

**GOVERNANCE****Pravasi Bharatiya Divas**

Pravasi Bharatiya Divas (PBD) is celebrated on 9th January every year to mark the contribution of Overseas Indian community in the development of India.

On the occasion, several events such as PBD Convention, Pravasi Bharatiya Samman Award and Bharat ko Janiye Quiz are organised.

**Key Points****Background:**

- 9th January was chosen as the day to celebrate PBD since it was on this day in 1915 that Mahatma Gandhi, the greatest Pravasi, returned to India from South Africa, led India's freedom struggle and changed the lives of Indians forever.
- PBD Conventions: These are held once every two years.
- PBD 2021: The 16th PBD Convention was held virtually in New Delhi. The theme was "Contributing to Aatmanirbhar Bharat".
- Chief Guest: President of Suriname Chandrikapersad Santokhi.

**Highlights:****Response to the Pandemic:**

- Despite dependence on critical things like PPE kits, masks, ventilators or testing kits, India developed its capabilities not only to become self-reliant but started exporting many things.
- India's drugs regulator has approved the Oxford Covid-19 vaccine Covishield, manufactured by the Serum Institute, and indigenously developed Covaxin of Bharat Biotech for restricted emergency use in the country.

**Use of Technology:**

- India is using technology to end corruption (Direct Benefit Transfer).
- Further, India's space programme and tech start-up ecosystem is a leader in the global sphere.

**Recent Initiatives:**

- Including New Education Policy 2020 and Production Linked Subsidies Scheme.

**Initiatives for Indian Diaspora:**

- Vande Bharat Mission, in which more than 45 lakh Indians were rescued during Corona times.
- Skilled Workers Arrival Database for Employment Support (SWADES), an initiative for returning immigrants from the Gulf and other areas.
- Global Pravasi Rishta Portal for better connectivity and communication with the Pravasi Bharatiyas.

**75th Anniversary of India's Freedom (2021):**

- The Prime Minister asked the members of the diaspora and people in Indian Missions world over to prepare a portal, a digital platform where contribution of the Pravasi Bharatiyas in the freedom struggle of India can be documented.

**Pravasi Bharatiya Samman Award:**

- It is the highest honour conferred on a Non-Resident Indian, Person of Indian Origin; or an organisation or institution established and run by Non-Resident Indians or Persons of Indian Origin, who have made significant contribution in better understanding of India abroad, support India's causes and concerns in a tangible way, community work abroad, welfare of local Indian community, philanthropic and charitable work, etc.
- During the PBD convention, select eminent Indian diaspora members are awarded the Pravasi Bharatiya Samman Awards in the presence of the President of India.
- 30 Winners of the 2021 Award: Including Suriname President Chandrikapersad Santokhi, Curacao Prime Minister Eugene Rhuggenaath and New Zealand minister Priyanca Radhakrishnan.

**Third Edition Bharat ko Janiye Quiz (2021):**

It was launched in 2015-16 in order to strengthen the engagement with young overseas Indians (18-35) and encourage them to know more about their country of origin.

The first edition was held in 2015-16 and the second one in 2018-19.

Fifteen winners of the Quiz were announced during the PBD convention and will be invited for an India Tour (Bharat ko Janiye Darshan) after Covid.

**INTERNATIONAL RELATIONS****China's Rising Influence in South Asia**

China has held its third multilateral dialogue virtually with countries from South Asia to take forward closer cooperation on fighting Covid-19 and coordinating their economic agendas, reflecting a new approach in Beijing's outreach to the region.



### Key Points

#### Participating countries:

- It brought together every country in the region barring India, Bhutan and the Maldives, and was aimed at “anti-epidemic cooperation and poverty reduction cooperation”.
- The recent meeting was attended by all five countries that have taken part in these dialogues: Pakistan, Nepal, Afghanistan, Sri Lanka and Bangladesh.
- All three dialogues have been attended by Pakistan and Nepal.

#### Engagements through other Platforms:

- Previously at the July quadrilateral dialogue with Afghanistan, Nepal and Pakistan, China's proposed extending the China-Pakistan Economic Corridor (CPEC) to Afghanistan, as well as taking forward an economic corridor plan with Nepal, called the Trans-Himalayan Multi-dimensional Connectivity Network.

#### Other Initiatives by China to Enhance Engagement in South Asia:

- According to the American Enterprise Institute's China Global Investment Tracker, China has committed around 100 billion USD in the economies of Afghanistan, Bangladesh, the Maldives, Pakistan, Nepal and Sri Lanka.
- China is now the largest overseas investor in the Maldives, Pakistan, and Sri Lanka.

