently, Pakistan signed a new agreement with China to begin the second phase of the USD 60 billion China-Pakistan Economic Corridor (CPEC).

- Earlier, Pakistan had discussed Taliban-led Afghanistan joining the multibillion-dollar China-Pakistan Economic Corridor (CPEC) infrastructure project.
- The second phase primarily revolves around Special Economic Zones (SEZs) development and industrialisation.

What is CPEC?

- CPEC is a 3,000-km long route of infrastructure projects connecting China's northwest Xinjiang Uygur Autonomous Region and the Gwadar Port in the western province of Balochistan in Pakistan.
- It is a bilateral project between Pakistan and China, intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial, and other infrastructure development projects.
- It will pave the way for China to access the Middle East and Africa from Gwadar Port, enabling China to access the Indian Ocean and in return China will support development projects in Pakistan to overcome the latter's energy crises and stabilising its faltering economy.
- CPEC is a part of the Belt and Road Initiative. The BRI, launched in 2013, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.

What is India's Stand on CPEC?

- India has been severely critical of the CPEC, as it passes through Pakistan-occupied Kashmir, which is a disputed territory between India and Pakistan.
 - India has also protested to China over the CPEC as it is being laid through the Pakistan-occupied Kashmir (PoK).
- India is a member of the Quad (India, the US, Australia and Japan) which can provide realistic alternatives for countries looking for infrastructure and be an alternative to China. The member countries of the Quad have come up with some alternatives.
 - For Example: Blue Dot Network (BDN) and Build Back Better World (B3W) initiative'.

What will be CPEC's Implications for India?

- India's Sovereignty: India has continuously opposed the project since it passes through the Pakistan-occupied Kashmir territory of Gilgit-Baltistan – a claim opposed by Pakistan.
 - The corridor is also perceived to be an alternative economic road link for the Kashmir Valley lying on the Indian side of the border.
 - Most key players in the Indian state of Jammu and Kashmir, have expressed optimism about the project.
 - There have been calls by local business and political leaders to declare Kashmir on both sides of the Line of Control (LoC) a 'Special Economic Zone'.

- However, a well-connected Gilgit-Baltistan that attracts industrial development and foreign investment, if CPEC proves a success, will further consolidate the region's perception as internationally recognised Pakistani territory, diminishing India's claim over the 73,000 sq km piece of land which is home to more than 1.8 million people.
- Chinese Control Over Trade Via Sea: Major US ports on the East Coast depend on the Panama Canal to trade with China.
 - Once CPEC becomes fully functional, China will be in a position to offer a 'shorter and more economical' trade route (avoiding travel through the entire Western Hemisphere) to most North and Latin American enterprises.
 - This will give China the power to dictate the terms by which the international movement of goods will take place between the Atlantic and the Pacific oceans.
- Chinese String of Pearls: China has been increasing its presence in the Indian Ocean with the 'String of Pearls' ambition: A term coined by the Americans and often used by Indian defence analysts to refer to a Chinese game-plan of encircling India through a network of airfields and ports.
 - With an existing presence in Chittagong port (Bangladesh), Hambantota port (Sri Lanka), Port Sudan (Sudan), Maldives, Somalia and Seychelles, a control of Gwadar port establishes complete dominance of the Indian ocean by the Communist nation.
- Emergence of Pakistan as an Outsourcing Destination: It is poised to speed up Pakistan's economic progress.
 - Pakistani exports, mainly in the textile and construction material industry, compete directly with those of India in the US and UAE – two of the top three trading partners of both countries.
 - With the supply of raw material from China becoming easier, Pakistan will be suitably placed to become a regional market leader in these sectors – mainly at the cost of Indian export volumes.
- Stronger BRI and Chinese Dominance in Trade Leadership: China's BRI project that focuses on the

trade connectivity between China and the rest of Eurasia through a network of ports, roads and railways has been often seen as China's plan to dominate the region politically. CPEC is one giant step in the same direction.

- A China that is more accepted and integrated with the rest of the global economy will have a better say in the United Nations and with individual nations, which may prove to be bad news for an India aspiring to acquire a permanent seat at the UN Security Council.

India-Russia Cooperation at the UNSC

Why in News?

Recently, the Bilateral consultations on United Nations related issues were held between India and Russia in New Delhi.

- Russia is set to assume the presidency of the UN Security Council in February, 2022.
- The discussion came in the backdrop of tensions between Russia and Ukraine over possible eastward expansion by NATO.
- Earlier, the 21st India-Russia annual summit took place at New Delhi which also included the first 2+2 ministerial dialogue of India's foreign and defence ministers with their Russian counterparts.

What is the importance of Cooperation in UN and Multilateral Fora?

- Both Sides stresses the importance of reinvigorating multilateralism, with the central coordinating role played by the United Nations in world affairs.

- Russia welcomed India's election as a non-permanent member of the UN Security Council with an overwhelming majority for a two-year term.
- Russia supports India's candidacy for permanent membership of a reformed United Nations Security Council and of the Nuclear Suppliers Group.
- Both Sides support the comprehensive reform of the UNSC to reflect contemporary global realities and to make it more representative, effective and efficient in dealing with issues of international peace and security.
- Both Sides are committed to enhanced cooperation within BRICS.
 - Russia congratulates India on its successful BRICS Chairmanship in 2021, including hosting of the XIII BRICS Summit on 9th September 2021 and adopting the New Delhi Declaration.
- The role of the New Development Bank (NDB) is recognised by both sides as vital to addressing development challenges, including health and economic impact of the covid-19 pandemic and encouraged the NDB to explore the possibility of financing more social infrastructure projects, including those that use digital technologies.
- India and Russia recognise the achievements of the Shanghai Cooperation Organization (SCO) in the last two decades of its operation and believe that it has the great potential for further interaction among the SCO Member States.
- They intend to focus particularly on increasing the effectiveness of countering terrorism, extremism, drug trafficking, cross-border organized crime, and information security threats, in particular by improving the functionality of the SCO Regional Anti-Terrorist Structure.
- They are also determined to cooperate within the G20 format and intensify the same on issues of global and mutual interest, keeping in view India's presidency of the G20 in 2023.
- Both sides agree that safeguarding of global commons including our oceans, outer space and information space should be based on the principles of transparency, accessibility and upholding international law.

What stand India has taken in UNSC on Russia-Ukraine Tensions?

- At the **UN Security Council (UNSC) meeting on Ukraine**, India also called for the **immediate de-escalation of the situation** while taking into account the security interests of all.
- India called for **quiet diplomacy and the peaceful resolution** of the Russia-Ukraine tensions.
 - **“Quiet diplomacy”** refers to one state’s efforts to influence the behaviour of another state through discreet negotiations or actions.
- India was **one of three countries** (Kenya and Gabon were the others) that **abstained from a procedural vote** on whether or not Ukraine would be discussed. China and Russia voted against the move.
 - The US, which initiated the meeting, and nine other countries voted to hold the discussion.
- India reiterated its support for a **July 2020 ceasefire**, the **2014 Minsk Agreement and the Normandy Process**.
 - The Normandy Format refers to **discussions held between Russia, Ukraine, Germany and France**, who have met since 2014, when Russia annexed Crimea.
- India also called for **quiet diplomacy** as both the West, led by the US, and Russia have been talking tough publicly.
 - India is concerned about the security of the more than 20,000 Indian nationals — including students — living in Ukraine.

One Ocean Summit

Why in News?

- Recently, the Prime Minister addressed the high-level segment of the One Ocean Summit.
- The summit was organised by France in Brest, France in cooperation with the United Nations and the World Bank.
 - The summit was addressed by various other Heads of State and Governments from countries like Germany, the United Kingdom, South Korea, Japan, Canada among others.

What is the Importance of Oceans?

- The ocean covers more than 70% of the surface of our planet, yet too often remains on the sidelines of major European and international events.
- The ocean is a regulator of major environmental balances, and climate in particular, a provider of resources, an important enabler of trade, and an essential link between countries and human communities.
- However, it is now seriously threatened by numerous pressures, such as the effects of climate change, pollution or the overexploitation of marine resources.
- In an effort to mobilise the international community and take tangible action to mitigate such pressures on the ocean, France has decided to organise a One Planet Summit dedicated to the ocean.

What is One Ocean Summit?

- The goal of the One Ocean Summit is to raise the collective level of ambition of the international community on marine issues.
 - Commitments will be made towards combating illegal fishing, decarbonising shipping and reducing plastic pollution.
 - Will also focus on efforts to improve governance of the high seas and coordinating international scientific research.

What was India’s Stand at the Summit?

- India has always been a maritime civilization. India’s ancient scriptures and literature talk about the gifts of the oceans including marine life.
- India’s security and prosperity are linked to oceans. India’s “Indo-Pacific Oceans Initiative” contains marine resources as a key pillar.
- India supports the French initiative of a “High Ambition Coalition on Biodiversity Beyond National Jurisdiction (BBNJ) ”.

- The coalition gathers parties which are committed, at the highest political level, to achieve an ambitious outcome of the ongoing negotiations on a Treaty of the High Seas (“the implementing agreement on Biodiversity Beyond National Jurisdiction”), under the auspices of the United Nations.
- The “BBNJ Treaty”, also known as the “Treaty of the High Seas”, is an international agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, currently under negotiation at the United Nations.
- This new instrument is being developed within the framework of the United Convention on the Law of the Sea (UNCLOS), the main international agreement governing human activities at sea.
- India is committed to eliminating single-use plastic. India recently undertook a nation-wide awareness campaign to clean plastic and other waste from coastal areas.
 - Three hundred thousand young people collected almost 13 tons of plastic waste.
- India will be happy to join France in launching a global initiative on single use plastics.
 - Recently, the Ministry Of Environment Forest And Climate Change has notified the Plastic Waste Management Amendment Rules, 2021 which prohibit specific single-use plastic items which have “low utility and high littering potential” by 2022.
 - India has also directed its Navy to contribute 100 ship-days this year to cleaning plastic waste from the seas.
- common framework that will ensure ocean science can fully support countries in creating improved conditions for sustainable development of the Ocean.
- World Oceans Day: June 8th is World Oceans Day, the United Nations day for celebrating the role of the oceans in our everyday life and inspiring action to protect the ocean and sustainably use marine resources.
- India- Norway Ocean Dialogue: In 2019, the Indian and Norwegian governments agreed to work more closely on oceans by signing a MoU and establishing the India-Norway Ocean Dialogue.
- India’s Indo-Pacific Oceans Initiative (IPOI): It is an open, non-treaty based initiative for countries to work together for cooperative and collaborative solutions to common challenges in the region.
 - IPOI draws on existing regional architecture and mechanisms to focus on seven pillars: Maritime Security, Maritime Ecology, Maritime Resources, Capacity Building and Resource Sharing, Disaster Risk Reduction and Management Science, Technology and Academic Cooperation and Trade Connectivity and Maritime Transport.
- GloLitter Partnerships Project: It is launched by the International Maritime Organization (IMO) and the Food and Agriculture Organization of the UNs (FAO) and initial funding from the Government of Norway. It is aimed to prevent and reduce marine plastic litter from shipping and fisheries.

Solomon Islands

Why in News?

Recently, the US says it will open an embassy in the Solomon Islands, laying out in unusually blunt terms a plan to increase its influence in the South Pacific nation before China becomes “strongly embedded.”

What is the Reason behind the Decision?

- Solomon Islanders cherished their history with Americans on the battlefields of World War II (1939-45), but that the US was in danger of losing its preferential ties as China “aggressively seeks to engage” elite politicians and business people in the Solomon Islands.

Are there any Other Global initiatives to Protect Oceans?

- United Nations Ocean Conference: The 2017 UN’s Ocean Conference sought to mobilise action for the conservation and sustainable use of the oceans, seas and marine resources.
 - Next conference is scheduled to be held in 2022.
- Decade of Ocean Science for Sustainable Development: The UN has proclaimed a Decade of Ocean Science for Sustainable Development (2021-2030) to support efforts to reverse the cycle of decline in ocean health and gather ocean stakeholders worldwide behind a

- The move comes after rioting rocked the nation of 7,00,000 in November, 2021.
 - The riots grew from a peaceful protest and highlighted long-simmering regional rivalries, economic problems and concerns about the country's increasing links with China.
- The embassy announcement fits with a new Biden administration strategy for the Indo-Pacific and emphasises building partnerships with allies in the region as a way to counter China's growing influence and ambitions.
 - In the Quad meeting held recently, the US has said that it is committed to a "free and open, connected, prosperous, secure, and resilient" Indo-Pacific region.

Where is the Soloman Islands Located?

- Solomon Islands is a nation in Melanesia, east of Papua New Guinea, comprising more than 990 islands. Its capital is Honiara, located on the island of Guadalcanal.
- The Solomon Islands have been inhabited by Melanesian people for at least 30,000 years.
- It consists of a double chain of volcanic islands and coral atolls in Melanesia.
 - Melanesia is a subregion of Oceania in the southwestern Pacific Ocean.
- The country comprises most of the Solomons chain—with the exception of Buka and Bougainville, two islands at the northwestern end that form an autonomous region of Papua New Guinea.

- The island is a constitutional monarchy, with the British monarch, represented by a governor-general, serving as the formal head of state. Still, the country, a member of the Commonwealth, is independent, and the governor-general is appointed on the advice of the unicameral National Parliament.

Pakistan-China Relationship & India

Why in News?

Recently, the Government was questioned in Parliament on the pretext of foreign policy. The opposition has criticised the current policies as responsible for bringing Pakistan and China together.

- In response, the External Affairs Minister has asserted that the two countries were always close and shared a rich history of cooperation on many fronts.

What is the Background of the Pakistan-China Relationship?

- Initially, Pakistan was a member of two United States-led anti-communist military pacts, SEATO and CENTO, it was seen as part of the non-Soviet bloc - and China, under Mao Zedong, was on the other side of the aisle.
 - On the other hand, India had a working relationship with China. The two countries had the same anti-colonial, non-aligned approach and they together gave the policy of Panchsheel.
 - However, this relationship quickly changed due to the war between India and China in 1962.
- 1962 War: The India-China war of 1962 led to China developing closer ties with Pakistan.
 - In a boundary agreement in 1963, Pakistan ceded the Shaksgam Valley to China.
 - The Shaksgam Valley or the Trans Karakoram Tract is part of the Hunza-Gilgit region of Pakistan-occupied Kashmir and is a territory claimed by India but controlled by Pakistan.
 - The agreement laid the foundation of the Karakoram highway, built jointly by China and Pakistan in the 1970s.

- 1965 War: Pakistan got support from China diplomatically in the 1965 India-Pakistan war.
 - In fact, analysts say that Pakistan was emboldened into aggression after India's defeat against China in 1962.
- US-China & Pakistan: The real diplomatic bonhomie began in the 1970s when Pakistan facilitated the outreach between the US-led by Richard Nixon and Henry Kissinger and China's Mao and Zhou Enlai.
- Nuclear Cooperation: The relationship between China and Pakistan developed over the 1970s and '80s. Nuclear cooperation was one of the key pillars, especially after India tested its nuclear device in 1974.
 - China has played a significant role in helping Pakistan develop its nuclear energy technology.
 - In September 1986, they signed an agreement to facilitate the transfer of civil nuclear technology.
 - In 1991, China agreed to supply Pakistan with its indigenously developed Qinshan-1 nuclear power plant.
 - After India tested its nuclear device in 1998, Pakistan followed suit —largely due to help from China.

What is the History of India-China ties?

- The 1988 rapprochement between India and China with Rajiv Gandhi's visit became a watershed moment.
- There was a clear shift for China, where it saw ties with India from an economic lens and focused on trade, while separately talking to India on the border dispute.
 - From that point onwards China followed a cautious approach vis a vis India and Pakistan.

- During the Kargil conflict of 1999, China advised Pakistan that they should withdraw troops and exercise self-control.
- China adopted a similarly cautious approach after the Parliament attack in 2002, the Operation Parakram buildup, as well as the Mumbai terror attack in 2008.
- This was also visible in the way China responded when the Balakot air strikes took place after the Pulwama attack in February 2019.

What is the Present Status of the India-China-Pakistan Triangle?

- The US-India closeness started by the nuclear deal in 2005-06 left both China and Pakistan worried.
- China's Belt and Road Initiative has manifested in the China-Pakistan Economic Corridor (CPEC) which passes through the disputed territory claimed by India.
 - From China's perspective, it offers access to the western Indian Ocean through the Gwadar port in Balochistan.
 - However, from India's perspective, the Gwadar port is a part of the String of Pearls Strategy, for the encirclement of India.
- India's August 2019 move to abrogate Article 370 and revoke the special status of Jammu and Kashmir has brought China and Pakistan even closer.
- In 2020, China signed a defence pact with Pakistan to enhance defence cooperation between the Pakistan Army and the People's Liberation Army.
 - Pakistan has procured Chinese-made combat drones or unmanned combat aerial vehicles.
- Pakistan endorses China's position on its core issues including the South China Sea, Taiwan, Xinjiang, and Tibet.
- After the Taliban's takeover of Afghanistan, China has now sensed an opportunity to get into Afghanistan for influence and resources with help from Pakistan.

What are the Implications of China-Pakistan Closeness For India?

- Two Front War: Convergence between the two countries raises the real specter of a 'two-front' war.
- Negotiation of Lost Territory: China now looks to negotiate to 'recover' Indian territories that it claims namely, Aksai Chin, Ladakh, Jammu and Kashmir, Arunachal Pradesh and Sikkim.

- It also positions China to play a role in Kashmir and the region.
- China's Rise to Global Power Status: China and Pakistan both share a common objective to prevent India's rise.
 - With China's rise as a global power, India views its partnership with Pakistan as a greater concern than before.

Restoration of JCPOA

Why in News?

Recently, the US has restored sanctions waivers to Iran to allow international nuclear cooperation projects, as indirect American-Iranian talks on reviving the 2015 international nuclear deal with Iran enter the final stretch.

- The waiver allows other countries and companies to participate in Iran's civilian nuclear programme without triggering US sanctions on them, in the name of promoting safety and non-proliferation.
- The waivers were revoked by the United States in 2019 and 2020 under former President Donald Trump, who pulled out of the nuclear agreement. The agreement is formally called the Joint Comprehensive Plan of Action (JCPOA).

What is the Timeline & Background of JCPOA?

- The JCPOA was the result of prolonged negotiations from 2013 and 2015 between Iran and P5+1 (China, France, Germany, Russia, the United Kingdom, the United States).
- It happened due to the backchannel talks between the US (President Barack Obama) and Iran, quietly brokered by Oman, in an attempt to repair the accumulated mistrust since the 1979 Islamic revolution.
 - Islamic Revolution, also called Iranian Revolution, popular uprising in Iran in 1978–79 that resulted in the toppling of the monarchy on 11th February, 1979, and led to the establishment of an Islamic republic.
- The JCPOA obliged Iran to accept constraints on its uranium enrichment program verified by an intrusive inspection regime in return for a partial lifting of economic sanctions.
 - However, faced with a hostile Republican Senate, President Obama was unable to get the nuclear deal ratified but implemented it on the basis of periodic Executive Orders to keep sanction waivers going.

- When Donald Trump became president, he withdrew from the deal and called it a "horrible, one-sided deal that should have never, ever been made".
- The US decision was criticized by all other parties to the JCPOA (including the European allies) because Iran was in compliance with its obligations, as certified by the International Atomic Energy Agency (IAEA).
- Tensions rose as the US pushed ahead with its unilateral sanctions, widening its scope to cover nearly all Iranian banks connected to the global financial system, industries related to metallurgy, energy, and shipping, individuals related to the defence, intelligence, and nuclear establishments.
- For the first year after the US withdrawal, Iran's response was muted as the E-3 (France, Germany, the U.K.) and the European Union (EU) promised to find ways to mitigate the US decision.
 - The E-3's promised relief Instrument in Support of Trade Exchanges (INSTEX), created in 2019 to facilitate limited trade with Iran.
- However, by May 2019, Iran's strategic patience ran out as the anticipated economic relief from the E-3/EU failed to materialize.
 - As the sanctions began to hurt, Iran shifted to a strategy of 'maximum resistance'.

