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# **CURRENT AFFAIRS**

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## GS 2 : Polity, Governance, International Relations

### 1. The outdated nature of bureaucracy

#### Background:

- The COVID-19 pandemic has been a major challenge to public administration and has tested the resilience of all public institutions.
- The **bureaucracy is being blamed for its ineffective response to the COVID-19 crisis.**
- Academicians and public administration experts have pointed out the **outdated nature of public bureaucracy** for its ineffectiveness.

#### Concerns:

#### Continued reliance on traditional bureaucratic structures:

- The article laments the fact that even in this 21st century, democratic countries are still relying on **traditional bureaucracies (Weberian bureaucracy model)** to perform public policy formulation and implementation roles despite such structures having outlived their relevance.
- Some of the major lacunae with respect to the Weberian bureaucratic approach are as follows:
  - Continued **preference for generalists over specialists**
    - In such a system, specialists in every government department have to remain subordinate to the generalist officers despite their superior domain knowledge.
    - The COVID-19 pandemic has exposed the weakness of such an approach. The lack of authority to healthcare professionals who are specialists to carry out policy formulation can be counted as one of the major lacunae in our policy response to the pandemic.
  - Weberian bureaucracy prefers **leadership of position over leadership of function.**
    - Leadership of function is when a person has expert knowledge of a particular responsibility in a particular situation and is capable of and authorized to respond to evolving situations rather than relying on dictation from someone occupying a particular position.
    - This acts as a major **limitation for decentralized governance which is more effective.** This has resulted in a situation where

the bureaucracy has become an end in itself rather than a means to an end, which is, improved governance and socio-economic development of the society.

- The **rigid adherence to rules** in the traditional bureaucratic structure has been an area of major concern.
  - The strict adherence to process and rules has resulted in COVID-19 aid getting stuck in cumbersome clearance processes even during the pandemic.
  - The rigid **emphasis on the following of rules and regulations and the fear of official sanctions** have resulted in the **rejection of innovation from public officials**.

### Limitations of outright privatization:

- In the light of the lacunae in the existent bureaucratic structure, there have been growing calls for a new public management in India, which promotes privatisation and managerial techniques of the private sector as an effective tool to seek improvements in public service delivery and governance.
- However, it should be noted that **outright privatization may not be a viable solution in India where there is social inequality and regional variations in development**.
- The private sector is driven by the motive of profits and hence would cater only to people and areas where their operations are financially viable. They would not be able to serve the poor due to his/her inability to pay for the private sector's work.
- Such an approach renders the state as a mere bystander among the multiple market players with accountability being constantly shifted, especially during a crisis. The COVID-19 crisis has shown that the private sector has failed in public service delivery.

### Recommendations:

#### Collaborative governance:

- The most appropriate administrative reform to ensure more effective public governance is aiming for collaborative governance in which the **public sector, private players and civil society, especially public service organisations (NGOs), work together for effective public service delivery**.
- Benefits of such a system:
  - Such a system would ensure that there is **no domination of public bureaucracy in policy formulation and implementation**. This can help change the behaviour of bureaucracy towards governance and also help initiate public service reforms – relook at the generalist versus

specialist debate, **openness to reforms such as lateral entry and collaboration with a network of social actors.**

- In such a system the existing network of social actors and private players would take responsibility in various aspects of governance with public bureaucracy coordinating the efforts. Such a structure would allow **the institutionalization of the critical role being played by civil society.** This will help in scaling the impact of effective civil societies.
  - Civil society has been playing a major role during the pandemic.
- The collaboration of public bureaucracy with the private and social society has had a profound impact on public service delivery as seen in the following cases.
  - Green Revolution (M.S. Swaminathan), the White Revolution (Vergheese Kurien), Aadhaar-enabled services (Nandan Nilekani) and the IT revolution (Sam Pitroda).

### Conclusion:

- The public sector, private players and civil society should all work together for public service delivery.
- Such **new public governance which can help address the various lacunae and make public administration more effective is the future of governance, especially public service delivery in India.**

## 2. India in touch with Iran over Farzad B, says govt.

### Context:

In a setback to India, **Iran awarded a contract for developing the giant gas field - Farzad-B in the Persian Gulf to a local company.**

- ONGC Videsh Ltd (OVL), the overseas investment arm of state-owned Oil and Natural Gas Corp (ONGC), India, had in 2008 discovered a giant gas field in the Farsi offshore exploration block.
- The **Indian consortium has so far invested around \$400 million** in the block.
- A **Development Service Contract (DSC) of the Farzad-B gas field was negotiated** till November 2012, but **could not be finalized due to difficult terms and international sanctions on Iran.**
- In **April 2015, negotiations restarted** with Iranian authorities to develop the Farzad-B gas field under a new Iran Petroleum Contract (IPC). However, the **negotiations remained inconclusive.**
- As U.S. sanctions against Iran were reinstated after the **United States withdrew from the JCPOA in May 2018, the negotiations broke down.**

### 3. Immediate Subsistence Assistance to Transgender

In view of Covid-19 pandemic, the Ministry of Social Justice and Empowerment will give transgender persons a one-time financial assistance of Rs. 1,500.