#### Afghanistan:

- Beijing was a part of the trilateral China-Pakistan-Afghanistan foreign ministers dialogue which focuses on facilitating Afghan domestic political reconciliation, enhancing regional connectivity, and improving regional common development.
- The trilateral discussions also agreed to push “forward under the Belt and Road Initiative (BRI)” and “to enhance connectivity by extending the CPEC to Afghanistan”.

#### Bangladesh:

- China and Bangladesh pledged to deepen defense cooperation, especially in the areas of “defense industry and trade, training, equipment and technology.”
- China is also the largest arms supplier of the Bangladeshi military, providing 71.8% of weapons from 2008 to 2018.

#### Bhutan

- It does not have diplomatic relations with China.

**Maldives:**

- China's relationship with the Maldives is near-exclusively focused on leveraging BRI to develop Maldives as well as to raise Chinese influence there to counter India.

**Nepal:**

- Chinese President went to Nepal in 2019.
- This was the first visit by a Chinese head of state in 23 years.
- The countries have signed agreements to accelerate Infrastructure building in Nepal and improve connectivity between them.
- Both the countries have also announced the launch of a feasibility study of the China-Nepal cross-border railway.

**Sri Lanka:**

- Sri Lanka handed over Hambantota port on a 99-year lease to China to repay its loan back to china. Hambantota is geostrategically located on the Indian Ocean, potentially bolstering Beijing's String of Pearls.

**Concerns for India:**

**Security Concerns:**

- Growing cooperation between Pakistan and China.
- Increasing nexus between Nepal and China.
- Acceptance to China-Pakistan Economic Corridor by south asian countries.

**Leadership Roles in South Asia:**

- It shows increasing chinese presence in south asia and its acceptance by the countries as a torch bearer for the region which India wants for itself.

**Economic Concerns:**

- Over the past decade, China has replaced India as the major trading partner of several South Asian countries. For instance, the share of India's trade with Maldives was 3.4 times that of China's in 2008. But by 2018, China's total trade with Maldives slightly exceeded that of India.
- China's trade with Bangladesh is now about twice that of India. China's trade with Nepal and Sri Lanka still lags India's trade with those countries but the gap has shrunk.

**Way forward**

India does not have the economic capacity as China. Thus it should cooperate with China for the development of these countries such that fruits of development collectively reach South Asia. It should also strongly condemn the plans for extension of the China-Pakistan Economic Corridor. Further India should invest in these countries where China falls short and maintain its good will in South Asia and prevent these nations from slipping off from India's Influence.

**SCIENCE & TECHNOLOGY**

**Quantum Technology**

The detailed project report for a National Mission on Quantum Technology and Applications (NMQTA) has been drawn out and finalised.

**केन्द्रीय बजट UNION BUDGET 2020**

**Budget 2020 announced Rs 8,000 crore over the next 5-yrs in the National Mission on Quantum technology and its applications**

- The areas of focus for the NM-QTA Mission will be in fundamental science, translation, technology development and towards addressing issues concerning national priorities
- The mission can help prepare next generation skilled manpower, boost translational research and also encourage entrepreneurship and start-up ecosystem development.
- Quantum principles will be used for engineering solutions to extremely complex problems in computing, communications, sensing, chemistry, cryptography, imaging and mechanics
- Their applications which will be boosted include those in aero-space engineering, numerical weather predictions, simulations, securing the communications & financial transactions, cyber security, advanced manufacturing, health, agriculture, education
- It can bring India in the list of few countries with an edge in this emerging field will have a greater advantage in garnering multifold economic growth and dominant leadership role

- Union Budget 2020-21 proposed to spend Rs 8,000 crore on the newly launched NMQTA.

- In 2018, the Department of Science & Technology unveiled a programme called Quantum-Enabled Science & Technology (QuEST) and committed to investing Rs. 80 crore over the next three years to accelerate research.
- The mission seeks to develop quantum computing linked technologies amidst the second quantum revolution and make India the world's third-biggest nation in the sector after the US and China.