What will be the Impacts on India of Restoration of JCPOA?

- Restoration of JCPOA may ease many restrictions over the Iranian regime, which may directly or indirectly help India. This can be reflected in the following examples:
 - Boost to Regional Connectivity: Removing sanctions may revive India's interest in the Chabahar Project, Bandar Abbas port, and other plans for regional connectivity.
 - This would further help India to neutralize the Chinese presence in Gwadar port, Pakistan.
 - Apart from Chabahar, India's interest in the International North-South Transit Corridor (INSTC), which runs through Iran, which will improve connectivity with five Central Asian republics, may also get a boost.
 - Energy Security: Due to the pressure linked to the US' Countering America's Adversaries Through Sanctions Act (CAATSA), India has to bring down oil imports to zero.
 - Restoration of ties between the US and Iran will help India to procure cheap Iranian oil and aid in energy security.

Falkland Islands Issue

Why in News

Recently, Britain rejected a statement from China that affirmed its support for Argentina's claim to the Falkland Islands.

- Earlier, China and Argentina issued a joint statement that said China "reaffirms its support for Argentina's demand for the full exercise of sovereignty over the Malvinas Islands (Falkland Islands)," using the Argentine name for the territory.

What and Where is Falkland Island?

- Falkland Islands, also called Malvinas Islands or Spanish *Islas Malvinas*, internally self-governing overseas territory of the United Kingdom in the South Atlantic Ocean.
- It lies about 300 miles northeast of the southern tip of South America and a similar distance east of the Strait of Magellan.
- The capital and major town is Stanley, on East Falkland; there are also several scattered small settlements as well as a Royal Air Force base that is located at Mount Pleasant.
- The two main islands, East Falkland and West Falkland, and about 200 smaller islands. The government of the Falkland Islands also administers the British overseas territory of South Georgia and the South Sandwich Islands, including the Shag and Clerke rocks.

What is the History of the Falkland Islands?

- The British, in 1765, were the first to settle West Falkland, but they were driven off in 1770 by the Spanish, who had bought out the French settlement about 1767.
- The British outpost on West Falkland was restored in 1771 after threat of war, but then the British withdrew from the island in 1774 for economic reasons, without renouncing their claim to the Falklands.
- Spain maintained a settlement on East Falkland (which it called Soledad Island) until 1811.
- In 1820 the Argentina Government, which had declared its independence from Spain in 1816, proclaimed its sovereignty over the Falklands.
- In 1831 the US warship destroyed the Argentine settlement on East Falkland in reprisal for the arrest of three US ships that had been hunting seals in the area.
- In early 1833, a British force expelled the few remaining Argentine officials from the island without firing a shot. In 1841, a British civilian lieutenant governor was appointed for the Falklands, and by 1885 a British community of some 1,800 people on the islands was self-supporting.
 - Argentina regularly protested Britain's occupation of the islands.

- After World War II (1939-45) the issue of sovereignty over the Falkland Islands shifted to the United Nations (UN) when, in 1964, the islands' status was debated by the UN committee on decolonization.
- In 1965, the UN General Assembly approved a resolution inviting Britain and Argentina to hold discussions to find a peaceful solution to the dispute.
- These protracted discussions were still proceeding in February 1982, but in April Argentina's military government invaded the Falklands.
- This act started the Falkland Islands War, which ended 10 weeks later with the surrender of the Argentine forces at Stanley to British troops who had forcibly reoccupied the islands.
- Although Britain and Argentina reestablished full diplomatic relations in 1990, the issue of sovereignty remained a point of contention.
- In the early 21st century Britain continued to maintain some 2,000 troops on the islands.
- In January 2009 a new constitution came into effect that strengthened the Falklands' local democratic government and reserved for the islanders their right to determine the territory's political status. In a referendum held in March 2013, islanders voted nearly unanimously to remain a British overseas territory.

What is the Basis of Different Claims on the Island?

- Argentina based its claim to the Falklands based on an official document of 1493 modified by the Treaty of Tordesillas (1494), by which Spain and Portugal had divided the New World between themselves; on succession from Spain; on the islands' proximity to South America; and on the need to end a colonial situation.
- Britain based its claim on its "open, continuous, effective possession, occupation, and administration" of the islands since 1833 and its determination to apply to the Falklanders the principle of self-determination as recognized in the United Nations Charter.
 - Britain asserted that, far from ending a colonial situation, Argentine rule and control of the lives of the Falklanders against their wishes would in fact create one.

India and WFP to Supply Wheat to Afghanistan

Why in News?

Recently, India signed an agreement with the United Nations World Food Programme (WFP) for the distribution of 50,000 MT of wheat that it has committed to sending to Afghanistan as part of a humanitarian assistance.

- Earlier, the Delhi Regional Security Dialogue on Afghanistan also called for "urgent humanitarian assistance" to the Afghan people.
- In 2020, India sent more than 20 tonnes of medicines, other equipment and transported 75,000 tonnes of wheat to Afghanistan to address the Covid-19 challenge.

What is the Wheat Agreement About?

- The wheat will be taken through Pakistan to the Afghan border crossing and handed over to WFP officials in Kandahar beginning February 2022.
- Iran has also offered to facilitate some of the wheat through Chabahar port and then on to Afghanistan's border via Zahedan.

What is the Major Concern in Fulfilling the Agreement?

- The route via Pakistan, which has been closed for all exports from India since 2019, and opened only as an exception, is likely to require several weeks for the transport of the current consignment, as infrastructure and labour required to load and reload the wheat has to be organised.
 - Pakistan had shut down all trade with India to protest the government's changes in Jammu and Kashmir and Article 370 in August 2019.

What is the United Nations World Food Programme?

- The World Food Programme (WFP) is the leading humanitarian organisation saving lives and changing lives, delivering food assistance in emergencies and working with communities to improve nutrition and build resilience.

- It was founded in 1961 by the Food and Agriculture Organisation (FAO) and United Nations General Assembly (UNGA) with its headquarters in Rome, Italy.
 - It is also a member of the United Nations Sustainable Development Group (UNSDG).
- The WFP has been awarded with the Nobel Prize for Peace 2020 for its efforts to combat hunger, bettering conditions for peace in conflict-affected areas and preventing the use of hunger as a weapon of war and conflict.
- Major Reports: Global Report on Food Crisis.

What is the Relation of WFP with India?

- WFP has been working in India since 1963, with work transitioning from food distribution to technical assistance since the country achieved self-sufficiency in cereal production.
- The areas in which WFP mainly assists in India are:
 - Transforming the targeted public distribution system: WFP is working to improve the efficiency, accountability and transparency of India's own subsidized food distribution system, which brings supplies of wheat, rice, sugar and kerosene oil to around 800 million poor people across the country.
 - Fortification of government distributed food: To boost the nutritional value of the Government's Midday Meal school feeding programme, WFP is pioneering the multi-micronutrient fortification of school meals.
 - The pilot project saw rice fortified with iron, which was distributed in a single district, resulting in a 20% drop in anemia.

- Mapping and monitoring of food insecurity: WFP has used Vulnerability Analysis and Mapping softwares to identify India's most food insecure areas, which allows policy and relief work to be targeted appropriately.
- Strategy Plan for India: According to the country strategy plan for India (2019 – 2023), WFP aims to:
 - Enable the most vulnerable people of India to meet their minimum food and nutrition requirements throughout the year.
 - Enable people with a high risk of malnutrition, especially women, children and adolescent girls, to have improved nutrition by 2025.

US' Indo-Pacific Strategy

Why in News?

Recently, the US administration has announced its long-awaited Indo-Pacific strategy. The document focuses on building collective capacity to deal with challenges in the region.

- These include a focus on challenges from China, advancing the US relationship, a 'Major Defense Partnership' with India and supporting its role as a net security provider in the region.
- There is an emphasis on working with other countries not just from the region, but also from beyond.
- Earlier, the European Union had announced that it will reinforce its strategic focus, presence and actions in the Indo-Pacific with the aim of contributing to the stability, security, prosperity and sustainable development of the region.

What are the Key Points of US’ Indo-Pacific strategy?

- Vision of Indo-Pacific: The US will seek an Indo-Pacific that is free and open, connected, prosperous, secure and resilient.
 - Free: One of the strategic actions outlined is investing in civil society, a free press and democratic institutions.
 - Connections: Within and beyond the region.
 - The US says it will work “in flexible groupings” to tackle major issues, “particularly through the QUAD.”
 - It will also deepen its (five) regional treaty alliances and work with groups such as ASEAN, the European Union (EU) and NATO.
 - AUKUS, a security alliance between Australia, the UK and the US has also been recently launched.
 - Prosperity: To advance its prosperity goal for the region, the US’ strategy includes seeking higher labour and environmental standards, helping to establish secure supply chains and investing in clean energy.
 - Security: The US has announced that “Integrated deterrence” will form the “cornerstone” of the US’ security plan for the region.
 - It will drive initiatives that reinforce deterrence and counter coercion, such as opposing efforts to alter territorial boundaries or undermine the rights of sovereign nations at sea.
 - Resilience: The Indo-Pacific faces major transnational challenges.
 - Climate change is growing ever-more severe as South Asia’s glaciers melt and the Pacific Islands battle existential rises in sea levels.
 - Further, the Indo-Pacific governments grapple with natural disasters, resource scarcity, internal conflict, and governance challenges.
 - In this context, US envisages to build regional resilience to 21st century transnational threats, including by:
 - Working with allies and partners to develop 2030 and 2050 targets, strategies, plans, and policies consistent with limiting global temperature increase to 1.5 degrees Celsius.
- Role of India: India’s role in the QUAD is an important element of the US-India relationship.
 - US will “continue to support India’s rise and regional leadership,” working with India bilaterally and through groups on a range of issues.
 - It refers to India as a “like-minded partner” and “driving force” in the QUAD.
 - China’s action along the Line of Actual Control (i.e., its border conflict with India) has had a “galvanizing impact” on India and US alignment.
 - Collaborate in new domains, such as health, space, and cyberspace; deepen economic and technology cooperation; and contribute to a free and open Indo-Pacific.
- China’s Assertiveness: US allies and partners in the region bear much of the effect of China’s assertive policies.
 - The economic coercion of Australia.
 - The conflict along the Line of Actual Control with India.
 - The growing pressure on Taiwan.
 - Bullying of Japan, ASEAN countries in the East and South China Seas.

India-Australia Interim Trade Agreement

Why in News

Recently, India and Australia have announced that they are set to conclude an Interim Trade Agreement in March 2022 and a Comprehensive Economic Cooperation Agreement (CECA) 12-18 months thereafter.

- The agreement will cover “most areas of interest for both countries” including goods, services, rules of origin, sanitary and phytosanitary measures and customs procedures.
- Earlier, India, Japan and Australia have formally launched the Supply Chain Resilience Initiative (SCRI).

What is an Interim Trade Agreement?

- An interim or early harvest trade agreement is used to liberalise tariffs on the trade of certain goods between two countries or trading blocs before a comprehensive FTA (Free Trade Agreement) is concluded.
- Government's emphasis on interim agreements may be tactical so that a deal may be achieved with minimum commitments and would allow for contentious issues to be resolved later.
- The problem, though, is that these early harvest schemes potentially target the low-hanging fruits, leaving the tougher goods and services for later.
- This strategy can lead to significant delays in wrapping up the more broad-based FTAs, which could potentially lead to impediments.
 - India had concluded an early harvest agreement with Thailand in 2004 but has not been able to conclude a comprehensive FTA with the country.
 - India also has a trade agreement with Sri Lanka dealing with goods but was not able to conclude an agreement on services and investments.
- Early harvest agreements that do not graduate into full-scale FTAs are exposed to legal challenges from other countries that are members of the World Trade Organisation (WTO).
- It is often beneficial to negotiate the entire deal together, as an early harvest deal may reduce the incentive for one side to work towards a full FTA.

What are Free Trade Agreements?

- It is a pact between two or more nations to reduce barriers to imports and exports among them.
- Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.
- The concept of free trade is the opposite of trade protectionism or economic isolationism.
- FTAs can be categorised as Preferential Trade Agreement, CECA, Comprehensive Economic Partnership Agreement (CEPA).

What is India's Current Trade Relation with Australia?

- Bilateral trade between the two countries stood at about USD 12.5 billion in Financial Year (FY) 21 and has already surpassed USD 17.7 billion in the first 10 months of FY22.
- India has imported merchandise worth about USD billion from Australia in the first 10 months of the fiscal and has exported merchandise worth USD billion in the same period.
- Key imports from Australia include coal, gold and Liquefied Natural Gas while key exports to the country from India include diesel, petrol and gems and jewellery.

What Opportunities does the Agreement Bring?

- The agreement with Australia is set to bring opportunities across sectors including mining, pharmaceuticals, health, education, renewables, railways, gems and jewellery, tourism, defence and textiles.
 - India is also likely to seek easier visa access for both students and professionals visiting Australia.
 - Australia is likely to seek market access for wines and agricultural products which are not produced on a large scale in India.
- Both countries are also looking at mutual recognition of educational qualifications to boost the number of Indian students seeking education in Australia and vice versa and boost tourism in both countries.
 - India and Australia have also signed an MoU to boost tourism between the two countries.

- The agreement would lead to deeper cooperation between the two countries in critical minerals and rare earth elements which are critical to future industries including renewable energy and electric vehicles.
 - As Australia has plentiful supplies of rare earths and critical minerals in but it needs places for them to be processed.

What is QUAD's Impact on Trade Relations between India and Australia?

- India and Australia are both members of the QUAD (Quadrilateral Security Dialogue) along with the US and Japan.
 - Recently, the fourth meeting of the foreign ministers of the QUAD grouping (India, the US, Australia and Japan) was held in Melbourne, Australia.

- Both countries have noted that the coalition has given impetus to increasing trade relations between all members of the QUAD.
- Australia noted that it already had FTAs with both the US and Japan and that all four countries could start building a framework for economic cooperation within the countries of the QUAD after they announced a deal with India.

What Other Free Trade Agreements is India Currently Negotiating?

- India is currently in the process of negotiating FTAs with the UAE, the UK, Canada, the European Union and Israel, besides Australia.
- India is also looking to complete an early harvest agreement with the UAE and the UK in the first half of 2022.



Social Issues

Highlights

- PM-POSHAN Scheme
- World Neglected Tropical Diseases Day
- Anaemia Mukh Bharat
- Expanding Scope of NCW
- Rice Fortification
- SAMRIDH Initiative
- Operation AAHT

PM-POSHAN Scheme

Why in News?

Recently, the central government requested state governments/union territory administrations to explore the possibility of introducing millets under the PM POSHAN Scheme preferably in the districts where eating millets is a culturally accepted food habit.

- NITI Aayog has also been advocating the need to introduce millets in the mid-day meal programme (now PM POSHAN Scheme), moving away from rice and wheat.

What are the Benefits of Millets?

- Millets or nutri-cereals, which include **Jowar, Bajra, and Ragi**, are rich in minerals and B-complex vitamins, as well as proteins and antioxidants, making them an ideal choice for improving the nutritional outcome of children.
- **Multidimensional benefits** associated with millets can address the issues related to **nutrition security, food systems security, and farmers' welfare**.
- Further, many unique features linked with millets makes them a suitable crop which is resilient to India's varied agro-climatic conditions.
- India pushed a resolution to declare **2023 as the international year of millets** which has been adopted by the United Nations General Assembly.

What is the PM-POSHAN Scheme?

- In September 2021, the Union Cabinet approved the Pradhan Mantri Poshan Shakti Nirman or PM-POSHAN for providing one hot cooked meal in Government

and Government-aided schools with the financial outlay of Rs 1.31 trillion.

- The scheme replaced the national programme for mid-day meal in schools or Mid-day Meal Scheme.
- It has been launched for an initial period of five years (2021-22 to 2025-26).

What are the Features of the PM-POSHAN Scheme?

- Coverage:
 - Primary (1-5) and upper primary (6-8) schoolchildren are currently entitled to 100 grams and 150 grams of food grains per working day each, to ensure a minimum of 700 calories.
 - It also covers students of balvatikas (children in the 3-5 year age group) from pre-primary classes.
- Nutritional Gardens:
 - Use of locally-grown nutritional food items will be encouraged from "school nutrition gardens" for boosting the local economic growth, and will also include involvement of Farmers Producer Organizations (FPO) and Women Self Help Groups in the implementation of the scheme.
- Supplementary Nutrition:
 - The scheme has a provision for supplementary nutrition for children in aspirational districts and those with high prevalence of anaemia.
 - It does away with the restriction on the part of the Centre to provide funds only for wheat, rice, pulses and vegetables.
 - Currently, if a state decides to add any component like milk or eggs to the menu, the Centre does not bear the additional cost. Now that restriction has been lifted.

- Tithi Bhojan Concept:
 - Tithi Bhojan is a community participation programme in which people provide special food to children on special occasions/festivals.
- Direct Benefit Transfer (DBT):
 - The Centre has directed the states and the UTs to switch to Direct Benefit Transfer (DBT) system for providing compensation to the cooks and helpers working under the scheme.
 - This is to ensure no leakages at the level of district administration and other authorities.
- Nutrition Expert:
 - A nutrition expert is to be appointed in each school whose responsibility is to ensure that health aspects such as Body Mass Index (BMI), weight and haemoglobin levels are addressed.
- Social Audit of the Scheme:
 - A social audit of the scheme has also been mandated for each school in each state to study the implementation of the scheme, which was so far not being done by all states.

What is the Need for Introducing Millets?

- Malnutrition and Anaemia among Children:
 - According to the National Family Health Survey (NFHS)-5, India has unacceptably high levels of stunting, despite marginal improvement over the years.
 - In 2019-21, 35.5% of children below five years were stunted and 32.1% were underweight.
- Global Nutrition Report-2021:
 - According to the Global Nutrition Report (GNR, 2021), India has made no progress on anaemia and childhood wasting.
 - Over 17% of Indian children under 5 years of age are affected due to childhood wasting.
 - The data in NFHS 2019-21 shows the highest spike in anaemia was reported among children aged 6-59 months from 67.1% (NFHS-5) from 58.6% (NFHS-4, 2015-16).
 - Human Capital Index:
 - India ranks 116 out of 174 countries on the human capital index.

- Human capital consists of the knowledge, skills, and health that people accumulate over their lives, enabling them to realize their potential as productive members of society.

What are the other related Initiatives?

- Anemia Mukh Bharat Abhiyan
- The National Food Security Act (NFSA), 2013
- Pradhan Mantri Matru Vandana Yojana (PMMVY)
- Poshan Abhiyaan

World Neglected Tropical Diseases Day

Why in News?

Neglected tropical disease day is observed every year on 30th January. It was declared in the 74th World Health Assembly (2021).

- The proposal to recognise the day was floated by the United Arab Emirates. It was adopted unanimously by the delegates.
- The World Health Assembly is the decision-making body of the World Health Organization (WHO).

What are Neglected Tropical Diseases (NTDs)?

- NTDs are a group of infections that are most common among marginalized communities in the developing regions of Africa, Asia and the Americas.
- They are caused by a variety of pathogens such as viruses, bacteria, protozoa and parasitic worms.
 - NTDs are especially common in tropical areas where people do not have access to clean water or safe ways to dispose of human waste.
- These diseases generally receive less funding for research and treatment than malaises like tuberculosis, HIV-AIDS and malaria.
- Examples of NTDs are: snakebite envenomation, scabies, yaws, trachoma, Leishmaniasis and Chagas disease etc.

Why is World NTD Day observed on 30th January?

- World NTD Day commemorates the simultaneous launch of the first NTD road map (2012-2020) and the London Declaration on NTDs on 30th January 2012.

- London Declaration on NTDs:
 - It was adopted on 30th January, 2012 to recognise the global burden of NTDs.
 - Officials from the World Health Organization (WHO), the World Bank, the Bill and Melinda Gates Foundation, representatives from leading global pharmaceutical companies as well as representatives of several national governments met at London's Royal College of physicians to pledge to end the diseases.
- WHO's New Roadmap for 2021–2030 (2030 Global Targets):
 - Reduce by 90% the number of people requiring treatment for NTDs.
 - At least 100 countries to have eliminated at least one NTD.
 - Eradicate two diseases (dracunculiasis and yaws).
 - Reduce by 75% the Disability-Adjusted Life Years (DALYs) related to NTD.

What is the impact of NTDs?

- Global Scenario:
 - NTDs affect more than a billion people globally.
 - They are preventable and treatable. However, these diseases - and their intricate interrelationships with poverty and ecological systems - continue to cause devastating health, social and economic consequences.
 - There are 20 NTDs that impact over 1.7 billion people worldwide.
 - India carries the largest burden of at least 11 of these diseases, with parasitic illnesses like kala-azar and lymphatic filariasis affecting millions of people throughout the country – often the poorest and most vulnerable.
- Indian Scenario:
 - 2021 witnessed improved case surveillance, case detection and case prevalence rates with respect to Kala-Azar.
 - 35% fewer cases of the disease were reported in 2021, as compared to 2020 and all reported cases were treated.
 - India is at the cusp of eliminating Kala-Azar, with 99% Kala-Azar endemic blocks having achieved the elimination target.

What are the Indian Initiatives to Eliminate NTDs?

- The Accelerated Plan for Elimination of Lymphatic Filariasis (APELF) was launched in 2018, as part of intensifying efforts towards the elimination of NTDs.
- A WHO-supported regional alliance established by the governments of India, Bangladesh, and Nepal in 2005 to expedite early diagnosis and treatment of the most vulnerable populations and improve disease surveillance and control of sandfly populations (Kala-azar).
- India has already eliminated several other NTDs, including guinea worm, trachoma, and yaws.
- Preventive methods like Mass Drug Administration (MDA) rounds are periodically deployed in endemic areas during which anti-filarial medicines are provided free-of-cost to at-risk communities.
- Vector-control measures like Indoor Residual Spraying rounds are undertaken in endemic areas to prevent sandfly breeding.
- The government also supports morbidity management and disability prevention for those affected by lymphoedema and hydrocele.
- State and central governments have also introduced wage compensation schemes for those suffering from Kala-Azar and its sequela (a condition which is the consequence of a previous disease or injury) known as Post-Kala Azar Dermal Leishmaniasis.

Anaemia Mukh Bharat

Why in the News?

- Recently, the Union Minister of State for Health and Family Welfare provided information on Anaemia Mukh Bharat (AMB) strategy.
- In 2018, the Government of India launched the AMB strategy with the target to reduce anaemia in the vulnerable age groups such as women, children and adolescents.
 - AMB is based on a life cycle approach, providing preventive and curative mechanisms through a 6X6X6 strategy including six target beneficiaries, six interventions and six institutional mechanisms for all stakeholders to implement the strategy.

What is Anaemia?

- It is a condition in which the number of red blood cells or their oxygen-carrying capacity is insufficient

to meet physiologic needs, which vary by age, sex, altitude, smoking, and pregnancy status.

- Iron deficiency is the most common cause of anaemia, although other conditions, such as folate, vitamin B12 and vitamin A deficiencies, chronic inflammation, parasitic infections, and inherited disorders can all cause anaemia.
- In its severe form, it is associated with fatigue, weakness, dizziness and drowsiness. Pregnant women and children are particularly vulnerable.
- According to the National Family Health Survey 2019-20, Indian women and children are overwhelmingly anaemic.
 - Under phase I, 22 states and UTs were surveyed and in a majority of these states and UTs, more than half the children and women were found to be anaemic.
- According to the World Health Organization (WHO), women in the reproductive age group and having haemoglobin levels lower than 12 grams per decilitre (g / dL), as well as children under five with haemoglobin levels lower than 11.0 g / dL are considered anaemic.

What are the Highlights of AMB Strategy?

What are Other Government Initiatives for Controlling Anaemia?

- Health is a State subject and the primary responsibility for strengthening health care services including implementation of national programs lies with the respective State/UT government.
 - The Ministry of Health and Family Welfare provides financial and technical support to States/UTs under the National Health Mission.
- Weekly Iron and Folic Acid Supplementation (WIFS): This Programme is being implemented to meet the challenge of high prevalence and incidence of anaemia amongst adolescent girls and boys.
 - The intervention under WIFS includes supervised weekly ingestion of Iron Folic Acid (IFA) tablets.
 - To control worm infestation, biannual deworming with Albendazole is provided.
- Health Management Information System & Mother Child Tracking System: It is being implemented for reporting and tracking the cases of anaemic and severely anaemic pregnant women.
- Universal Screening of Pregnant Women for Anaemia: It is a part of Ante-Natal Care (ANC) and all pregnant women are provided iron and folic acid tablets during their ante-natal visits through the existing network of sub-centres and primary health centres and other health facilities as well as through outreach activities at Village Health & Nutrition Days (VHNDs).
- Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA): It has been launched to focus on conducting special ANC check up on 9th of every month with the help of Medical officers to detect and treat cases of anaemia.
- Operationalization of Blood Bank in District Hospitals and Blood Storage Unit in sub district facilities such as Sub-Divisional Hospital/ Community Health Centers is being taken to tackle complications due to severe anaemia.

Expanding Scope of NCW

Why in News?

Recently, the 30th Foundation Day (31st January) of the National Commission for Women (NCW) was celebrated.

- According to the Prime Minister, given the evolving needs of women in the country, the scope of NCW must be broadened.

What is the need to expand the scope of the NCW?

- Development of New India:
 - The Atmanirbhar Bharat (self-reliant India) campaign has shown the link between the ability of women with the development of the country.
 - This change is visible as about 70% beneficiaries of Pradhan Mantri MUDRA Yojana are women.
 - The country has seen a threefold increase in the number of women self-help groups in the last 6-7 years.
 - Similarly, in more than 60 thousand startups that have emerged after 2016, 45% have at least one woman director.
- Old Thinking in Society:
 - Industries from textile to dairy have progressed due to women’s skills and power.
 - India’s economy relies on Micro, Small and Medium Enterprises and there is a need to promote women entrepreneurs in the country.
 - However, people with old thinking are of the view that the women’s roles are restricted to domestic work.
- Increasing Crime Against Women:
 - In 2021, the NCW had informed that there was a rise of 46% in complaints of crimes against women in the first eight months of 2021 over the corresponding period of preceding year.
 - Crimes that women were subjected to: Domestic violence, Harassment of, married women or dowry harassment, Sexual harassment at workplace, Rape and attempt to rape, Cyber crimes.

What is the Background & Mandate of NCW?

- Background:
 - The Committee on the Status of Women in India (CSWI) recommended nearly five decades ago, the setting up of a NCW to fulfil the surveillance functions to facilitate redressal of grievances and to accelerate the socio-economic development of women.

- Successive Committees/Commissions/Plans including the National Perspective Plan for Women (1988-2000) recommended the constitution of an apex body for women.
- Under the National Commission for Women Act, 1990, the NCW was set up as a statutory body in January 1992.
- The First Commission was constituted on 31st January 1992 with Mrs. Jayanti Patnaik as the Chairperson.
 - The commission consists of a chairperson, a member secretary and five other members. The chairperson of the NCW is nominated by the Central Government.
- Mandate and Functions:
 - Its mission is to strive towards enabling women to achieve equality and equal participation in all spheres of life by securing her due rights and entitlements through suitable policy formulation, legislative measures, etc.
 - Its functions are to:
 - Review the constitutional and legal safeguards for women.
 - Recommend remedial legislative measures.
 - Facilitate redressal of grievances.
 - Advise the Government on all policy matters affecting women.
 - It has received a large number of complaints and acted suo-moto in several cases to provide speedy justice.
 - It took up the issue of child marriage, sponsored legal awareness programmes, Parivarik Mahila Lok Adalats and reviewed laws such as:
 - Dowry Prohibition Act, 1961,
 - Pre-Conception and Pre-Natal Diagnostic Techniques Act 1994,
 - Indian Penal Code 1860.

What is the major Legal Framework for Welfare of Women?

- Constitutional Safeguards:
 - Fundamental Rights:
 - It guarantees all Indians the right to equality (Article 14), no discrimination by the State on

the basis of gender (Article 15(1)) and special provisions to be made by the State in favour of women (Article 15(3)).

- Fundamental Duties:
 - It ensures that practices derogatory to the dignity of women are prohibited under Article 51 (A).
- Legislative Framework:
 - Protection of Women from Domestic Violence Act, 2005
 - The Dowry Prohibition Act, 1961
 - The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013
 - The Protection of Children from Sexual Offences (POCSO), 2012
- Women Empowerment Schemes:
 - Beti Bachao Beti Padhao Scheme
 - One Stop Centre Scheme
 - UJJAWALA: A Comprehensive Scheme for Prevention of trafficking and Rescue, Rehabilitation and Re-integration of Victims of Trafficking and Commercial Sexual Exploitation
 - SWADHAR Greh (A Scheme for Women in Difficult Circumstances)
 - NARI SHAKTI PURASKAR
 - Mahila police Volunteers
 - Mahila Shakti Kendras (MSK)
 - NIRBHAYA.

- Under the Scheme, FCI (Food Corporation of India) has been asked to come up with a comprehensive plan for procurement and distribution of fortified rice in all the Districts of the country under Integrated Child Development Services (ICDS) & Mid-Day Meal (MDM) Scheme from 2021-2022.
 - The mid-day meal scheme is now known as PM POSHAN.
- Special focus remains on supplying fortified rice to the 112 specially identified Aspirational Districts of the country.
- Objectives the Scheme:
 - Distribution of Fortified Rice through Public Distribution System, to cater 15 Districts in the country - preferably one district per State in the initial phase of Implementation.
 - Coverage of NFSA (National Food Security Act) beneficiaries under PDS with Fortified Rice in the selected Districts.
 - Facilitate cross learning and sharing of best practices among States/UTs and DoF&PD (Department of Food and Public Distribution).
 - To evaluate the provision, coverage and Utilization of Fortified Rice by the target population as well as the efficiency/effectiveness of the consumption of fortified rice in reducing the targeted micronutrient deficiencies in different age and gender groups.

Rice Fortification

Why in News?

The Minister of Consumer Affairs, Food and Public Distribution informed the Rajya Sabha that the government approved the Centrally Sponsored Pilot Scheme on “Fortification of Rice & its Distribution under Public Distribution System” for a period of 3 years beginning in 2019-20 with total outlay of Rs. 174.64 Cr.

What is the Scheme?

- About:
 - To address anemia and micro-nutrient deficiency in the country, the Government of India approved this scheme for a period of 3 years in 2019-20.

What is Food Fortification and its Need?

- Fortification:
 - Fortification is the addition of key vitamins and minerals such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content.
 - These nutrients may or may not have been originally present in the food before processing.
- Fortification of Rice:
 - According to the Food Ministry, fortification of rice is a cost-effective and complementary strategy to increase vitamin and mineral content in diets.
 - According to FSSAI norms, 1 kg fortified rice will contain iron (28 mg-42.5 mg), folic acid (75-125 microgram) and Vitamin B-12 (0.75-1.25 microgram).

- In addition, rice may also be fortified with micronutrients, singly or in combination, with zinc, Vitamin A, Vitamin B1, Vitamin B2, Vitamin B3 and Vitamin B6.
- Need of Fortification:
 - India has very high levels of malnutrition among women and children. According to the Food Ministry, every second woman in the country is anemic and every third child is stunted.
 - India has slipped to 101st position in the Global Hunger Index (GHI) 2021 of 116 countries, from its 2020 position of 94th.
 - The deficiency of micronutrients or micronutrient malnutrition, also known as “hidden hunger”, is a serious health risk.
 - Rice is one of India’s staple foods, consumed by about two-thirds of the population. Per capita rice consumption in India is 6.8 kg per month. Therefore, fortifying rice with micronutrients is an option to supplement the diet of the poor.

SAMRIDH Initiative

Why in News?

Atal Innovation Mission (AIM), NITI Aayog, and the US Agency for International Development (USAID) announced a new partnership under the Sustainable Access to Markets and Resources for Innovative Delivery of Healthcare (SAMRIDH) initiative.

- The collaboration will focus on innovations across the healthcare landscape with the common goal to mount an effective response to the ongoing third wave of Covid-19 and build health system preparedness for future infectious disease outbreaks and health emergencies.
- The Planning Commission was replaced by a new Think Tank – NITI Aayog on 1st January, 2015 with emphasis on ‘Bottom –Up’ approach to envisage the vision of Maximum Governance, Minimum Government, echoing the spirit of ‘Cooperative Federalism’.
- AIM is a flagship initiative set up by the NITI Aayog to promote a culture of innovation and entrepreneurship in the country.

What is the SAMRIDH Initiative?

- About:
 - In 2020 the Indian government, academia, and the private sector developed the innovative SAMRIDH blended finance facility to combine public and philanthropic funds with commercial capital to create and rapidly scale market-based health solutions.
 - Blended finance is an approach towards financing where catalytic funding (e.g grants and concessional capital) from public and philanthropic sources is utilized to mobilize additional private sector investment to realize social goals and outcomes.
 - It will improve access to affordable and quality healthcare for vulnerable populations in tier-2 and tier-3 cities, and rural and tribal regions.
 - This initiative is implemented by a Technical Support Unit managed by IPE Global (a company).
- Objectives:
 - Bridge supply-side gaps in healthcare facilities to respond to health emergencies in the immediate, medium, and long term.
 - Accelerate scale-up and adoption of innovative and market-based health solutions.
 - Mobilize resources to support high impact health solutions and build sustainable healthcare systems.
 - Promote local and comprehensive solutions at the community and facility level for vulnerable populations.
- Significance:
 - AIM and SAMRIDH will leverage philanthropic capital, and public sector resources to offset barriers for commercial investments in small and medium health enterprises to invest in and scale healthcare solutions.
 - The new partnership announced will enhance SAMRIDH’s efforts to reach vulnerable populations, leveraging AIM’s expertise in innovation and entrepreneurship.

How is it different from the SAMRIDH Programme?

- The **Ministry of Electronics & Information Technology (MeitY)** launched the ‘Start-up Accelerators of MeitY for Product Innovation, Development and growth (SAMRIDH)’ programme in August 2021.
- It was launched to **create a conducive platform to Indian Software Product start-ups to enhance their products** and secure investments for scaling

What is the current Healthcare Landscape in India?

- Although India’s healthcare sector has grown rapidly over the last five years (Compound Annual Growth Rate of 22%), Covid-19 has brought to the forefront persistent challenges such as a weak health system, lack of quality infrastructure, and lack of quality service delivery to vulnerable populations.
- India’s healthcare spending is 3.6% of GDP, including out-of-pocket and public expenditure.
 - The combined total government expenditure of both central and state is 1.29% of GDP.
 - India spends the least among BRICS countries: Brazil spends the most (9.2%), followed by South Africa (8.1%), Russia (5.3%), China (5%).
- The Government of India has launched the flagship initiative Ayushman Bharat (AB) Pradhan Mantri Jan Arogya Yojana (PM-JAY) the world’s largest non-contributory Government-sponsored health insurance scheme that enables increased access to in-patient healthcare for poor and vulnerable families in secondary and tertiary facilities.

- The National Crime Records Bureau registers about 2,200 cases of Human Trafficking cases on an average each year.

Operation AAHT

Why in News?

Recently, the Railway Protection Force (RPF) has launched a nationwide operation to curb human trafficking.

- As part of “Operation AAHT”, special teams will be deployed on all long-distance trains/routes with a focus on rescuing victims, particularly women and children, from the clutches of traffickers.

What is Operation AAHT?

- The Indian Railways, which transported over 23 million passengers each day (pre-pandemic), is the largest,

fastest and most reliable carrier for suspects who trafficked scores of women and children.

- Under Operation AAHT, the infrastructure and intelligence network of the force could be utilised to collect, collate and analyse clues on victims, source, route, destination, popular trains used by suspects, the identity of carriers/agents, kingpins etc and shared with other law-enforcing agencies.
- Under this, the RPF could act as a bridge cutting across States to assist the local police in the mission to curb the menace.
- Also, cyber cells would start patrolling the web/social media to look for digital footprints of Human Trafficking and the focus would be more on trains originating from districts bordering Nepal, Bangladesh and Myanmar.



What is Human Trafficking?

- Human trafficking, also called trafficking in persons, form of modern-day slavery involving the illegal transport of individuals by force or deception for the purpose of labour, sexual exploitation, or activities in which others benefit financially.
 - Human Trafficking, especially of women and children, for sexual exploitation, forced marriage, domestic servitude, organ transplant, drug peddling, etc is an organised crime and the most abominable violation of human rights.
- There is a popular understanding that trafficking is happening a lot more between countries but a report by UNODC highlights that close to 60% of trafficking happens internally in countries.
- Situation in India: The most affected state presently is West Bengal followed by Chhattisgarh, Jharkhand and Assam.



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Science & Technology

Highlights

- Earth Observation Satellite EOS-04
- Artificial Neural Network
- Geomagnetic Storm
- India's First Graphene Innovation Centre in Kerala
- Chandrayaan-3 Mission
- Nuclear Fusion Energy

Earth Observation Satellite EOS-04

Why in News?

Recently, Indian Space Research Organisation's earth observation satellite EOS-04 and two small satellites (INSPIRESat-1 and INS-2TD) were successfully placed into the intended orbit by the PSLV-C52 rocket.

- This launch was the 54th flight of the Polar Satellite Launch Vehicle (PSLV) rocket, and the 23rd of its most powerful XL-version that has six strap-on boosters.

What are Earth Observation Satellites?

- Earth observation satellites are the **satellites equipped with remote sensing technology**. Earth observation is the gathering of information about Earth's physical, chemical and biological systems.
- Many earth observation satellites have been employed on sun-synchronous orbit
- Other earth observation satellites launched by ISRO include **RESOURCESAT- 2**, 2A, CARTOSAT-1, 2, 2A, 2B, RISAT-1 and 2, OCEANSAT-2, Megha-Tropiques, SARAL and SCATSAT-1, INSAT-3DR, 3D, etc.

What are the Three Satellites Launched?

- EOS-04:
 - EOS-04 weighing 1,710 kg and with a mission life of ten years designed to provide high quality images under all weather conditions for applications such as Agriculture, Forestry and Plantations, Soil Moisture and Hydrology and Flood mapping.
 - It will complement the data from Resourcesat, Cartosat and RISAT-2B series of satellites that are already in orbit.
 - The first of these newly named satellites, EOS-01, launched in November 2020, is in orbit right now. EOS-02, a micro-satellite to be flown on a new launch vehicle called SSLV (Small Satellite Launch Vehicle) is yet to be launched, while launch of EOS-03 had ended in a failure in August, 2021.
 - It will be placed in a sun synchronous polar orbit of 529 km, is a radar-imaging satellite which would have made it a part of the RISAT series earlier.
 - In fact, it would replace the RISAT-1 which was launched in 2012 but has been non-functional for the last few years.
 - RISATs use synthetic aperture radars to produce high-resolution images of the land.
 - One big advantage that radar imaging has over optical instruments is that it is unaffected by weather, cloud or fog, or the lack of sunlight.
 - It can produce high-quality images in all conditions and at all times, making it suitable for surveillance.
- INSPIRESat-1:
 - INSPIRESat-1 is part of a constellation of satellites planned under the International Space Program in Research and Education (INSPIRE) involving

the Small-spacecraft Systems and Payload Centre (SSPACE) at IIST, University of Colorado (US), Nanyang Technological University (NTU), Singapore, and National Central University (NCU), Taiwan.