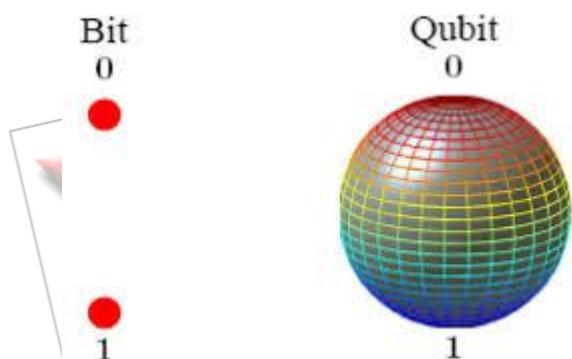
**Key Points**

**About Quantum Technology/Computing:**

- Quantum Technology is based on the principles of Quantum mechanics that was developed in the early 20th century to describe nature at the scale of atoms and elementary particles.
- The first phase of this revolutionary technology has provided the foundations of our understanding of the physical world, including the interaction of light and matter, and led to ubiquitous inventions such as lasers and semiconductor transistors.
- A second revolution is currently underway with the goal of putting properties of quantum mechanics in the realms of computing.

**Difference Between Conventional and Quantum Computing:**

- Conventional computers process information in 'bits' or 1s and 0s, following classical physics under which our computers can process a '1' or a '0' at a time.
- Quantum computers compute in 'qubits' (or quantum bits). They exploit the properties of quantum mechanics, the science that governs how matter behaves on the atomic scale.
- In this scheme of things, processors can be a 1 and a 0 simultaneously, a state called quantum superposition.
- Because of quantum superposition, a quantum computer — if it works to plan — can mimic several classical computers working in parallel.



**Properties of Quantum Computing:**

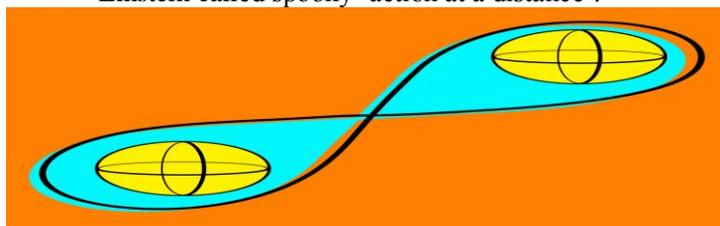
The basic properties of quantum computing are superposition, entanglement, and interference.

**Superposition:**

- It is the ability of a quantum system to be in multiple states simultaneously.
- The example of superposition is the flip of a coin, which consistently lands as heads or tails—a very binary concept. However, when that coin is in mid-air, it is both heads and tails and until it lands, heads and tails simultaneously. Before measurement, the electron exists in quantum superposition.

**Entanglement:**

- It means the two members of a pair (Qubits) exist in a single quantum state. Changing the state of one of the qubits will instantaneously change the state of the other one in a predictable way. This happens even if they are separated by very long distances.
- Einstein called spooky 'action at a distance'.



**Interference:**

- Quantum interference states that elementary particles(Qubits) can not only be in more than one place at any given time (through superposition), but that an individual particle, such as a photon (light particles) can cross its own trajectory and interfere with the direction of its path.

**Applications of Quantum Technology:****Secure Communication:**

- China recently demonstrated secure quantum communication links between terrestrial stations and satellites.
- This area is significant to satellites, military and cyber security among others as it promises unimaginably fast computing and safe, unhackable satellite communication to its users.

**Research:**

- It can help in solving some of the fundamental questions in physics related to gravity, black hole etc.
- Similarly, the quantum initiative could give a big boost to the Genome India project, a collaborative effort of 20 institutions to enable new efficiencies in life sciences, agriculture and medicine.

**Disaster Management:**

- Tsunamis, drought, earthquakes and floods may become more predictable with quantum applications.
- The collection of data regarding climate change can be streamlined in a better way through quantum technology.

**Pharmaceutical:**

- Quantum computing could reduce the time frame of the discovery of new molecules and related processes to a few days from the present 10-year slog that scientists put in.

**Augmenting Industrial revolution 4.0:**

- Quantum computing is an integral part of Industrial revolution 4.0.
- Success in it will help in Strategic initiatives aimed at leveraging other Industrial revolution 4.0 technologies like the Internet-of-Things, machine learning, robotics, and artificial intelligence across sectors will further help in laying the foundation of the Knowledge economy.

**Challenges Associated with Quantum Computing:**

- The dark side of quantum computing is the disruptive effect that it can have on cryptographic encryption, which secures communications and computers.
- It might pose a challenge for the government also because if this technology goes into wrong hands, all the government's official and confidential data will be at a risk of being hacked and misused.