- Two scientific payloads on INSPIRESat-1, with a mass of 8.1 kg and mission life of one year, are aimed at improving the understanding of ionosphere (part of Earth's upper atmosphere) dynamics and the sun's coronal heating processes.
- **INS-2TD:**
 - INS-2TD is a technology demonstrator for the first India-Bhutan joint satellite that is scheduled to be launched in March, 2022.
 - The two countries had signed a space agreement last year, and its first outcome would be the launch of BhutanSat, or INS-2B, on a PSLV rocket in March, 2022.
 - The thermal imaging cameras of the INS-2TD are meant for earth observation purposes, like assessment of land and water surface temperature, and identification of forest and tree cover.

How many satellites does India have in space?

- India currently has 53 operational satellites, of which 21 are earth observation ones and another 21 are communication-based.
- Eight are navigation satellites, while the remaining three are science satellites.

Artificial Neural Network

Why in News?

Recently, the global Artificial Neural Network (ANN) Market report was published.

- It is an information bank that delivers comprehensive information about the market ranging from the establishment to the predictable growth trend.
- As per the current report, ANN Market to Set Phenomenal Growth from 2021 to 2028.

What is an Artificial Neural Network?

- It is a vital subset of machine learning that helps computer scientists in their work on complex tasks, such as, strategizing, making predictions, and recognizing trends.

- It is a computational model that mimics the way nerve cells work in the human brain. It is designed to simulate the way the human brain analyzes and processes information.

- It is not like other machine learning algorithms that crunch numbers or organise data; it is an algorithm that learns from experience and repeated tasks performed by its users.
- It is also known as a Neural Network (NN). ANN is a computational model based on the functions and structure of biological neural networks.
- Information that runs through the network affects the structure of the artificial neural network due to the fact that a neural network learns or changes based on the input and output.
- NNs are fed massive volumes of data in the beginning phases. In most cases, training is done by providing input and informing the network about what should be the output.
 - Many smartphone makers, for example, have recently integrated facial recognition technology.

What are the Major Drivers of ANN Growth?

- Rapid digitization is anticipated to boost the deployment of artificial neural network platforms. Furthermore, an extensively used application of artificial neural networks is in the field of predictive analytics.
- Predicting consumer behaviour and sales forecasting are expected to drive the artificial neural network market during the forecast period.
- ANN helps marketers predict the outcome of a campaign by recognizing the trends from previous marketing campaigns.

- While neural networks have been available for a while, it is mainly the recent emergence of Big Data that has made this technology extremely useful in the field of marketing.
- Cloud computing also provided enormous computing resources that are needed for ANNs to “work through” massive volumes of data.

What are the Limitations of ANN?

- One of the most significant technological hurdles is the time it takes to train networks, which frequently demand an acceptable level of computational power for even complex tasks.
- The second factor to consider is that neural networks are computer systems in which the user categorises the trained data and gets responses. They have the ability to fine-tune the responses, but they do not have access to the specific decision-making process.

Geomagnetic Storm

Why in News?

Recently, Elon Musk’s Starlink has lost dozens of satellites that were caught in a geomagnetic storm a day after they were launched.

- The satellites were designed to burn up on reentry into the Earth’s atmosphere, and did not create debris in space.
- However, the loss of 40 satellites — most of a launch batch — in a single solar event has been described as “unheard of” and “huge”.

What is Starlink?

- Starlink is a **SpaceX project** to build a broadband network with a cluster of orbiting spacecraft that could eventually number thousands.
- The **Starlink satellites carry Hall thrusters**, which use electricity and krypton gas to generate an impulse, to manoeuvre in orbit, maintain altitude and guide the spacecraft back into the atmosphere at the end of their mission.
- The Starlink network is **one of several ongoing efforts** to start beaming data signals from space.

What is a Geomagnetic Storm?

- Solar Storms occur during the release of magnetic energy associated with sunspots (‘dark’ regions on the Sun that are cooler than the surrounding photosphere - the lowest layer of the solar atmosphere), and can last for a few minutes or hours.
- A geomagnetic storm is a major disturbance of Earth’s magnetosphere that occurs when there is a very efficient exchange of energy from the solar wind into the space environment surrounding Earth.
 - The magnetosphere shields our home planet from harmful solar and cosmic particle radiation, as well as erosion of the atmosphere by the solar wind – the constant flow of charged particles streaming off the Sun.
- These storms result from variations in the solar wind that produce major changes in the currents, plasmas, and fields in Earth’s magnetosphere.
 - The solar wind conditions that are effective for creating geomagnetic storms are sustained (for several to many hours) periods of high-speed solar wind, and most importantly, a southward directed solar wind magnetic field (opposite the direction of Earth’s field) at the dayside of the magnetosphere.
 - This condition is effective for transferring energy from the solar wind into Earth’s magnetosphere.
- The largest storms that result from these conditions are associated with solar Coronal Mass Ejections (CMEs) where a billion tons or so of plasma from the sun, with its embedded magnetic field, arrives at Earth.
 - CMEs are large ejections of plasma and magnetic fields that originate from the Sun’s corona (outermost layer).

How does it Affect Earth?

- Can Impact Space Weather:
 - Not all solar flares reach Earth, but solar flares/storms, Solar Energetic Particles (SEPs), high-speed solar winds, and Coronal Mass Ejections (CMEs) that come close can impact space weather in near-Earth space and the upper atmosphere.
- Can Hit Operations of Space-Dependent Services:
 - Solar storms can hit operations of space-dependent services like Global Positioning Systems (GPS), radio, and satellite communications. Aircraft flights, power grids, and space exploration programmes are vulnerable.

- Can Potentially Create Disturbances in the Magnetosphere:
 - Coronal Mass Ejections (CMEs) with ejectiles loaded with matter travelling at millions of miles an hour, can potentially create disturbances in the magnetosphere, the protective shield surrounding the Earth.
 - Astronauts on spacewalks face health risks from possible exposure to solar radiation outside the Earth's protective atmosphere.

How are Solar Storms Predicted?

- Solar physicists and other scientists use computer models to predict solar storms and solar activities in general.
 - Current models are capable of predicting a storm's time of arrival and its speed.
 - But the storm's structure or orientation still cannot be predicted.
- Certain orientations of the magnetic field can produce a more intense response from the magnetosphere, and trigger more intense magnetic storms.
 - With the increasing global dependence on satellites for almost every activity, there is a need for better space weather forecasts and more effective ways to protect satellites.

India's First Graphene Innovation Centre in Kerala

Why in News

Recently, the Kerala government announced that the country's first Graphene Innovation Centre would come up in Thrissur, Kerala.

- It is a joint venture of Digital University of Kerala, Centre for Materials for Electronics Technology (C-MET) and Tata Steel Limited.
- Earlier in 2020, the researchers from the City University of Hong Kong had produced a laser-induced form of graphene masks that inactivate the coronavirus species.

What is the Graphene Innovation Centre?

- An Innovation Center is a cross-functional plan that creates a safe haven for new ideas.

- With opportunities for individual and group collaboration across time zones and continents, it's a place that fosters a culture of innovation through the creation, sharing, and testing of ideas.
- The India Innovation Centre for Graphene would come up in Thrissur at a cost of Rs 86.41 crore.
 - Of the 86.41-crore, the Union Government would provide Rs 49.18 crore and private business houses Rs 11.48 crore.
- The state government would provide the basic infrastructure for the project. The Centre would help attract investors to develop graphene products.

What is its Significance?

- The project would give a major fillip for scientific research as well as the state's industrial sector.
- Kerala's human resources capital could be effectively exploited by the proposed Centre, which would help Kerala to emerge as a knowledge-based economy.

What is Graphene?

- Graphene is a one-atom-thick layer of carbon atoms arranged in a hexagonal lattice. It is the building-block of Graphite, but graphene is a remarkable substance on its own with a multitude of astonishing properties.
- It is the thinnest, most electrically and thermally conductive material in the world, while also being flexible, transparent and incredibly strong.
- Often referred to as a wonder material for its extraordinary electrical and electronics properties, graphene could replace Indium and thereby bring down the cost of OLED (organic light-emitting diode) screens in smartphones, studies have shown.

- Graphene has a lot of promise for additional applications: anti-corrosion coatings and paints, efficient and precise sensors, faster and efficient electronics, flexible displays, efficient solar panels, faster DNA sequencing, drug delivery, and more.

Chandrayaan-3 Mission

Why in News ?

- Recently, the Department of Science has stated that India plans to execute the Chandrayaan-3 mission in August 2022.

What is the Chandrayaan-3 Mission ?

- The Chandrayaan-3 mission is a follow-up of Chandrayaan-2 of July 2019, which aimed to land a rover on the lunar South Pole.
- The subsequent failure of the Vikram lander led to the pursuit of another mission to demonstrate the landing capabilities needed for the Lunar Polar Exploration Mission proposed in partnership with Japan for 2024.
- It will have an orbiter and a landing module. However, this orbiter won't be loaded with scientific instruments like the Chandrayaan-2.
 - Its job will only be confined to carry the lander to the moon, oversee the landing from its orbit and communicate between the lander and the earth station."

What was the Chandrayaan-2 Mission ?

- Chandrayaan-2 consisted of an Orbiter, Lander and Rover, all equipped with scientific instruments to study the moon.
 - The Orbiter would watch the moon from a 100-km orbit, while the Lander and Rover modules were to be separated to make a soft landing on the moon's surface.
 - ISRO had named the Lander module as Vikram, after Vikram Sarabhai, the pioneer of India's space programme, and the Rover module as Pragyaan, meaning wisdom.
- It was sent aboard the country's most powerful geosynchronous launch vehicle, the GSLV-Mk 3.

- However, lander Vikram, instead of a controlled landing, ended up crash-landing and prevented rover Pragyaan from successfully travelling on the surface of the moon.

What is GSLV-Mk 3 ?

- Geosynchronous Satellite Launch Vehicle Mark-III was developed by Indian Space Research Organisation (ISRO), is a three-stage vehicle, designed to launch communication satellites into geostationary orbit.
- It has a mass of 640 tonnes that can accommodate up to 8,000 kg payload to Low Earth Orbit (LEO) and 4000 kg payload to GTO (Geo-Synchronous Transfer Orbit).

What are the Different Types of Orbits?

Polar Orbit

- A **polar orbit travels north-south over the poles** and takes approximately 90 minutes for a full rotation.
- These orbits have an **inclination near 90 degrees**. This allows the satellite to see virtually every part of the Earth as the Earth rotates underneath it.
- These satellites have many use such as **monitoring crops, global security, measuring ozone concentrations in the stratosphere or measuring temperatures** in the atmosphere.
- Almost all the satellites that are in a polar orbit **are at lower altitudes**.
- An orbit is called **sun-synchronous when the angle between the line joining the centre of the Earth and the satellite and the Sun is constant** throughout the orbit.
- These orbits are also referred to as "**Low Earth Orbit (LEO)**" which enables the onboard camera to take images of the earth under the same sun-illumination conditions during each of the repeated visits, thus making the satellite useful for earth resources monitoring.
- It **passes over any given point on Earth's surface at the same local solar time**.

Geosynchronous Orbit

- **Geosynchronous satellites are launched into orbit in the same direction the Earth is spinning** and can have any inclination.

- When the satellite is in orbit at a specific altitude (approximately 36,000km above the Earth's surface), **it will exactly match the rotation of the Earth.**
 - While, **Geostationary** orbits fall in the same category as geosynchronous orbits, but with that one special quality of being **parked over the equator.**
- In the case of geostationary satellites, **the Earth's force of gravity is exactly enough to provide acceleration** required for circular motion.
- **Geosynchronous Transfer Orbit(GTO):** To attain geostationary or geosynchronous earth orbits, a spacecraft is first launched into a Geosynchronous Transfer Orbit.
 - From the GTO the spacecraft uses its engines to shift to geostationary or geosynchronous orbit.
- The energy was produced in a machine called a tokamak, a doughnut-shaped apparatus.
 - A tokamak is a machine that confines a plasma using magnetic fields in a donut shape that scientists call a torus.
- Deuterium and tritium, which are isotopes of hydrogen, were heated to temperatures 10 times hotter than the centre of the sun to create plasma.
 - This was held in place using superconductor electromagnets as it spins around, fuses and releases tremendous energy as heat.
- The record and scientific data from these crucial experiments are a major boost for ITER, the larger and more advanced version of the JET.

What is Nuclear Fusion?

- Nuclear fusion is defined as the combining of several small nuclei into one large nucleus with the subsequent release of huge amounts of energy.
 - It is the opposite reaction of fission, where heavy isotopes are split apart.
- Harnessing fusion, the process that powers the Sun, could provide a limitless, clean energy source.
 - In the sun, the extreme pressure produced by its immense gravity creates the conditions for fusion to happen.
- Fusion reactions take place in a state of matter called plasma. Plasma is a hot, charged gas made of positive ions and free-moving electrons that has unique properties distinct from solids, liquids and gases.
 - At high temperatures, electrons are ripped from atom's nuclei and become a plasma or an ionised state of matter. Plasma is also known as the fourth state of matter.

Nuclear Fusion Energy

Why in News?

Recently, the Scientists in the United Kingdom said they have achieved a new milestone in producing nuclear fusion energy, or imitating the way energy is produced in the Sun.

- Energy by nuclear fusion is one of mankind's long standing quests as it promises to be low carbon, safer than how nuclear energy is now produced and, with an efficiency that can technically exceed a 100%.
- One kilogram(kg) of fusion fuel contains about 10 million times as much energy as a kg of coal, oil or gas.

What was the Location of Experiment?

- The JET (Joint European Torus facility) site is the largest operational one of its kind in the world.

What are Advantages of Nuclear Fusion?

- Abundant energy: Fusing atoms together in a controlled way releases nearly four million times more energy than a chemical reaction such as the burning of coal, oil or gas and four times as much as nuclear fission reactions (at equal mass).
 - Fusion has the potential to provide the kind of baseload energy needed to provide electricity to the cities and the industries.
- Sustainability: Fusion fuels are widely available and nearly inexhaustible. Deuterium can be distilled from all forms of water, while tritium will be produced during the fusion reaction as fusion neutrons interact with lithium.
- No CO₂: Fusion doesn't emit harmful toxins like carbon dioxide or other greenhouse gases into the atmosphere. Its major by-product is helium: an inert, non-toxic gas.
- No long-lived radioactive waste: Nuclear fusion reactors produce no high activity, long-lived nuclear waste.
- Limited risk of proliferation: Fusion doesn't employ fissile materials like uranium and plutonium (Radioactive tritium is neither a fissile nor a fissionable material).
- No risk of meltdown: It is difficult enough to reach and maintain the precise conditions necessary for fusion—if any disturbance occurs, the plasma cools within seconds and the reaction stops.

What are Other International Initiatives on Nuclear Fusion Energy?

- International Thermonuclear Experimental Reactor (ITER) Assembly: It aims to build the world's largest tokamak to prove the feasibility of fusion as a large-scale and carbon-free source of energy. The ITER members include China, the European Union, India, Japan, South Korea, Russia and the United States.
- China's Artificial Sun: The Experimental Advanced Superconducting Tokamak (EAST) device designed by China replicates the nuclear fusion process carried out by the sun.

What is the difference between Nuclear Fusion & Nuclear Fission?



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Environment & Ecology

Highlights

- Marine Heatwaves
- World Wetlands Day and Two New Ramsar Sites
- Volatile Organic Molecules & EVs
- Dholes
- Golden Langur
- Gaps in Enforcement of Green Legislations
- Sovereign Green Bonds
- Coal Gasification
- Koalas as Endangered Species: Australia

Marine Heatwaves

Why in News?

According to a study, marine heatwaves — or the ones that form on oceans — have been on the rise in the waters around India.

- Emerging studies have reported their occurrence and impacts in the global oceans, but are little understood in the tropical Indian Ocean.
- Also, according to the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6), the sea surface temperature over the Indian ocean is likely to increase by 1 to 2 °C when there is 1.5°C to 2°C global warming.

What are the Findings of the Study?

- The Western Indian Ocean region experienced the largest increase in marine heatwaves at a rate of about 1.5 events per decade, followed by the north Bay of Bengal at a rate of 0.5 events per decade.

- The marine heatwaves in the Western Indian Ocean and the Bay of Bengal increased drying conditions over the central Indian subcontinent.
- Correspondingly, there is a significant increase in the rainfall over south peninsular India in response to the heatwaves in the north Bay of Bengal.
 - From 1982 to 2018, the Western Indian Ocean had a total of 66 events, while the Bay of Bengal had 94 events.
 - These changes are in response to the modulation of the monsoon winds by the heatwaves.
 - This is the first time that a study has demonstrated a close link between marine heatwaves and atmospheric circulation and rainfall.

What are Marine Heatwaves?

- Marine heatwaves are periods of extremely high temperatures in the ocean.
- These events are linked to coral bleaching, seagrass destruction, and loss of kelp forests, affecting the fisheries sector adversely.
 - Study showed that 85% of the corals in the Gulf of Mannar near the Tamil Nadu coast got bleached after the marine heatwave in May 2020.
- The most common drivers of marine heatwaves include ocean currents which can build up areas of warm water and air-sea heat flux, or warming through the ocean surface from the atmosphere.
 - Winds can enhance or suppress the warming in a marine heatwave, and climate modes like El Niño can change the likelihood of events occurring in certain regions.

What are the Impacts of Marine Heatwaves?

- Affect Ecosystem Structure:
 - Marine heat waves affect ecosystem structure, by supporting certain species and suppressing others.
 - It has been associated with the mass mortality of marine invertebrates, and may force species to change behaviour in a way that puts wildlife at increased risk of harm.
- Change Habitat Ranges of Certain Species:
 - Marine heatwaves can change the habitat ranges of certain species, such as the spiny sea urchin off southeastern Australia which has been expanding southward into Tasmania at the expense of kelp forests which it feeds upon.
- Economic Losses:
 - Marine heatwaves can cause economic losses through impacts on fisheries and aquaculture.
- Affect Biodiversity:
 - Biodiversity can be drastically affected by marine heatwaves.
 - In 2016, marine heatwaves across northern Australia led to severe bleaching of the Great Barrier Reef.
- Increase the Risk of Deoxygenation and Acidification:
 - Often they occur alongside other stressors such as ocean acidification, deoxygenation, and overfishing.
 - In such cases, MHWs not only further damage habitats, but also increase the risk of deoxygenation and acidification.

World Wetlands Day and Two New Ramsar Sites

Why in News?

Recently, World Wetlands Day was celebrated on the 2nd of February 2022 across the globe.

- On the occasion, “National Wetland Decadal Change Atlas” was prepared by the Space Applications Center (SAC - one of the major centers of ISRO).
 - The original Atlas was released by SAC in 2011 and has over the years been used extensively by all the State Governments also in their planning processes.

- Two new Ramsar sites (Wetlands of International Importance), Khijadia Wildlife Sanctuary in Gujarat and Bakhira Wildlife Sanctuary in UP were also announced on the occasion.

Why is The Day Celebrated on 2nd February?

- This day marks the date of the adoption of the Convention on Wetlands on 2nd February 1971 in the Iranian city of Ramsar.
 - The Ramsar Convention is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
 - The countries with the most Ramsar Sites are the United Kingdom (175) and Mexico (142), as per the Ramsar List. Bolivia has the largest area with 148,000 sq km under the Convention protection.
- It was first celebrated in 1997.
- Theme for 2022: Wetlands Action for People and Nature.

What is a Wetland and its Significance?