**Way Forward**

Long after the birth of social media and artificial intelligence, there are now demands to regulate them. It would be prudent to develop a regulatory framework for quantum computing before it becomes widely available.

It will be better to regulate it or define the limits of its legitimate use, nationally and internationally before the problem gets out of hand like nuclear technology.

**BIODIVERSITY & ENVIRONMENT****CAFE-2 Regulations and BS-VI Stage II Norms**

The auto industry has requested the government to defer the implementation of Corporate Average Fuel Efficiency (CAFE-2) regulations and BS-VI stage II norms to April 2024, given the impact of the lockdown measures.

As of now, the CAFE-2 norms and BS-VI stage II norms are set to come into effect in 2022 and April 2023 respectively.

**Key Points****Corporate Average Fuel Efficiency (CAFE-2) Regulations:****About:**

- CAFE or Corporate Average Fuel Efficiency/Economy regulations are in force in many advanced as well as developing nations, including India.
- They aim at lowering fuel consumption (or improving fuel efficiency) of vehicles by lowering Carbon dioxide (CO<sub>2</sub>) emissions, thus serving the twin purposes of reducing dependence on oil for fuel and controlling pollution.

- Corporate Average refers to sales-volume weighted average for every auto manufacturer. The idea of CAFÉ is to push manufacturers to achieve fuel efficiency targets by producing and selling more fuel-efficient models, including electric vehicles

**Launch in India:**

- The CAFÉ standards were first notified in 2017 by the Union Ministry of Power (MoP) under Energy Conservation Act, 2001.
- The regulation is in accordance with the fuel consumption standards of 2015 that aim to increase fuel efficiency of vehicles road by 35% by 2030.
- The Ministry of Road Transport and Highways (MoRTH) is the nodal agency responsible for monitoring and reporting a summary of annual fuel consumption by automobile manufacturers at the end of each fiscal year.
- The regulation was introduced in two target phases: Carbon dioxide emission target of 130 gram/kilometre by 2022-23 and 113 g/km 2022-23 onwards.

**Applicability:**

- The norms are applicable for petrol, diesel, Liquefied Petroleum Gas (LPG) and Compressed Natural Gas (CNG) passenger vehicles.

**BS-VI Stage II Norms:**

- Bharat Stage (BS) emission standards are laid down by the government to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment, including motor vehicles.
- These standards are targeted at making improvements in three areas - emission control, fuel efficiency and engine design.
- The central government has mandated that vehicle makers must manufacture, sell and register only BS-VI (BS6) vehicles from 1st April, 2020.
- BS-VI is equivalent to Euro-VI norms currently in place across countries in Europe.
- As per BS-VI emission norms, petrol vehicles will have to effect a 25% reduction in their NO<sub>x</sub>, or nitrogen oxide emissions. Diesel engines will have to reduce their HC+NO<sub>x</sub> (hydro carbon + nitrogen oxides) by 43%, their NO<sub>x</sub> levels by 68% and particulate matter levels by 82%.
- Sulphur content in fuel is a major cause for concern. BS-VI fuel's sulphur content is much lower than BS-IV fuel. It is reduced to 10 mg/kg max in BS-VI from 50 mg/kg under BS-IV.

Some of the measures to be introduced from 2023 onwards include deciding the confirmatory factor for in-service compliance, market surveillance and independent verification testing of in-use vehicles by regulatory authorities, adoption of more stringent driving cycle for emissions testing, public disclosure of emissions data by the manufacturers on publicly accessible websites, and on-board fuel consumption meters among others.

**IMPORTANT FACTS FOR PRELIM**
**Jagannath Temple**

Recently, the Shree Jagannath Temple Administration (SJTA) announced that devotees don't need to produce their Covid-19 negative report for getting entry into the shrine in Puri from January 21.

- At present devotees entering the temple have to show Covid--19 negative reports.
- The temple opened to the public from 3rd January after remaining closed for nine months in the wake of the pandemic.

**Key Points**

- The temple is believed to be constructed in the 12th century by King Anantavarman Chodaganga Deva of the Eastern Ganga Dynasty.
- Jagannath Puri temple is called 'Yamanika Tirtha' where, according to the Hindu beliefs, the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- This temple was called the "White Pagoda" and is a part of Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram).
- There are four gates to the temple- Eastern 'Singhdwara' which is the main gate with two crouching lions, Southern 'Ashwadwara', Western 'Vyaghra Dwara and Northern 'Hastidwara'. There is a carving of each form at each gate.
- In front of the entrance stands the **Aruna stambha** or sun pillar, which was originally at the Sun Temple in Konark.