- Wetlands:
 - Wetlands are ecosystems saturated with water, either seasonally or permanently. They include mangroves, marshes, rivers, lakes, deltas, floodplains and flooded forests, rice-fields, coral reefs, marine areas no deeper than 6 meters at low tide, as well as human-made wetlands such as waste-water treatment ponds and reservoirs.
- Significance:
 - Wetlands are a critical part of our natural environment. They mitigate floods, protect coastlines and build community resilience to disasters, reduce the impacts of floods, absorb pollutants and improve water quality.
 - Wetlands are critical to human and planet life. More than 1 billion people depend on them for a living and 40% of the world’s species live and breed in wetlands.
 - They are a vital source for food, raw materials, genetic resources for medicines, and hydropower.
 - 30% of land-based carbon is stored in peatland.
 - They play an important role in transport, tourism and the cultural and spiritual well-being of people.

- Many wetlands are areas of natural beauty and many are important to Aboriginal people.

What are the Threats related to Wetlands?

- As per the IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services)'s global assessment, wetlands are the most threatened ecosystem.
- Wetlands are disappearing 3 times faster than forests due to human activities and global warming.
- According to UNESCO, the threat to wetlands will have an adverse impact on 40% of the world's flora and fauna that live or breed in wetlands.
- Major threats: Agriculture, development, pollution and climate change.

What is the status of Wetlands in India?

- India has a network of 49 Ramsar sites covering an area of 10,93,636 hectares, the highest in South Asia.
 - Bakhira Wildlife Sanctuary in UP provides a safe wintering and staging ground for a large number of species of the Central Asian Flyway while Khijadia Wildlife Sanctuary (Gujarat) is a coastal wetland with rich avifaunal diversity providing a safe habitat to endangered and vulnerable species.
- In India, according to the National Wetland Inventory and Assessment compiled by the Indian Space Research Organisation (ISRO), wetlands are 4.63% of the total geographical area of the country.
 - India has 19 types of wetlands.
 - In state-wise distribution of wetlands, Gujarat is at the top (17.56% of total geographical area of the state or 22.7% of total wetlands areas of the country thanks to a long coastline.
 - It is followed by Andhra Pradesh, Uttar Pradesh, and West Bengal.

What is the Significance of Ramsar Listing?

- It is like an ISO certification. They can take it off the list as well if it doesn't meet their standards continuously. It's a feather in the cap but there is a cost to it and that cost can be paid only if there is brand value.
- Ramsar tag makes it incumbent upon authority to strengthen the protection regime there and also creates defenses against encroachment.

- A number of species of birds prefer to avoid the Himalaya and instead choose the route passing through Afghanistan and Pakistan to enter the Indian sub-continent via Gujarat and Rajasthan. Thus, Gujarat becomes the first landing point of many international migratory species of ducks, waders, plovers, terns, gulls etc and shorebirds as well as birds of prey.
- Wetlands in India act as foraging and resting grounds for the migratory birds during winter.
 - According to Convention on the Conservation of Migratory Species of Wild Animals (CMS), CAF (Central Asian Flyway), which includes 30 countries, covers at least 279 populations of 182 migratory waterbird species, including 29 globally threatened and near-threatened species, which breed, migrate and winter within the region.

Volatile Organic Molecules & EVs

Why in News?

Recently, a study conducted by Indian Institute of Science Education and Research revealed that India can slash emissions of Volatile Organic Molecules (VOC) by 76% in the next eight years by swapping all two- and three-wheelers with electric vehicles and all diesel-fuelled ones with Compressed Natural Gas (CNG).

- Gases escaping out of a vehicle's exhaust account for 65-80% of an automobile's emissions.
- India is home to 14 out of the top 20 most polluted cities globally. Around 1.67 million deaths were linked to air pollution in 2019. The country lost 1.36% of its gross domestic product the same year.
- Therefore, adopting electric vehicles can help India achieve a cleaner future.

What are Volatile Organic Molecules?

- VOCs are carbon-containing chemicals released by petrol and diesel vehicles. They impact air quality and human health.
 - However, VOCs can have a natural origin, too.
 - Plants emit these chemicals to attract pollinators, defend themselves from pests and predators and adapt to environmental stress.

- Effect of VOCs on Health: VOCs can irritate the eyes, nose and throat, damage body organs and cause cancer.
 - Long-term exposure to VOCs is not good because the majority of the VOCs are carcinogenic (cancer-causing).
 - It is also linked to medical conditions such as asthma and heart disease.
 - Black carbon is linked to health problems such as respiratory and cardiovascular disease, cancer and congenital disabilities. It also contributes to climate change.
- Positive Feedback Loop: VOCs can drive the formation of other dangerous pollutants.
 - For instance, they react with sunlight and nitrogen dioxide to form ground-level ozone.
 - VOCs also trigger the formation of Particulate Matter (PM_{2.5}), a pollutant that reaches deep into the lungs, affecting their normal functioning.
 - They react in the air to produce secondary organic aerosols, minute particles suspended in the air.
- Issues Related to VOCs: Human-made VOCs are a cause for concern, yet they don't draw enough attention.
 - Benzene, a chemical that induces cancer, is the only VOC included in the National ambient air-quality standards.
 - The other pollutants under ambient air-quality standards considered are PM₁₀, PM_{2.5}, nitrogen dioxide, sulphur dioxide, carbon monoxide, ozone, ammonia, lead, nickel and benzo(a)pyrene.

What are Electric Vehicles?

- An EV operates on an electric motor instead of an internal combustion engine and has a battery instead of a fuel tank.
- In general, EVs have low running costs as they have fewer moving parts and are also environmentally friendly.
- In India, the fuel cost for an EV is approximately 80 paise per kilometre. Contrast this with the cost of petrol which is today more than Rs 100 per litre in Indian cities, or Rs 7-8 per kilometre to operate a petrol-based vehicle.

What are Associated Challenges with EVs?

- Lack of a Stable Policy For EV Production: EV production is a capital intensive sector requiring long term planning to break even and profit realisation, uncertainty in government policies related to EV production discourages investment in the industry.
- Technological Challenges: India is technologically deficient in the production of electronics that form the backbone of the EV industry, such as batteries, semiconductors, controllers, etc.
 - India does not have any known reserves of lithium and cobalt which are required for battery production.
- Lack of Associated Infrastructural Support: The lack of clarity over AC versus DC charging stations, grid stability and range anxiety (fear that batteries will soon run out of power) are other factors that hinder the growth of the EV industry.

- Lack of skilled workers: EVs have higher servicing costs and higher levels of skills is needed for servicing. India lacks dedicated training courses for such skill development.

What are Central Government Initiatives on EVs?

- Government has set a target of EV making up 30% of new sales of cars and two-wheelers by 2030.
- To build a sustainable EV ecosystem, initiatives like National Electric Mobility Mission Plan (NEMMP) and Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) have been launched.
 - NEMMP was launched in 2013 with an aim to achieve national fuel security by promoting hybrid and EVs in the country. There is an ambitious target to achieve 6-7 million sales of hybrid and EVs year on year from 2020 onwards.
 - FAME India was launched in 2015 with the objective to support hybrid/EV market development and manufacturing ecosystem. The scheme has 4 focus areas viz. technology development, demand creation, pilot projects and charging infrastructure.
- Organisations like Bureau of Indian Standards (BIS), Department of Heavy Industry, Automotive Research Association of India are devising design and manufacturing standards of EVs, Electric Vehicle Supply Equipment (EVSEs) and charging infrastructure to smoothen the advent of in-house production of EVs.

Dholes

Why in News?

A new study has reported the presence of dholes or Asiatic wild dogs in the high mountains of Central Asia nearly 30 years after their presence was last recorded.

- The animals have been discovered in the Bek-Tosot Conservancy in the Osh region of southern Kyrgyzstan, a few kilometres from the Tajik border. It lies in the Pamir mountain range of Xinjiang Autonomous Region, China.

What do we Know About Dholes?

- About: Dhole (*Cuon alpinus*) is a wild carnivorous animal and is a member of the family *Canidae* and the class *Mammalia*.
 - They are also known as Asian wild dogs.
- Habitat:
 - Historically, dholes purportedly occurred throughout southern Russia, all across central Asia, south Asia and southeast Asia.
 - According to recent research and current distribution maps, they are restricted to south and southeast Asia, with the northernmost populations in China.
 - In India, they are found in three clusters across India namely the Western and Eastern Ghats, central Indian landscape and North East India.
 - Karnataka, Maharashtra and Madhya Pradesh rank high in the conservation of the endangered dhole in India, according to a study (2020).
- Ecological role: Dholes play an important role as apex predators in forest ecosystems.

What is the Conservation Status of Dholes?

- IUCN List of Threatened Species: Endangered
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix II
- Wildlife Protection Act, 1972 : Schedule II

Why is their Population Decreasing?

- Ongoing habitat loss: Due to deforestation and fragmentation of forest corridors.
- Depletion of prey base: Ungulates are the main prey of dholes whose population is rapidly decreasing due to excessive hunting and habitat loss.
- Persecution due to livestock predation and disease transfer from domestic and feral dogs.

Golden Langur

Why in News?

Assam villagers are opposing the sanctuary tag for golden langur habitat.

What is the Issue?

- The Assam Forest Department had issued a preliminary notification for converting the 19.85 sq. km. patch of forest into the Kajoijana Bamuni Hill Wildlife Sanctuary.
 - Kajoijana Reserve Forest is one of the better-known homes of the golden langur.
- The villagers demanded that the “conventional idea of wildlife sanctuary” be dropped and the reserve forest converted into a community forest resource “using Forest Rights Act, 2006, to ensure community co-managed system of participation for sustainable conservation.
 - The villagers pointed out that the conservation efforts of the locals had helped the authorities concerned to restore the forest canopy from less than 5% to more than 70%, and the golden langur population from less than 100 to more than 600 over almost three decades.

What is the Difference between Wildlife Sanctuary, Reserve Forest and Community Forest Resource?

- **Wildlife Sanctuary:** It is the place that is **reserved exclusively for wildlife use**, which includes animals, reptiles, insects, birds, etc. wild animals, especially those in danger of extinction and the rare ones, so that they can live in peace for a lifetime and keep their population viable.
 - The Wildlife Protection Act, 1972 empowers the central and state governments to declare any area a wildlife sanctuary, national park or closed area.
- **Reserve forests:** They are the **most restricted forests and are constituted by the State Government** on any forest land or wasteland which is the property of the Government. In reserved forests, **local people are prohibited**, unless specifically allowed by a Forest Officer in the course of the settlement.
- **Community Forest Resource:** According to **Section 2(a) of the Forest Rights Act**, it is the **customary common forest land** within the traditional or customary boundaries of the village or seasonal use of landscape in the case of pastoral communities, including reserved forests, protected forests and protected areas such as sanctuaries and national

What do we know about Golden Langurs?

- Scientific Name: *Trachypitecus geei*
- About: Golden 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 region 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:
 - The Central Zoo Authority, New Delhi entrusted the state zoo with the project for the conservation breeding of golden langur in Assam in 2011.
 - The recorded estimation in Assam in 2009 was 5,140. Census in 2020 could not be completed due to the Covid-19 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

Gaps in Enforcement of Green Legislations

Why in the News?

Between 2014 and 2019, the Ministry of Environment, Forest and Climate Change (MoEFCC) has granted over 11,500 environment and forest clearances.

- However, the Government's development roadmap is criticised for ignoring the climate change conservation commitments on account of weak political will and the absence of an effective compliance mechanism.

What is the Legal Framework of Environment Protection in India?

- Constitutional Provisions:
 - Article 48A of the Constitution specifies that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.
 - Article 51A further provides that every citizen shall protect the environment.

- Statutory Provisions:
 - Wildlife Protection Act, 1972
 - Forest (Conservation) Act, 1980
 - Environment (Protection) Act, 1986
 - National Green Tribunal (NGT) Act, 2010
 - Coastal Regulation Zone Notification, 2011
 - Environment Impact Assessment(EIA), 2006

What are Issues in Enforcement of Environmental Laws in India?

- Shortage of Personnels: The Union Environment Ministry has less than 80 officials for field verification under green laws, who are expected to visit thousands of project sites at least once a year.
- Lack of Political Will: In 2006, a report by the Organisation for Economic Co-operation and Development (OECD) blamed the "absence of strong political will" for significant funding limitations faced by all environmental institutions in India.
 - This condition has remained the same more or less.
- Dilution of Green Clearances: Instead of strengthening the monitoring mechanism and applying effective punitive tools, successive governments have relied on amnesty (post-facto clearance), incentives (subsidies) or self-certification that helped cut non-compliance.
- No Public Participation: The Green legislations in India are silent about the public participation as regards environmental protection.
 - There is a need to involve the citizens in environmental protection to check arbitrariness and raise awareness and empathy towards the environment.

What are some examples of Violations of Green Legislations in India?

- Ken-Betwa Link Project (KBLP):
 - Ever since it was proposed in the mid-90s, KBLP has been considered unviable by several experts for its immense environmental cost.
 - The project was rejected in 2011, only to be revived with a techno-economic clearance in 2016.
 - In 2017, its forest clearance was made conditional on compensating for the diversion of 60.17 sq km of forest land by adding an equal extent of revenue land to the Panna tiger reserve.

- Arunachal Pradesh:
 - For 17 years, both the Environment ministry and the state have been ignoring the most crucial condition imposed by the Supreme Court in 2004 for clearing the 2,000-MW Subansiri project
 - The Ministry issued the final forest clearance to the twice-rejected 3,000-MW Dibang multipurpose project despite being made aware that Arunachal had not complied with the key precondition of declaring the catchment forests as a national park.

Sovereign Green Bonds

Why in News?

Recently, the Finance Minister in the Budget 2022 announced that the government proposes to issue sovereign green bonds to mobilise resources for green infrastructure.

- The proceeds will be deployed in public sector projects which help in reducing the carbon intensity of the economy.
- The announcement is in sync with India's commitment to achieving net-zero carbon emissions by 2070.

What are Green Bonds?

- Green bonds are issued by companies, countries and multilateral organisations to exclusively fund projects that have positive environmental or climate benefits and provide investors with fixed income payments.
- The projects can include renewable energy, clean transportation and green buildings, among others.
- Proceeds from these bonds are earmarked for green projects. This is unlike standard bonds, the proceeds of which can be utilised for various purposes at the discretion of the issuer.
- The international green bond market has seen cumulative issuance worth more than USD 1 trillion since market inception in 2007.
- By the end of 2020, 24 national governments had issued Sovereign Green, Social and Sustainability bonds totalling a cumulative USD 111 billion dollars, according to the London-based Climate Bonds Initiative.

What is the Significance of Sovereign Guarantee to Green Bonds?

- Sovereign green issuance sends a powerful signal of intent around climate action and sustainable development to governments and regulators.
- It will catalyze domestic market development and provides impetus to institutional investors.
- It will provide benchmark pricing, liquidity and a demonstration effect for local issuers, helping to support the growth of a local market.
- With the IEA's World Energy Outlook 2021, estimating that 70% of the additional USD 4 trillion spending to reach net-zero is required in emerging/developing economies, sovereign issuance can help kickstart these large inflows of capital.

What are Other Measures on Climate Action announced in the Budget?

- The budget included several measures on climate action such as:
 - Battery swapping policy.
 - Additional allocation under the PLI scheme for manufacturing high efficiency solar modules.
 - The government is introducing a new bill that aims to provide a regulatory framework for Carbon, Trading in India to encourage penetration of renewables in the energy mix.

Coal Gasification

Why in News

Recently, the Delhi-based non-profit, Centre for Science and Environment (CSE), has raised concerns about the Union Government's announcement on coal gasification projects in the Budget 2022-23.

- The budget proposed four pilot projects for coal gasification and conversion of coal into chemicals required for the industry.
- According to CSE, the process of coal gasification is not attractive from a climate change point of view.

What is Coal Gasification?

- Process: Coal gasification is a process in which coal is partially oxidised with air, oxygen, steam or carbon dioxide to form a fuel gas.

- This gas is then used instead of piped natural gas, methane and others for deriving energy.
- In-situ gasification of coal – or Underground Coal Gasification (UCG) – is the technique of converting coal into gas while it is still in the seam and then extracting it through wells.
- Production of Syngas: It produces Syngas which is a mixture consisting primarily of methane (CH₄), carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂) and water vapour (H₂O).
- Syngas can be used to produce a wide range of fertilizers, fuels, solvent and synthetic materials.
- Significance: Steel companies typically use coking coal in their manufacturing process. Most of the coking coal is imported and is expensive.
 - To cut costs, plants can use syngas, which comes from coal gasification plants in the place of coking coal.
 - It is primarily used for electricity generation, for the production of chemical feedstocks.
 - The hydrogen obtained from coal gasification can be used for various purposes such as making ammonia, powering a hydrogen economy.
- It is an envisioned future where hydrogen is used as fuel for vehicles, energy storage and long-distance transport of energy.
- The different pathways to use hydrogen economy includes hydrogen production, storage, transport and utilization.
 - In 1970, the term ‘**Hydrogen Economy**’ was coined by **John Bockris**.
 - He mentioned that a hydrogen economy can replace the current hydrocarbon-based economy, leading to a cleaner environment.

What are the Concerns associated with Coal Gasification Plants?

- Environmental Perspective: Coal gasification actually produces more carbon dioxide than a conventional coal-powered thermal power plant.
 - According to CSE estimates, one unit of electricity generated by burning gasified coal generates 2.5 times more carbon dioxide than what would result when burning the coal directly.
- Efficiency Perspective: The syngas process converts a relatively high-quality energy source (coal) to a lower quality state (gas) and consumes a lot of energy in doing so.
 - Thus, the efficiency of conversion is also low.

Koalas as Endangered Species: Australia

Why in News?

Recently, Australia has officially classified koalas as ‘endangered’.

Why classified as Endangered and its Significance?

- Classification as Endangered:
 - Australia’s Koala population has been on the road to extinction for over two decades now. The number of Koalas in NSW (New South Wales) declined by between 33% and 61% since 2001.
 - But despite several demands by animal rights groups and conservationists, the government has been accused of doing little to protect the species. Koalas were classified as “vulnerable” only in 2012.

What is the Hydrogen Economy?

- It is an economy that relies on **hydrogen as the commercial fuel** that would deliver a substantial fraction of a nation’s energy and services.
- Hydrogen is a **zero-carbon fuel** and is considered an **alternative to fuel** and a key source of clean energy.
- It can be produced from **renewable sources of energy such as solar and wind**.

- During the catastrophic 2019 bushfires in Australia, now known as the ‘Black Summer’, an estimated 60,000 koalas were impacted, with vast swathes of their habitat being blackened and rendered unliveable.
- Another major threat is the spread of chlamydia, a sexually transmitted disease known to cause blindness and cysts in the koalas reproductive tract.
- Significance:
 - The Endangered status of the koala means they and their forest homes should be provided with greater protection under Australia’s national environmental law.

What are the Key Things about Koalas?

- About:
 - Koala is (*Phascolarctos cinereus*) an arboreal (lives in trees) marsupial.
 - A marsupial is born in a very incomplete state. They are minute, hairless and with hind limbs only partially formed. Around 2/3rd

of them live in Australia. The other third live mostly in South America.

- Instead of the placenta, the mother’s milk nourishes the young and allows it to grow and develop.
- They share a number of characteristics with wombats, who are their closest living relatives, including a backward-facing pouch.
- Habitat:
 - The typical habitat for Koalas is open eucalypt woodlands, and the leaves of these trees make up most of their diet. In terms of societal behavior, Koalas are asocial animals and typically emotional bonding is seen only between mothers and dependent offspring.
 - They are endemic to Australia.
 - Due to the low nutrient levels of the Eucalyptus leaves they feed on, the koala can sleep up to 18 hours each day.
- IUCN status:
 - Vulnerable
- Threats:
 - Habitat destruction, climate change & severe weather (Droughts, extreme temperatures).

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History

Highlights

- 100 Years of Chauri Chaura Incident
- Maharaja Surajmal
- Philosopher-saint Ramanujacharya

100 Years of Chauri Chaura Incident

Why in News?

Recently, the Prime Minister paid tribute to the heroes of freedom struggle on completion of the hundred years of Chauri Chaura incident.