**DAILY ANSWER WRITING PRACTICE**

**Qns. During the Industrial revolution the deplorable working conditions of labourers especially for the women and children negated the sense of employment. Comment. (150 words)**

Ans:

The transformation of industry and the economy in Britain between the 1780s and the 1850s is called the first industrial revolution. This had far-reaching effects in Britain. Later, similar changes occurred in European countries and in the USA. In most of these countries overall working conditions of labour were poor and sometimes even dangerous. Unlike today, all the workers during the Industrial Revolution were expected to work long hours or they would lose their jobs.

After the Industrial Revolution, women and children got work all round the year unlike the seasonal jobs in farms. Their income rose to usher in them economic self-reliance. However, the deplorable working conditions in the factories and mills negated this sense of self-development:

**Monotonous and inhumane working conditions:** There was no arrangement for aesthetics and leisure for labourers even when the factories had long unbroken hours in the same kind of work. Besides, the women and children were subjected to stricter discipline and sharp forms of punishment.

**Absence of safety:** Machinery like the cotton spinning jenny was designed to be used by child workers with their small build and nimble fingers. Children were often employed in textile factories because they were small enough to move between tightly packed machinery. Cases of permanent injury without adequate compensation were quite common in those times.

**Exorbitant working hours and cruelty:** The long hours of work, including cleaning the machines on Sundays, allowed them little fresh air or exercise. Children caught their hair in machines or crushed their hands, while some died when they fell into machines as they dropped off to sleep from exhaustion.

**Exploitation of vulnerabilities:** The earnings of women and children were necessary to supplement men's meagre wages. As the use of machinery spread and fewer workers were needed, industrialists preferred to employ women and children who would be less agitated about their poor working conditions and work for lower wages than men.

**Employment in hazardous mines:** Coal mines were also dangerous places to work in. Roofs caved in or there could be an explosion, and injuries were therefore common. The owners of coal mines used children to reach deep coal faces or those where the approach path was too narrow for adults. Younger children worked as 'trappers' who opened and shut doors as the coal wagons travelled through mines, or carried heavy loads of coal on their backs as 'coal bearers.'

**No standards on minimum working age:** Factory managers considered child labour to be important training for future factory work. The evidence from British factory records reveals that about half of the factory workers had started work when they were less than ten years old and nearly one-fourth when they were under 14.

**Absence of welfare measures:** Lack of social security, insurance, safe working conditions and amenities like creche made the children and women workers suffer even more.

**Conclusion**

Thus, women and children may have gained increased financial independence and self-esteem from their jobs in the Industrial revolution but this was more than offset by the humiliating terms of work they endured.

**DAILY QUIZ**

1. Consider the following statements:

1. The Corporate Average Fuel Efficiency (CAFE) standards have been notified by the Union Ministry of Power.
2. The fuel consumption standards of 2015 aims to increase fuel efficiency of vehicles road by 35% by 2030.
3. The Union Ministry of Power is the nodal agency for monitoring and reporting annual fuel consumption by automobile manufacturers.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

2. Consider the following statements:

1. Pravasi Bharatiya Divas (PBD) is celebrated to commemorate the return of Mahatma Gandhi to India in 1915.
2. The Pravasi Bharatiya Samman Award is conferred to the institutions established by the overseas Indians.

Which of the statements given above is/are not correct:

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2**

3. Consider the following statements:

1. Mukundpura CM2 is the most primitive meteorite and a remnant of the first solid bodies to accrete in the solar system.
2. The Mukundpura CM2 is classified to be a carbonaceous chondrite.
3. The composition of carbonaceous chondrites are similar to the Sun.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 3 only
- d) 1, 2 and 3**

4. Consider the following statements:

1. China is the largest overseas investor in the Maldives, Pakistan, and Sri Lanka.
2. Bhutan does not have diplomatic relations with China.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2**
- d) Neither 1 nor 2

5. Consider the following statements:

1. The temple was constructed by King Anantavarman Chodaganga Deva of the Eastern Ganga Dynasty.
2. It is a part of Char Dham pilgrimages.
3. It is also called 'Yamanika Tirtha'.

The above statements most appropriately describing which of the following temples in India?

- a) Jagannath Puri temple**
- b) Rameshwaram Temple
- c) Venkateswara Temple
- d) Konark Temple