- Chauri Chaura is a town in Gorakhpur district of Uttar Pradesh.
- On 4th February, 1922, this town witnessed a violent incident - a large crowd of peasants set fire to a police station that killed 22 policemen. Due to this incident, Mahatma Gandhi called off the Non-Cooperation Movement (1920-22).

What is the Background of the Incident?

- On 1st August, 1920, Gandhiji had launched the Non-Cooperation Movement against the government.
 - It involved using swadeshi and boycott of foreign goods, especially machine made cloth, and legal, educational and administrative institutions, “refusing to assist a ruler who misrules”.
- In the winter of 1921-22, volunteers of the Congress and the Khilafat Movement were organized into a national volunteer corps.
 - Khilafat Movement was a pan-Islamic force in India that arose in 1919 in an effort to salvage the Ottoman caliph as a symbol of unity among the Muslim community in India during the British raj.
 - The Congress supported the movement and Mahatma Gandhi sought to conjoin it to the Non-Cooperation Movement.

What was the incidence of Chauri Chaura and the Aftermath reactions?

- Chauri Chaura Incident:
 - On 4th February, volunteers congregated in the town, and after the meeting, proceeded in a procession to the local police station, and to picket the nearby Mundera bazaar.
 - The police fired into the crowd killing some people and injuring many volunteers.
 - In retaliation, the crowd proceeded to set the police station on fire.
 - Some of the policemen who tried to escape were caught and battered to death. A lot of police property, including weapons, was destroyed.
- Reaction of the British:
 - The British Raj prosecuted the accused aggressively.
 - A sessions court quickly sentenced 172 of the 225 accused to death. However, ultimately, only 19 of those convicted were hanged.
- Reaction of Mahatma Gandhi:
 - He condemned the crime of the policemen’s killing. The volunteer groups in nearby villages were disbanded, and a Chauri Chaura Support Fund was set up to demonstrate “genuine sympathy” and seek atonement.
 - Gandhi decided to stop the Non-Cooperation Movement, which he saw as having been tainted by unforgivable violence.
 - He bent the Congress Working Committee to his will, and on 12th February, 1922, the satyagraha (movement) was formally suspended.
 - Gandhi on his part, justified himself on grounds of his unshakeable faith in non-violence.

- Reaction of Other National Leaders:
 - Jawaharlal Nehru and other leaders leading the Non-Cooperation movement were shocked that Gandhiji had stopped the struggle when the civil resistance had consolidated their position in the freedom movement.
 - Other leaders like Motilal Nehru and CR Das recorded their dismay at Gandhi's decision and decided to establish the Swaraj Party.

What did the suspension of the Movement result into?

- The disillusionment resulting from the suspension of the Non-Cooperation Movement nudged many of the younger Indian nationalists towards the conclusion that India would not be able to throw off colonial rule through non-violence.
- It was from the ranks of these impatient patriots that some of India's most of the revolutionaries came into picture like Jogesh Chatterjee, Ramprasad Bismil, Sachin Sanyal, Ashfaqulla Khan, Jatin Das, Bhagat Singh, Bhagwati Charan Vohra, Masterda Surya Sen, and many others.
- Besides, sudden termination of the Non-Cooperation Movement disillusioned the Khilafat movement leaders that created a rift between Congress and the muslim leaders.

Maharaja Surajmal

Why in News?

Recently, the Prime Minister has paid tributes to Maharaja Surajmal on his Jayanti.

Who was Maharaja Surajmal?

- He ruled in the 18th century and was the son of the Jat chieftain Badan Singh.
- He was a great leader, a great fighter, a great diplomat and a great statesman of his time.
- He was described as "the Plato of the Jat people" and by a

modern writer as the "Jat Odysseus", because of his political sense, steady intellect and clear vision.

- He united various factions of Hindus and Muslims and kept them together.
- He took care of the historical monuments built by the kings of other religions and employed people according to their abilities in higher posts, irrespective of their races.
- He believed that humanity is the only religion of man.
- He visualized "India as one nation" and devoted his life in forging national integration.
- Maharaja Surajmal considered farmers as the most important section of the society and had a lot of respect for them.
 - He personally identified the problems of the farmers and introduced reforms to rectify them.
- Some institutions that have been named after him include the Maharaja Surajmal Institute of Technology and Maharaja Surajmal Brij University, Bharatpur.
- It is believed that the Maharaja died in battle in December of 1763 beside the Hindon river, after being ambushed by the army of Mughal chief Najib-ad-Dawlah.

What about the Military Career of Maharaja Surajmal?

- He had a good relationship with Maharaja Jai Singh of the princely state of Jaipur.
 - After the death of Jaisingh, his sons Ishwari Singh and Madho Singh started fighting over the princely status as the heirs.
- Surajmal wanted to make the elder son Ishwari Singh the next heir of the princely state, while Maharana Jagat Singh of Udaipur state was in favor of making the younger son Madho Singh the King.
- In the event of this difference, the fight over the throne started. Ishwari Singh won the struggle in March 1747. The battle did not completely end here.
- Madho Singh returned to the battlefield with the Marathas, Rathores, and Sisodia Kings of Udaipur. In such an environment, king Surajmal reached the battlefield with 10,000 soldiers to support Ishwari Singh.
- In this war, Ishwari Singh was victorious and he got the royal text of Jaipur. After this battle, the dunk of Maharaja Surajmal started ringing all over India.

- Later on 1st January 1750 Maharaja Surajmal crushed the Mughal army of Salabat Khan and forced the latter to accept all his terms.
- Later during the civil war among the Mughal Maharaja Surajmal plundered old Delhi in support of Safdar Jung.
- By 1753, Maharaja Surajmal had extended his jurisdiction to Delhi and Feroz Shah Kotla. Angered by this, the Nawab of Delhi, Ghaziuddin instigated the Maratha chieftains against Surajmal.
- The Marathas attacked Bharatpur. He surrounded the fort of Kumher for several months.
 - The Marathas could not capture Bharatpur in this attack, but they had to pay the price of this attack in the form of the death of Khanderao Holkar, son of Maratha Sardar Malharrao. After some time the Marathas made a treaty with Surajmal.
- Surajmal had built the impregnable Lohagarh Fort, which the British could not penetrate even after attacking 13 times.
 - This is the only fort in the country, which has always been impenetrable.

What is the relation between Maharaja Surajmal and the third Battle of Panipat?

- The Third Battle of Panipat was fought between the Marathas and the invading armies of Afghan general Ahmed Shah Abdali in 1761.
- The battle, fought about 90 km north of Delhi, was won by the Afghans and left about 40,000 troops of the Marathas dead.
 - Maharaja Surajmal was among those who played key roles in the battle.
- After the battle, the Marathas lost their preeminent position in north India, which ultimately paved the way for British colonial powers to take over.

**Philosopher-saint
Ramanujacharya**

Why in News ?

The Prime Minister will inaugurate the Statue of Equality, a statue of Ramanujacharya, on the outskirts of Hyderabad, Telangana.

- India is celebrating his 1,000th birth anniversary as the ‘Festival of Equality’, upholding the view that the world is one family, ‘vasudhaiva kutumbakam’,”

What Are the Basic Facts About Statue ?

- It is a 216-feet tall statue, which is made of ‘panchaloha’, a combination of five metals: gold, silver, copper, brass, and zinc.
- It is among one of the tallest metallic statues in sitting position in the world.
- The statue is mounted on a 54-feet high base building named ‘Bhadra Vedi’. It has floors devoted for a vedic digital library and research center, ancient Indian texts, a theater, an educational gallery detailing many works of Sri Ramanujacharya.

Who was Ramanujacharya ?

- Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is revered as a Vedic philosopher and social reformer.
- He was named Lakshmana at the time of his birth. He was also referred to as Ilaya Perumal which means the radiant one.
- He traveled across India, advocating equality and social justice.
- He revived the Bhakti movement, and his preachings inspired other Bhakti schools of thought. He is considered to be the inspiration for poets like Annamacharya, Bhakta Ramdas, Thyagaraja, Kabir, and Meerabai.
- He is famous as the chief proponent of Vishishtadvaita subschool of Vedānta.
 - VishishtAdvaita (literally “Advaita with uniqueness; qualifications”) is a non-dualistic school of Vedanta philosophy.

- It is non-dualism of the qualified whole, in which Brahman alone is seen as the Supreme Reality, but is characterized by multiplicity.
- He went on to write nine scriptures known as the navaratnas, and composed numerous commentaries on Vedic scriptures.
- Ramanuja's most important writings include his commentary on the Vedanta Sutras (the Sri Bhasya, or "True Commentary"), and his commentary on the Bhagavad-Gita (the Gitabhasya, or "Commentary on the Gita").
- His other writings include the Vedartha Samgraha ("Summary of the Meaning of the Veda"), the Vedantasara ("Essence of Vedanta"), and Vedantadipa ("Lamp of Vedanta").
- He has also stressed the need of being in tune with nature and not to over-exploit.

Why is it called the Statue of Equality ?

- Ramanuja was an advocate of social equality among all sections of people centuries ago, and

encouraged temples to open their doors to everyone irrespective of caste or position in society at a time when people of many castes were forbidden from entering them.

- He took education to those who were deprived of it. His greatest contribution is the propagation of the concept of "vasudhaiva kutumbakam", which translates as "all the universe is one family".
- He traveled across India for several decades, propagating his ideas of social equality and universal brotherhood from temple podiums.
- He embraced the socially marginalized and condemned, and asked royal courts to treat them as equals.
- He spoke of universal salvation through devotion to God, compassion, humility, equality, and mutual respect, which is known as Sri Vaishnavam Sampradaya.
- Ramanujacharya liberated millions from social, cultural, gender, educational, and economic discrimination with the foundational conviction that every human is equal regardless of nationality, gender, race, caste, or creed.



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Geography

Highlights

- Warming of High Altitude Himalayas
- Coastal Vulnerability Index
- Bomb Cyclone

Warming of High Altitude Himalayas

Why in News?

According to a recent study, water vapour exhibits a positive radiative effect at the Top of the Atmosphere (TOA), suggesting an increase in overall warming in the High Altitude Himalayas due to it.

What is Water Vapour?

➤ About:

- Water vapour is the **state of water** when it is in the hydrosphere.
- It can be achieved by water evaporation or boiling of water or by sublimation of ice. Water vapour is the most dominant of greenhouse gases.
- In fact, **95% of greenhouse gases** are water vapour. Increased levels of carbon dioxide increase water vapour, which leads to warmer temperatures.

➤ Significance:

- Water vapour plays a **dominant role in the radiative balance and the hydrological cycle.**
- It is a **principal element in the thermodynamics of the atmosphere**, it transports latent heat, it contributes to absorption and emission in a number of bands and **it condenses into clouds that reflect and absorb solar radiation**, thus **directly affecting the energy balance.**

What Does the Recent Research Say?

- It shows the atmospheric radiative effect due to Precipitable Water Vapour (PWV) is about 3-4 times higher compared to aerosols, resulting in atmospheric heating rates of 0.94 and 0.96 K Day⁻¹ (K=Kelvin) at Nainital and Hanle, respectively.

- Radiative forcing or effect is the change in energy flux in the atmosphere caused by natural or anthropogenic factors of climate change as measured by watts / metre². It is a scientific concept used to quantify and compare the external drivers of change to Earth's energy balance.
- The results highlight the importance of PWV and aerosol radiative effects in the climate-sensitive Himalayan region.
- The researchers assessed the combination of aerosols and water vapour radiative effects over the Himalayan range that is specifically important for regional climate and highlighted the importance of water vapour as a key greenhouse gas and climate forcing agent over the Himalayan region.
- The study will provide a comprehensive investigation of the combined impact of aerosols and water vapour on the radiation budget.
 - The Earth radiation budget (ERB) is a combination of the broadband fluxes of solar radiation reflected by Earth and the fluxes of longwave radiation absorbed and emitted by Earth and its atmosphere.

What is Precipitable Water Vapour ?

- It is one of the most rapidly varying components in the atmosphere and is mainly accumulated in the lower troposphere.
 - Troposphere: The troposphere is the lowest layer of Earth's atmosphere and most of the mass (about 75-80%) of the atmosphere is in the troposphere. Most types of clouds are found in the troposphere, and almost all weather occurs within this layer.
- It is equivalent to the depth of liquid water that would result if all the water vapor in the atmospheric column is condensed and precipitated, and is used to diagnose the atmospheric humidity over a specific location.

Why are Such Studies Needed?

- Due to the large variability of PWV in space and time, mixing processes and contribution to a series of heterogeneous chemical reactions, as well as sparse measurement networks, especially in the Himalayan region, it is difficult to accurately quantify the climatic impact of PWV over space and time.
- Moreover, aerosol-cloud-precipitation interactions over this region, which are one of the most climatic-sensitive regions, are poorly understood, apparently due to a lack of proper observational data.

What are the Himalayas?

- About:
 - The Himalayas are the highest and the youngest fold mountain ranges of the world.
 - Their geological structure is young, weak and flexible since the Himalayan uplift is an ongoing process, making them one of the highest earthquake-prone regions of the world.
 - It separates India, along its north-central and northeastern frontier, from China (Tibet).
- Area:
 - The Indian part of Himalayas covers an area about 5 lakh km² (about 16.2% of the country's total geographical area) and forms the northern boundary of the country.
 - The region is responsible for providing water to a large part of the Indian subcontinent. Many rivers considered holy like the Ganga and Yamuna flow from the Himalayas.
- Ranges:
 - The Himalayas are a series of parallel mountain ranges extending along the North-West to the

South-East direction (known as the Strike of the Himalayas). These ranges are separated by longitudinal valleys. They include,

- Trans-Himalayas
- The Greater Himalayas or Himadri
- The Lesser Himalayas or Himachal
- Shiwaliks or the Outer Himalayas
- The Eastern Hills or Purvanchal

Coastal Vulnerability Index

Why in News?

Recently, the Indian National Centre for Ocean Information Services (INCOIS) has carried out a coastal vulnerability assessment for the entire Indian coast at States level.

- The assessment has been conducted to bring out an Atlas comprising 156 maps on 1:1,00,000 scales to prepare a Coastal Vulnerability Index (CVI).

What is Coastal Vulnerability?

- Coastal vulnerability is a **spatial concept that identifies people and places that are susceptible to disturbances** resulting from coastal hazards.

- Hazards in the coastal environment, such as coastal storms, sea level rise and erosion, pose significant threats to coastal physical, economic, and social systems.

What is the Coastal Vulnerability Index?

- The maps will determine the coastal risks due to future sea-level rise based on the physical and geological parameters for the Indian coast.
- The CVI uses the relative risk that physical changes will occur as sea-level rises are quantified based on parameters like:
 - Tidal range
 - Wave height
 - Coastal slope
 - Coastal elevation
 - Shoreline change rate
 - Geomorphology
 - Historical rate of relative sea-level change.

What is a Coastal Multi-Hazard Vulnerability Mapping ?

- A coastal Multi-Hazard Vulnerability Mapping (MHVM) was also carried out using above mentioned parameters.
- These parameters were synthesised to derive the composite hazard zones that can be inundated along the coastal low-lying areas due to extreme flooding events.
- This MHVM mapping was carried for the entire mainland of India on a 1:25000 scale.

What is the Significance of CVI?

- Coastal vulnerability assessments can be useful information for coastal disaster management and building resilient coastal communities.
 - India has a coastline of 7516.6 Km i.e. 6100 km of mainland coastline plus coastline of 1197 Indian islands touching 13 States and Union Territories (UTs).

What is INCOIS?

- INCOIS is an autonomous organisation under the Ministry of Earth Sciences (MoES).
- It is located in Hyderabad & was established in 1999. It is a unit of the Earth System Science Organisation (ESSO), New Delhi.
 - The ESSO operates as an executive arm of the Ministry of Earth Sciences (MoES) for its policies and programmes.
- It is mandated to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvement through systematic and focused research.

Bomb Cyclone

Why in News?

Recently, 'Bomb cyclone' hits eastern US, which triggers transport chaos, outages.

What is a Bomb Cyclone?

- About:
 - A bomb cyclone is a large, intense midlatitude storm that has low pressure at its center, weather fronts and an array of associated weather, from blizzards to severe thunderstorms to heavy precipitation.
 - Bomb cyclones put forecasters on high alert, because they can produce significant harmful impacts.
- Reasons for the Formation:
 - This can happen when a cold air mass collides with a warm air mass, such as air over warm ocean waters. The formation of this rapidly strengthening weather system is a process called bombogenesis.

- It occurs when a midlatitude cyclone rapidly intensifies, dropping at least 24 millibars over 24 hours.
 - A millibar measures atmospheric pressure.

How does a Bomb Cyclone differ from a Hurricane?

- Hurricanes tend to form in tropical areas and are powered by warm seas. For this reason, they're most

common in summer or early fall, when seawater is warmest.

- Bomb cyclones generally occur during colder months because cyclones occur due to cold and warm air meeting. During the summer, there's generally not much cold air across the atmosphere; this means a bomb cyclone is much less likely to occur.
- Hurricanes form in tropical waters, while bomb cyclones form over the northwestern Atlantic, northwestern Pacific and sometimes the Mediterranean Sea.



Art and Culture

Highlights

- World Heritage Nomination 2022-2023

World Heritage Nomination 2022-2023

Why in News?

Recently, the Union Ministry of Culture has nominated Sacred Ensembles of the Hoysalas temples for consideration as a World Heritage site for the year 2022-2023.

- The sacred ensembles of the Hoysalas, built in the 12th-13th centuries and represented by the three components of Belur, Halebid and Somnathapura in Karnataka. All these three Hoysala temples are protected monuments of the Archaeological Survey of India (ASI).
- The 'Sacred Ensembles of the Hoysala' have been on UNESCO's Tentative list since 15th April, 2014 and stand testimony to the rich historical and cultural heritage of India.
- Earlier, the UNESCO's World Heritage Centre (WHC) had agreed to publish Hindi descriptions of India's UNESCO World Heritage Sites on the WHC website.

What are the Features of Belur, Halebid, and Somnathapura temples ?

- Chennakeshava Temple, Belur:
 - Construction of the temple commenced in 1117 AD and took 103 years to complete.
 - The temple is dedicated to Lord Vishnu known as Chennakesava, which means beautiful (chenna) Vishnu (Keshava).
 - The richly sculptured exterior of the temple narrates scenes from the life of Vishnu and his reincarnations and the epics, Ramayana, and Mahabharata.
 - However, some of the representations of Shiva are also included.

- Hoysaleshwara Temple, Halebidu:
 - The Hoysaleshwara temple at Halebidu is the most exemplary architectural ensemble of the Hoysalas extant today.
 - Built in 1121CE during the reign of the Hoysala King, Vishnuvardhana Hoysaleshwara.
 - The temple, dedicated to Shiva, was sponsored and built by wealthy citizens and merchants of Dorasamudra.
 - The temple is most well-known for the more than 240 wall sculptures that run all along the outer wall.
 - Halebid has a walled complex containing three Jaina basadi (temples) of the Hoysala period as well as a stepped well.
- Keshava Temple, Somanathapura:
 - The Keshava temple at Somanathapura is another magnificent Hoysala monument, perhaps the last.
 - This is a breathtakingly beautiful Trikuta Temple dedicated to Lord Krishna in three forms – Janardhana, Keshava and Venugopala.

- Unfortunately, the main Keshava idol is missing, and the Janardhana and Venugopala idols are damaged.

What are the Characteristics of Hoysala Architecture?

- Hoysala architecture is the building style developed under the rule of the Hoysala Empire between the 11th and 14th centuries, mostly concentrated in southern Karnataka.
- Hoysala temples are sometimes called hybrid or vesara as their unique style seems neither completely Dravida nor Nagara, but somewhere in between.
 - The Hoysala temples have a basic Dravidian morphology but show strong influences of the Bhumija mode widely used in Central India, the Nagara traditions of northern and western India, and the Karnataka Dravida modes favoured by the Kalyani Chalukyas.
 - Therefore, the Hoysala architects made considered and informed eclectic selections of features from other temple typologies which they further modified and then complemented with their own particular innovations.
 - The result was the birth of a completely novel 'Hoysala Temple' form.
- The Hoysala temples, instead of consisting of a simple inner chamber with its pillared hall, contain multiple shrines grouped around a central pillared hall and laid out in the shape of an intricately-designed star (stellate-plan).
- Since they are made out of soapstone which is a relatively soft stone, the artists were able to carve their sculptures intricately. This can be seen particularly in the jewellery of the gods that adorn their temple walls.

What is a World Heritage Site?

- About:
 - Any of various areas or objects inscribed on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List.
 - The sites are designated as having "outstanding universal value" under the Convention Concerning the Protection of the World Cultural and Natural Heritage 1972.
 - The World Heritage Centre is the Secretariat to the 1972 Convention.
 - It provides a framework for international cooperation in preserving and protecting cultural treasures and natural areas throughout the world.
 - There are three types of sites: Cultural, Natural, and Mixed.
 - Cultural heritage sites include hundreds of historic buildings and town sites, important archaeological sites, and works of monumental sculpture or painting. Example: Dholavira: a Harappan City.
 - Natural heritage sites are restricted to those natural areas that have excellent ecological and evolutionary processes, unique natural phenomena, habitats of rare or endangered species etc. Example: Great Himalayan National Park Conservation Area.
 - Mixed heritage sites contain elements of both natural and cultural significance. Example: Khangchendzonga National Park.
- No. of World Heritage Sites in India: India has 40 world heritage sites, including 32 cultural properties, 7 natural properties and 1 mixed site. Dholavira: a Harappan City is the recent addition.
- Nomination Process: As per Operational Guidelines, 2019 of UNESCO, it is mandatory to put any monument/site on the Tentative List (TL) for one year before it is considered for the final nomination dossier.
 - Once the nomination is done, it is sent to the World Heritage Centre (WHC), which will do the technical scrutiny of the same.
 - Once the submission is made, UNESCO will communicate back by early March. After that the site evaluation will happen in September / October 2022 and the dossier will be taken up for consideration in July / August 2023.



Security

Highlights

- *BrahMos Export to Philippines*

- *Parliamentary Panel Report on Police Reforms*

BrahMos Export to Philippines

Why in News?

Recently, Philippines has signed a deal with BrahMos Aerospace Private Ltd. for the supply of a shore-based anti-ship variant of the BrahMos supersonic cruise missile. This is the first export order for the missile, a joint product of India and Russia.

- The Philippines wants to induct this missile amid tensions with China over the disputed islands in the South China Sea.
- Several countries have shown interest in acquiring the BrahMos missile. For example, discussions are in advanced stages with Indonesia and Thailand.

What are the features of BrahMos Missile?

- BrahMos is a joint venture between the Defence Research and Development Organisation of India (DRDO) and the NPOM of Russia.
 - BrahMos is named on the rivers Brahmaputra and Moskva.
- It is a two-stage (solid propellant engine in the first stage and liquid ramjet in second) missile.
- It is a multiplatform missile i.e it can be launched from land, air, and sea and multi capability missile with pinpoint accuracy that works in both day and night irrespective of the weather conditions.
- It operates on the “Fire and Forgets” principle i.e it does not require further guidance after launch.
- Brahmos is one of the fastest cruise missiles currently operationally deployed with speed of Mach 2.8, which is nearly 3 times more than the speed of sound.
- Recently, an Advance Version of BrahMos (extended range sea-to-sea variant) was test fired.

Following India’s entry into the MTCR (Missile Technology Control Regime) club in June 2016, the range is planned to be extended to 450 km and to 600km at a later stage.

- The BrahMos missile was initially developed with a range capped at 290 km.

What is Missile Technology Control Regime (MTCR)?

- It is an **informal and voluntary partnership among 35 countries** to prevent the proliferation of missile and unmanned aerial vehicle technology capable of carrying greater than **500 kg payload for more than 300 km**.
- The members are thus **prohibited from supplying such missiles and UAV systems that are controlled by the MTCR to non-members**.
- The decisions are taken by **consensus of all the members**.
- This is a non-treaty association of member countries with certain guidelines about the information sharing, national control laws and export policies for missile systems and a rule-based regulation mechanism to limit the transfer of such critical technologies of these missile systems.
- It was established in **April 1987** by G-7 countries—USA, UK, France, Germany, Canada, Italy, and Japan.

What is the Status of India’s Defence Exports?

- Defence exports are a pillar of the government’s drive to attain self-sufficiency in defence production.
- Over 30 Indian defence companies have exported arms and equipment to countries like Italy, Maldives, Sri Lanka, Russia, France, Nepal, Mauritius, Sri Lanka, Israel, Egypt, UAE, Bhutan, Ethiopia, Saudi Arabia, Philippines, Poland, Spain and Chile.
- The exports include personal protective items, defence electronics systems, engineering mechanical

equipment, offshore patrol vessels, advanced light helicopters, avionics suits, radio systems and radar systems.

- However, India’s defense exports are still not upto the expected lines.
 - The Stockholm International Peace Research Institute (SIPRI) ranked India at number 23 in the list of major arms exporters for 2015-2019.
 - India still accounts for only 0.17% of global arms exports.
- Reason for dismal performance in India’s Defense exports is that, India’s Ministry of Defense so far has no dedicated agency to drive exports.
 - Exports are left to individual corporations, like BrahMos or the defence public shipyards and undertakings.
- In this context, the KPMG report titled ‘Defence Exports: Untapped Potential recommends the first step of setting up of an exclusive “defence export help desk”.
 - On the basis of inputs from the help-desk, the report says, Indian companies could work with government machinery to realise exports.
- If India is successful in providing big-ticket military systems to countries in the neighbourhood, it won’t just be a boost for defence exports but will also be a strategic step to counter China’s influence as it provides defence products in Asia, including Pakistan, Bangladesh and Myanmar.

Parliamentary Panel Report on Police Reforms

Why in News?

Recently, the Parliamentary standing committee on home affairs has tabled a report on Police- training, modernisation and reforms. The report highlights the number of reforms required and challenges faced by the Police forces.

What are the Key Points of the Report?

- Addressing Women Under-representation: The report asked the Centre to advise states and Union Territories to create a road map for ensuring 33%

representation of women in police while expressing anguish over their underrepresentation.

- The appointment of women in police may be done by creating additional posts rather than converting the vacant posts of men.
- Ensuring higher women representation will also help in improving the police-population ratio.
- States and union territories should assign important challenging duties to women instead of those of inconsequence. It recommended at least one all-women police station in each district.
- Managing Stress of Police Personnels: It recommended offline and online modules to help them de-stress through yoga, exercises, counseling and treatment.
- Separation of Law Enforcement & Investigation Wing: It called for the separation of investigation from law and order to maintain accountability and increase police autonomy in probing crimes.
 - This will lead to specialisation and professionalism, speed up the investigation and secure the convictions.
- Virtual Trails: The panel backed virtual trials, particularly those involving high-risk groups, via videoconferencing.
 - It will help in dedicating less police force for escorting under-trial prisoners to courts and also save resources.
- Addressing Poor Conditions of Police: The committee expressed disappointment over the poor housing satisfaction levels among police personnel and recommended an allocation of funds for housing.
 - In the 21st century India, there are police stations without telephones or proper wireless connectivity especially in many sensitive states like Arunachal Pradesh, Odisha and Punjab.
- People-friendly Policing: Policing system should be transparent, independent, accountable and people-friendly.
- Lax Implementation of Law: The committee expressed concern that even after 15 years, only 17 States have either enacted the Model Police Act, 2006, or amended the existing Act.
 - The progress in police reforms has been slow.
 - It recommends that the MHA (Ministry of Home Affairs) may put the information in public domain about the states that are leading and lagging in the modernization process.

- **Community Policing:** Community policing should be promoted, as it involves a cooperative effort between police and the communities where both can work together to solve the crime and crime-related problems.
- **Border Police Training:** Advise the state police and central armed police forces to train and liaison with people living in the border areas for gathering intelligence on infiltration, use of drones and drug trafficking.
- **Pool of Anti-drone Technology:** For drones, the panel directed the MHA to create a central pool of anti-drone technology “at the earliest” and give its access to all states and Union Territories.
- **Under-Utilisation of Funds:** The committee observed that the under-utilisation of funds by the states for police modernisation needs to be identified.
 - It recommended that the MHA should consider constituting a committee which can visit the

underperforming states and assist them to utilize the funds in a planned manner.

What is the Meaning of Police Reforms?

- Police reforms aim to transform the values, culture, policies and practices of police organizations.
- It envisages police to perform their duties with respect for democratic values, human rights and the rule of law.
- It also aims to improve how the police interact with other parts of the security sector, such as the courts and departments of corrections, or executive, parliamentary or independent authorities with management or oversight responsibilities.
- Police come under the state list of schedule 7 of the Indian constitution.

Committees/Commissions on Police Reforms

What are the Issues Concerning Police Forces?

- **Colonial Legacy:** The Police Act of 1861 was legislated by the British right after the revolt of 1857 to bring in efficient administration of police in the country and to prevent any future revolts.
- **Accountability to the Political Executives vs Operational Freedom:** The Second Administrative Reforms Commission (ARC-2007) has noted that political control has been abused in the past by the political executive to unduly influence police personnel, and have them serve personal or political interests.
- **Psychological Pressure:** In the Indian police force, the lower ranks of police personnel are often verbally abused by their superiors or they work in inhuman conditions.
- **Public Perception:** The Second ARC has noted that police-public relations is in an unsatisfactory State because people view the police as corrupt, inefficient, politically partisan and unresponsive.
- **Overburdened Force:** While the sanctioned police strength was 181 police per lakh persons in 2016, the actual strength was 137 police.

- This is way too low when compared with the United Nations’ recommended standard of 222 police per lakh persons.
- **Constabulary Related Issues:** The constabulary constitutes 86% of the State police forces and has wide-ranging responsibilities.
- **Infrastructural Issues:** Modern policing requires strong communication support, state-of-the-art or modern weapons, and a high degree of mobility.
 - However, CAG audit reports of year 2015-16, have found shortages in weaponry with state police forces.
 - Also, the Bureau of Police Research and Development has also noted a 30.5% deficiency in stock of required vehicles with the state forces.

What Other Reforms can be Brought?

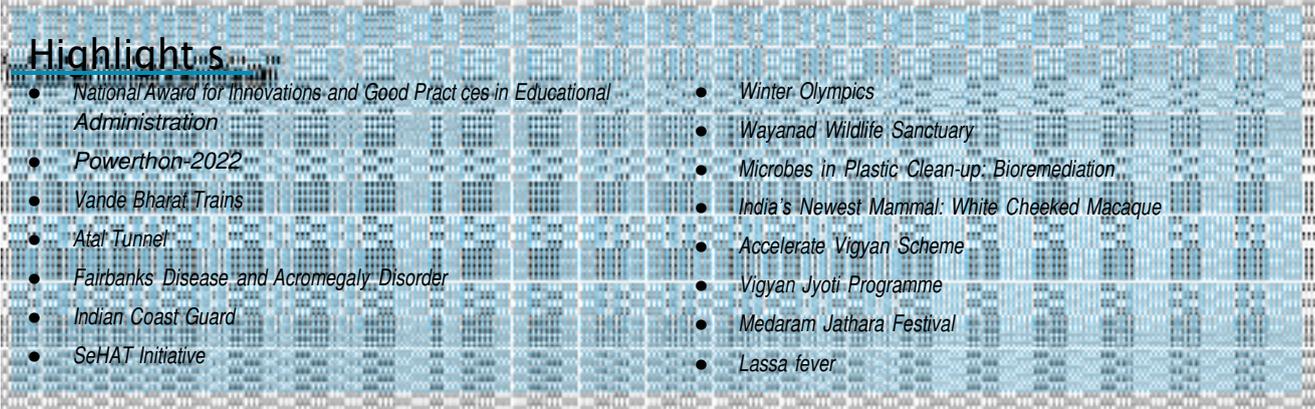
- **Modernisation of Police Forces:** The Modernisation of Police Forces (MPF) scheme was initiated in 1969-70 and has undergone several revisions over the years.
 - However, there is a need to fully utilize the finances sanctioned by the government.

- MPF scheme envisages:
 - Procurement of modern weapons
 - Mobility of police forces
 - Logistics support, upgradation of police wireless, etc
 - A National satellite network
- Need For Political Will: The Supreme Court in the landmark Prakash Singh case (2006) gave seven directives where considerable work in police reforms is still needed.
 - However, due to the lack of political will these directives were not implemented in letter and spirit in many states.
- Revamping Criminal Justice System: Along with Police reforms, there is a need to reform the criminal justice system too. In this context, the recommendations of the Menon and Malimath Committees can be implemented. Some of the key recommendations are as follows:
 - Creation of a fund to compensate victims who turn hostile from the pressure of culprits.
 - Setting up separate authority at the national level to deal with crimes threatening the country's security.
 - A complete revamp of the entire criminal procedure system.

■■■



Miscellaneous



National Award for Innovations and Good Practices in Educational Administration

Why in News?

Recently, the Ministry of Education presented the 5th National Award for Innovations and Good Practices in Educational Administration (IGPEA).

- The National Institute of Educational Planning and Administration (NIEPA) has instituted the National Award for IGPEA for District and Block Level Education Officers.
- NIEPA, under the Ministry of Education, is a premier organization dealing with capacity building and research in planning and management of education not only in India but also in South Asia.

What are the key things about the award ?

- About:
 - It was launched by NIEPA in 2014 with an aim to encourage innovations and good practices in educational administration at grassroot level for improving the functioning of the public system of education.

➤ Objectives:

- To recognise innovative ideas and practices adopted by the district and block level education officers for effective management of the educational administrative system at the district and block levels.

➤ Significance:

- The educational officers at the field level are also an essential link between system level administration and institutional level management of education. Role of these officers is crucial in the process of implementation of policies and programmes at the field level.
- Some of the major areas wherein the officers have initiated many interventions include – the use of ICT to the extent of digital classrooms, use of Facebook and WhatsApp; mobilization of physical, human and financial resources; improving infrastructure facilities within the schools, community mobilization and support; skill building, especially language skills; capacity building of the teachers and interventions related to enhancement in the quality of the overall function of the schools.

Powerthon-2022

Why in News?

Recently, the Ministry of Power has launched Powerthon-2022.

What is Powerthon-2022?

- It is a hackathon competition under RDSS (Revamped Distribution Sector Scheme) to find technology driven solutions to solve the complex problems in power distribution.
- The hackathon will see participation from startups, Technology Solution Providers (TSPs), educational and research institutions, equipment manufacturers and state power utilities and other power entities.
- The nine themes for the hackathon are -- demand/load forecasting, AT&C (Aggregate Technical and Commercial) loss reduction, energy theft detection, prediction of DT (Distribution Transformer) failure, asset inspection, vegetation management, consumer experience enhancement, renewable energy integration and power purchase optimisation.

What is RDSS ?

- It was approved by the Cabinet Committee on Economic Affairs in July 2021 to improve the operational efficiencies and financial sustainability of discoms (excluding Private Sector DISCOMs).
- It provides conditional financial assistance to strengthen the supply infrastructure of discoms (power distribution companies).
- All the existing power sector reforms schemes such as Integrated Power Development Scheme, Deen Dayal Upadhyaya Gram Jyoti Yojana, and Pradhan Mantri Sahaj Bijli Har Ghar Yojana will be merged into this umbrella program.
- The scheme will be available till 2025-26.
- RDSS is a Reform-based and Result-linked Scheme and the key objectives of RDSS are Reducing AT&C losses to 12-15%, eliminating the cost-revenue gap by 2024-25 and improving the quality & reliability of the power supply.

What are the other Schemes related to the Power Sector ?

- Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya).
- Integrated Power Development Scheme (IPDS).
- Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY).
- GARV (Grameen Vidyutikaran) App.
- Ujwal Discom Assurance Yojana (UDAY).
- **'4 Es' in the Revised Tariff Policy.**

Vande Bharat Trains

Why in News?

- In the Union Budget for 2022-2023, the Finance Minister has proposed the development and manufacture of 400 new Vande Bharat trains in the next three years.
- The 400 trains carry a potential investment of Rs 50,000 crore while the current Vande Bharats are being made at Rs 106 crore per train set of 16 cars, at 2018 pricing.
 - It comes in addition to the current plan — to be able to run 75 Vande Bharats across India by Independence Day in 2023.

What are Vande Bharat Trains?

- It is an indigenously designed and manufactured semi high speed, self-propelled train that is touted as the next major leap for the Indian Railways in terms of speed and passenger convenience since the introduction of Rajdhani trains.
- The first Vande Bharat was manufactured by the Integral Coach Factory (ICF), Chennai, as part of the 'Make in India' programme, at a cost of about Rs. 100 crore.
- The Vande Bharat was India's first attempt at adaptation of the train set technology compared with conventional systems of passenger coaches hauled by separate locomotives.
 - The train set configuration, though complex, is faster, easier to maintain, consumes less energy, and has greater flexibility in train operation.
- Currently, two Vande Bharat Expresses are operational — one between New Delhi and Varanasi and the other from New Delhi to Katra.
- The 400 new trains will have "better efficiency" and railways are looking at making several of these trainsets with aluminium instead of steel.
 - An aluminium body will make each trainset around 40-80 tonnes lighter than a current Vande Bharat and this will mean lower consumption of energy as well as better speed potential.

What are the Features of the Vande Bharat Trains?

- These trains, dubbed as Train 18 during the development phase, operate without a locomotive and

are based on a propulsion system called distributed traction power technology, by which each car of the train set is powered.

- Its coaches incorporate passenger amenities including on-board WiFi entertainment, GPS-based passenger information system, CCTVs, automatic doors in all coaches, rotating chairs and bio-vacuum type toilets like in aircraft.
- It can achieve a maximum speed of 160 kmph due to faster acceleration and deceleration, reducing journey time by 25% to 45%.
- It also has an intelligent braking system with power regeneration for better energy efficiency thereby making it cost, energy and environment efficient.

What is the Significance?

- The sheer manufacturing of 400 of these trainset equipment in three years will be additional employment generation to the tune of 10,000-15,000.
- The pumping in around Rs 50,000 crore into the country's rolling stock industry, will give a big boost in the sectors of component manufacturing, supplies etc.
- It will also improve railway finances and operational efficiency.

Atal Tunnel

Why in News?

Atal Tunnel has officially been certified by World Book of Records as the 'World's Longest Highway Tunnel above 10,000 Feet'.

- World Book of Records UK, is an organisation that catalogues and verifies extraordinary records across the world with authentic certification.
- It was built by the Border Roads Organisation (BRO).

What are the features of the Atal Tunnel?

- The 9.02-km tunnel is the longest highway tunnel in the world above the height of 3,000 metres.
- It cuts through a mountain west of the Rohtang pass and shortens the distance between Solang Valley and Sissu by around 46 km and takes around 15 minutes to cover. Earlier, it would take nearly 4 hours to travel between the two points.

- Rohtang Pass (elevation 3,978 m) is located in the state of Himachal Pradesh.
- It is present on the Pir Panjal Range of Himalayas.

How is this Tunnel Significant?

- All year Connectivity: The Atal tunnel is the first step towards all-year connectivity to Ladakh. The tunnel has the potential to link Ladakh to Manali and Chandigarh throughout the year, as it bypasses Rohtang Pass, which is snowed in through the winter months.
- Strategic: The tunnel provides a strategic advantage to the country's armed forces by providing year-long connectivity to border areas. It will save an entire day for troops and supplies as they move towards forward posts.
- Avail Basic Facilities: The residents of Ladakh who had to face immense hardship to avail even basic facilities like healthcare and food supplies now are able to reach Manali and connect with the rest of the country using this new tunnel. Essential commodities like petrol and vegetable supplies would also likely be available throughout the year.
- Boon for Farmers: The drop in travel time helps many, especially farmers whose precious crops like peas and potatoes will no longer rot in trucks before reaching the market.
- Boost to Tourism: The region has seen an unprecedented increase in the arrival of tourists, and in a little more than a year, the valley and the state have witnessed growth in the socio-economic domains.

Fairbanks Disease and Acromegaly Disorder

Why in News?

Recently, the Union Minister of State for Health and Family Welfare has informed the Rajya Sabha that Fairbanks Disease and Acromegaly Disorder's patients are getting treatment at various tertiary health facilities like Medical Colleges, Central Institutes like AIIMS at free or subsidized rates besides in tertiary care private hospitals.

What is Fairbank Disease?

- Fairbanks disease or multiple epiphyseal dysplasia (MED) is a rare genetic disorder (dominant form--1 in 10,000 births) which affects the growing ends of bones.
- Bones usually elongate by a process that involves the depositing of cartilage at the ends of the bones, called ossification.
- This cartilage then mineralizes and hardens to become bone. In MED, this process is defective.
- The Fairbank's disease (Multiple epiphyseal dysplasia) patient usually requires management of pain and orthopedic procedures, for which facilities are available at tertiary care institutions in India.

What is Acromegaly Disorder?

- Acromegaly is a hormonal disorder that leads to the abnormal growth of hands, feet and face.
- This disorder is mainly caused due to the excessive production of the Growth Hormone (GH) produced by the Pituitary gland.
 - The pituitary gland, a small gland situated at the base of your brain and called the Master Gland, as it synthesis some of the important hormones in the body.
 - Due to the excessive growth of this gland, the surrounding nerve tissues and optic nerves get compressed. This results in the growth of the bone and the enlargement of organs.
- Symptoms: Sleeplessness, Excess fatigue, A hoarse voice, Profuse sweating, Frequent headaches, Abnormal weight gain, Develop odour in the body, Enlargement of jaws or tongue etc.

Indian Coast Guard

Why in News

On 1st February 2022, Indian Coast Guard (ICG) celebrated its 46th Raising Day.

- ICG was established in August 1978 by the Coast Guard Act, 1978 as an independent Armed force of India.
- As the fourth largest Coast Guard in the world, it has played a significant role in securing the Indian coasts and enforcing regulations in the maritime zones of India.

What are the Functions of ICG?

- Background:
 - It is an Armed Force, Search and Rescue and Maritime Law Enforcement agency under the Ministry of Defence.
 - It is headquartered in New Delhi.
 - The concept of forming ICG came into being after the 1971 war.
 - The blueprint for a multidimensional Coast Guard was conceived by the visionary Rustamji Committee.
 - For effective command and control, the Maritime Zones of India are divided into five Coast Guard Regions, namely, North-West, West, East, North-East and Andaman & Nicobar, with the respective Regional Headquarters located at Gandhinagar, Mumbai, Chennai, Kolkata and Port Blair. .
- Functions:
 - Preventing Smuggling: One of the primary duties of the ICG is prevention of smuggling through maritime routes.
 - It has jurisdiction over the territorial waters of India including contiguous zone and Exclusive Economic Zone (EEZ).
 - It is responsible for marine environment protection in maritime zones of India and is coordinating authority for response to oil spills in Indian waters.
 - Aid to Civil Authority: It has also rescued approximately 13,000 personnel till date during various 'Aid to Civil Authority' operations viz. assistance provided to civil authorities during floods, cyclones and other natural calamities; most recently during the recent floods in Maharashtra, Karnataka and Goa.
 - It is also working in close coordination with Central and State agencies to put in place a robust coastal security mechanism.
 - Maritime Security: It is also collaborating with littoral countries to combat transnational maritime crimes and enhance maritime safety in its area of responsibility and in the Indian Ocean Region.
 - Under SAGAR' - Security and Growth for all in the Region & 'Neighbourhood First' policy, the ICG has nurtured professional relationships across oceans and established ties with countries in the Indian Ocean Region for Ocean Peacekeeping.

- Role in Disaster Management: The ICG has successfully averted major ecological disasters and emerged as the 'First Responder' in the region.
 - For example, by undertaking a major fire-fighting and pollution response operation off the Sri Lanka coast, the most recent being 'Sagar Aaraksha-II' onboard Chemical carrier MV X-Press Pearl.

SeHAT Initiative

Why in News?

The Ministry of Defence (MoD) has launched services for home delivery of medicines for veterans and serving military personnel services under an online medical consultation platform named Services e-Health Assistance and Teleconsultation (SeHAT).

What is SeHAT Initiative?

- It is the tri-services teleconsultation service of the MoD designed for all entitled personnel and their families.
- As part of the Government's commitment to Digital India and e-Governance, the Defence Minister launched SeHAT in May 2021.
- It aims to provide healthcare services to patients in their homes.
- SeHAT Stay Home OPD is based on the lines of eSanjeevani a similar free OPD service run by the MoHFW (Ministry of Health and Family Welfare) for all citizens.
- SeHATOPD is a patient to doctor system where the patient can consult a doctor remotely through the internet.

Winter Olympics

Why in News?

The Russian President, Pakistan Prime Minister and five Presidents from Central Asia will reach China for the opening of the Winter Olympics.

What is the Significance of the Visit?

- The Russian President will discuss the ongoing crisis with Ukraine with the Chinese President.

- China has close relations with Russia but has been largely silent on the crisis in Ukraine amid a build-up of Russian forces along its borders.
- The Pakistan Prime Minister is expected to discuss investments from China and speed up the China Pakistan Economic Corridor (CPEC) plan.
- China has also declared that it sought to discuss developing communications satellites for Pakistan and to cooperate on the construction of the Pakistan Space Centre.
- Due to the alleged human rights violations in the Xinjiang province of China, the US, the UK, Canada and Australia have announced a "diplomatic boycott" of the games.

What is the Winter Olympics?

- Winter Olympics is the premier competition for sports that are played on ice or snow.
- It is held every four years and features participants from across the world.
 - Ice skating, ice hockey, skiing and figure skating are some of the popular sports that are played at the Winter Games.
- The first Winter Olympics were held in 1924 in Chamonix, France.
- Winter sports were initially played at the Summer Olympics, with the 1908 London Olympics hosting four figure skating events and Antwerp 1920 having figure skating as well as ice hockey.
 - However, in 1924, a separate event was created for winter sports, called the International Winter Sports Week.
 - It was held in Chamonix, France – the host country for the 1924 Summer Olympics.
- Two years later, the International Winter Sports Week in Chamonix was officially recognised as the first Winter Olympic Games.
- This years' edition of the Winter Olympic Games will be held in Beijing, China from 4th February to 20th February 2022.
- India has been participating in the Winter Olympics since 1964.

Wayanad Wildlife Sanctuary

Why in News?

With the onset of summer, the seasonal migration of wild animals has begun from the adjacent wildlife sanctuaries in Karnataka and Tamil Nadu to the Wayanad Wildlife Sanctuary (WWS) in Kerala.

- The sanctuary is a haven for wild animals during summer owing to the easy availability of fodder and water throughout the year.

- Other wildlife parks within the Reserve are: Mudumalai Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Mukurthi National Park and Silent Valley.

- Spread over 344.44 sq km, Wayanad Wildlife Sanctuary is contiguous to the tiger reserves of Nagerhole and Bandipur of Karnataka and Mudumalai of Tamil Nadu.
- Kabini river (a tributary of the Cauvery river) flows through the sanctuary.
- The forest types include South Indian Moist Deciduous forests, West coast semi-evergreen forests and plantations of teak, eucalyptus and Grewelia.
- Elephant, Gaur, Tiger, Panther, Sambar, Spotted deer, Wild boar, Sloth bear, Nilgiri langur, Bonnet macaque, Common langur, Malabar giant squirrel etc are the major mammals.

Microbes in Plastic Clean-up: Bioremediation

Why in News?

A team of Argentine scientists is using microorganisms native to Antarctica to explore the idea of cleaning up pollution from fuels and, potentially, plastics in the pristine expanses of the white continent.

- The continent is protected by a 1961 Madrid Protocol that stipulates it must be kept in a pristine state.
- Over 300 million tons of plastic are produced every year for use in a wide variety of applications. At least 14 million tons of plastic end up in the ocean every year, and plastic makes up 80% of all marine debris found from surface waters to deep-sea sediments.

How was the Research carried out on Microbes?

- The researchers collected samples of plastic from the Antarctic seas and studied to see if the microorganisms are eating the plastics or simply using them as rafts.
- The team carried out bioremediation tasks.
- The team helped the microbes with nitrogen, humidity and aeration to optimize their conditions.
- This work uses the potential of native microorganisms - bacteria and fungi that inhabit the Antarctic soil, even when it is contaminated - and make these microorganisms eat the hydrocarbons.

Where is the Wayanad Wildlife Sanctuary Located?

- Located in Kerala, Wayanad Wildlife Sanctuary (WWS) is an integral part of the Nilgiri Biosphere Reserve. It was established in 1973.
 - Nilgiri Biosphere Reserve was the first from India to be included in the UNESCO designated World Network of Biosphere Reserves (designated in 2012).

- The tiny microbes munch through the waste, creating a naturally occurring cleaning system for pollution caused by diesel that is used as a source of electricity and heat for research bases in the frozen Antarctic.
- The research on how the microbes could help with plastic waste could have potential for wider environmental issues.

What is Bioremediation?

- It is a branch of biotechnology that employs the use of living organisms, like microbes and bacteria, in the removal of contaminants, pollutants, and toxins from soil, water, and other environments.
- Bioremediation is used to clean up oil spills or contaminated groundwater.
- Bioremediation may be done “in situ”—at the site of the contamination—or “ex situ”—away from the site.

What are the Benefits of Bioremediation?

- By relying solely on natural processes, it minimizes damage to ecosystems.
- Bioremediation often takes place underground, where amendments and microbes can be pumped in order to clean up contaminants in groundwater and soil.
 - Consequently, bioremediation does not disrupt nearby communities as much as other cleanup methodologies.
 - “Amendments” to the environment, such as molasses, vegetable oil, or simple air optimize conditions for microbes to flourish, thereby accelerating the completion of the bioremediation process.
- The bioremediation process creates relatively few harmful byproducts (mainly due to the fact that contaminants and pollutants are converted into water and harmless gases like carbon dioxide).

- Bioremediation is cheaper than most cleanup methods because it does not require substantial equipment or labor.

India’s Newest Mammal: White Cheeked Macaque

Why in News?

Recently, the Scientists from the Zoological Survey of India (ZSI) have found a new mammal species in the country — the White Cheeked Macaque (*Macaca leucogenys*).

- While the species was first discovered in China in 2015, its existence was not known in India before this.
- It is only now that Indian scientists have discovered its presence in the remote Anjaw district in central Arunachal Pradesh.
- The latest discovery takes India’s mammal count from 437 to 438.

What is Unique about White Cheeked Macaque?

- The White Cheeked Macaque has distinct white cheeks, long and thick hair on the neck and a longer tail than other Macaque species.
- It is the last mammal to have been discovered in Southeast Asia.
- Both the Arunachal macaque as well as the White Cheeked Macaque exist in the same biodiversity hotspot in the eastern Himalayas.
 - Along with White-Cheeked Macaques and Arunachal Macaque (*Macaca munzala*) the other species of Macaques are Assamese Macaque (*Macaca assamensis*) and Rhesus Macaque (*Macaca mulatta*) reported from the same landscape.

- The potential threat to all species of macaques in the landscape are due to hunting by locals for consumption and habitat degradation due to urbanisation and infrastructure development.
- This species is not covered by the Wildlife Protection Act of India, because till now it is not known that the species existed in India.

Accelerate Vigyan Scheme

Why in News?

Recently, the Science and Engineering Research Board (SERB), has invited applications under 'ABHYAAS', a program of 'Accelerate Vigyan' scheme, for summer season.

- SERB is an autonomous body of the Department of Science & Technology (DST), Union Ministry of Science & Technology.

What is the Accelerate Vigyan Scheme?

- "Accelerate Vigyan" (AV) strives to provide a big push to high-end scientific research and prepare a scientific workforce, which can venture into research careers and a knowledge-based economy.
- AV aims to expand the research base in the country, with three broad goals — consolidation / aggregation of all scientific training programs, initiating high-end orientation workshops and creating opportunities for training and skill internships.

What are the Components of the Accelerate Vigyan Scheme?

- ABHYAAS:
 - It is a program of AV scheme, is an attempt to boost research and development in the country by enabling and grooming potential postgraduate / PhD students by developing dedicated research skills in selected areas / disciplines / fields through its two components — high-end workshops ("KAARYASHALA") and Training and Skill Internship ("VRITIKA").
 - This is especially important for researchers with limited opportunities to access such learning capacities / facilities / infrastructure.
- SAMMOHAN: It has been sub-divided into SAYONJIKA and SANGOSHTI.

SAYONJIKA is an open-ended program to catalogue capacity building activities in science and technology supported by all government funding agencies in the country.

- SANGOSHTI is a pre-existing program of SERB for the organisation of workshops.

How are such Steps Helpful?

- Capacity Building: The database of skilled manpower developed across different disciplines through all the sub-components of the AV would help in capacity building.
- Social Responsibility: The scheme also seeks to garner the social responsibility of the scientific community in the country.

What are the Initiatives taken to boost S&T in Budget 2022-23?

- An outlay of **Rs 50,000 crore** was announced spread over five years, for National Research Foundation
 - It will ensure that the overall research ecosystem of the country is strengthened with focus on identified national-priority thrust areas.
- The budget also **declared the setting up of umbrella structures** in nine cities for building better synergies among R&D institutions, Universities and Colleges supported by the government while also retaining their internal autonomy.
 - This will be coordinated by the **Ministry of Education, and a Glue Grant** will be set aside for this purpose.
 - The **Department of Biotechnology** is implementing the **URJIT clusters** (University Research Joint Industry Translation Clusters) which are being set up in 10 locations as per the Budget Announcement in February 2020.
 - These will complement the activities of the

Vigyan Jyoti Programme

Why in News?

Recently, the Vigyan Jyoti programme was extended to 100 districts in its 2nd phase. Vigyan Jyoti Programme was launched by the Department of Science & Technology (DST), Ministry of Science and Technology.

- Further, DST is working proactively to bring gender parity in Science & Technology (S&T) domain through various women-centric programmes.

What are Highlights of the Vigyan Jyoti Programme?

- It aims to address the underrepresentation of women in different fields of Science Technology Engineering and Mathematics (STEM) in the country..
- As a first step, the “Vigyan Jyoti” has been introduced in the year 2019-20 at the school level wherein meritorious girl students of Class 9-12 are being encouraged to pursue higher education and career in STEM field.
- The Vigyan Jyoti envisaged hand-holding and interventions right from the school level i.e., Class IX and which will continue till the PhD level to encourage girls to pursue a career in underrepresented areas of STEM.
- The Navodaya Vidyalaya Samiti (NVS), an autonomous organization of the Ministry of Education, is the implementation partner of Vigyan Jyoti. NVS has a network of Jawahar Navodaya Vidyalayas (JNVs) in more than 600 districts of India.

What are Other Related Government Initiatives?

- **Women Scientists Scheme:** To help women with career-breaks.
- **Indo-US Fellowship for Women in STEMM (WISTEMM) program:** Women scientists can work in research labs in the US.
- **Consolidation of University Research for Innovation and Excellence in Women Universities (CURIE) programme:** Improving R&D infrastructure and establishing state-of-the-art research facilities in order to create excellence in S&T in women universities.
- **Gender Advancement for Transforming Institutions (GATI) program:** To develop a comprehensive Charter and a framework for assessing Gender Equality in STEM.
- The New Education Policy and the Science, echnology and Innovation Policy could make useof the demographic dividend to progress long in short time to help increase the number of womenin science.
- Further, DST has also additionally established **Artificial Intelligence (AI) labs in women universities** with the goal to foster AI innovations and to prepare skilled manpower for AI-based jobs in future.

Medaram Jathara Festival

Why in News?

Recently, the Ministry of Tribal Affairs has sanctioned Rs 2.26 Crores for various activities pertaining to Medaram Jathara 2022.

- Medaram Jatara is the second-largest fair of India, after the Kumbh Mela, celebrated by the second-largest Tribal Community of Telangana- the Koya tribe for four days.

What are the Key Points?

- Medaram Jatara is also known as Sammakka Saralamma Jatara.
- It is a tribal festival honoring the fight of a mother and daughter, Sammakka and Saralamma, with the reigning rulers against an unjust law.
- It is celebrated in the state of Telangana. The Jatra begins at Medaram in Tadvai Mandal in Warangal district.
 - Medaram is a remote place in the Eturnagaram Wildlife Sanctuary, a part of Dandakaranya, the largest surviving forest belt in the region.
- It is celebrated once in two years in the month of “Magha” (February) on the full moon day.
- People offer bangaram/gold (jaggery) of a quantity equal to their weight to the goddesses and take holy bath in Jampanna Vagu, a tributary to River Godavari.
- It was declared a State Festival in 1996.

What are the Important things about the Koya Tribe?

- **About:**
 - Koya tribe is the **largest adivasi tribe of Telangana** and listed as Scheduled Tribe in **Telangana**.
 - The community is **spread across Telugu speaking states of Telangana and Andhra Pradesh**.
 - Koyas popularly call themselves as **Dorala Sattam (Lords group) and Putta Dora (original lords)**. Koyas call themselves “Koitur” in their dialect, like Gonds.
- **Habitat and livelihood:**
 - The Godavari and Sabari rivers which are flowing through their area of habitation exercise profound influence on Koyas’ economic, social

- The Koyas are **mainly settled cultivators**. They grow Jowar, Ragi, Bajra and other millets.
- **Language:**
 - Many koya People have forgotten their Koya Dialect and adopted Telugu as their mother tongue but some in other parts still speak Koya dialect.
- **Religion and festival:**
 - Lord Bhima, Korra Rajulu, Mamili and Potaraju are the important deities to Koyas.
 - Their main festivals are Vijji Pandum (seeds charming festival) and Kondala Kolupu (festival to appease Hill deities).
 - Koyas perform a robust colourful **dance called Permakok ata** (Bison horn dance) during festivals and marriage ceremonies.

Lassa fever

Why in News?

Recently, three persons diagnosed with Lassa fever in the UK died. The cases have been linked to travel to west African countries.

What is Lassa Fever?

- **About:**
 - The Lassa fever-causing virus is found in West Africa and was first discovered in 1969 in Lassa, Nigeria.
 - The fever is spread by rats and is primarily found in countries in West Africa including Sierra Leone, Liberia, Guinea, and Nigeria where it is endemic.

- Mastomys rats have the potential to spread the deadly Lassa virus.
- The death rate associated with this disease is low, at around 1%. But the death rate is higher for certain individuals, such as pregnant women in their third trimester.
- According to the European Centre for Disease Prevention and Control, about 80% of the cases are asymptomatic and therefore remain undiagnosed.
- **Transmission:**
 - A person can become infected if they come in contact with household items of food that is contaminated with the urine or feces of an infected rat (zoonotic disease).
 - It can also be spread, though rarely, if a person comes in contact with a sick person's infected bodily fluids or through mucous membranes such as the eyes, nose or the mouth.
 - Person-to-person transmission is more common in healthcare settings.
- **Symptoms:**
 - Mild symptoms include slight fever, fatigue, weakness and headache.
 - Serious symptoms include bleeding, difficulty breathing, vomiting, facial swelling, pain in the chest, back, and abdomen and shock.
 - Death can occur from two weeks of the onset of symptoms, usually as a result of multi-organ failure.
- **Treatment:**
 - The antiviral drug ribavirin seems to be an effective treatment for Lassa fever if given early on in the course of clinical illness.