#### Key Points

- **About the Assistance:**
  - Immediate subsistence assistance to trans persons **would be given through Direct Benefit Transfer (DBT)**, for which beneficiaries can register with the **National Institute of Social Defence**.
- **National Institute of Social Defence (NISD):**
  - NISD is an **Autonomous Body** and is registered under **Societies Act XXI of 1860** with the **Government of National Capital Territory (NCT), Delhi**.
  - It is a **central advisory body** for the **Ministry of Social Justice and Empowerment**.
  - It is the **nodal training and research institute** in the field of **social defence**.
  - It **currently focuses** on human resource development in the areas of **drug abuse prevention, welfare of senior citizens, beggary prevention, transgender and other social defence issues**.
- **Major Initiatives Related to Transgender:**
  - **Judgements of the Supreme Court:**
    - **National Legal Services Authority (NALSA) v. Union of India, 2014:** The SC declared transgender people to be a 'third gender'.
    - **Read down the Provisions of Section 377 of the Indian Penal Code (2018):** The SC decriminalised same-sex relationships.
  - **Transgender Persons (Protection of Rights) Act, 2019:**
    - **A transgender person is one** whose gender does not match the gender assigned at birth. It includes transmen and trans-women, persons with intersex variations, gender-queers, and persons with socio-cultural identities, such as kinnar and hijra.
    - Establishes **National Council for Transgender persons**.
    - Gives **right to obtain Certificate of Identity**.
    - Provides the **right of residence** with parents and immediate family members.
    - **Prohibits discrimination against a transgender person** in various sectors such as education, employment, and healthcare etc.
    - **Offences against transgender persons** will attract **imprisonment between six months and two years**, in addition to a fine.

- Transgender Persons (Protection of Rights) Rules, 2020, **National Portal for Transgender Persons** and the Scheme of 'Shelter Home for Transgender Persons'.

#### 4. China completes Tibet highway

##### Context:

China has **completed the construction of a strategic highway** through the Brahmaputra Canyon.

##### China's Border Infrastructure push – Strategic significance:

- The strategically significant highway **through the world's deepest canyon** is in Tibet along the Brahmaputra river.
  - It **passes through the Grand Canyon of the Yarlung Zangbo river**, as the Brahmaputra is called in Tibet.
  - It **enables greater access to remote areas** along the **disputed border with Arunachal Pradesh** in India.
  - The construction began in 2014 and is **part of a wider infrastructure push in border areas in Tibet.**
- In **November 2020, China began work on a strategically important railway line** – its **second major rail link to Tibet** that will link Sichuan province with Nyingchi.
  - The first one was the **Qinghai-Tibet railway that opened in 2006.**
  - The Chinese President called it a **major step in safeguarding national unity** and a significant move in **promoting the economic and social development of the western region.**
  - The railway would act as a 'fast track' for the **delivery of strategic materials in the time of crisis.**
- Another part of the border infrastructure push is the **construction of new civilian settlements**, along with the **expansion of existing smaller hamlets, along border areas**, some of which lie in **disputed territories claimed by India and Bhutan**, to strengthen China's control over the land.
- In 2017, the **Tibet Autonomous Region (TAR) government** launched a plan to build moderately well-off villages **along China's borders with India, Bhutan and Nepal.**

##### Concerns:

- In 2020, satellite images emerged showing a **new village called Pangda built 2-3 km into what Bhutan sees as its land.**
- In 2021, a **village built 4-5 km into what India sees as its territory in Arunachal** was seen via satellite images.



- Indian officials said this land has been under China's effective control since 1959 and there were military barracks there earlier.

### Conclusion:

- The civilian settlements, **along with the new infrastructure connectivity**, are seen as **aimed at bolstering China's control over the areas**.

## 5. Delhi HC asks hospitals to install oxygen plants

### What's in News?

In the backdrop of acute shortage of medical oxygen, the Delhi High Court has asked big hospitals in the capital to install Pressure Swing Adsorption (PSA) oxygen plants.

### Pressure Swing Adsorption (PSA) oxygen plants

- Pressure swing adsorption (PSA) oxygen generating plants are a source of medical-grade oxygen.
- Pressure swing adsorption (PSA) is a technology used to separate some gas species from a mixture of gases under pressure.
- PSA operates at near-ambient temperatures (temperature relating to the immediate surroundings) and differs significantly from cryogenic distillation techniques of gas separation.
- Cryogenic separation is a commercial process that takes place at very low temperature.

## 6. U.S., Russia at odds over military activity in the Arctic

### Context:

A campaign is being led by the Biden administration **against Russian attempts to assert authority over Arctic shipping**.

### Details:

- Russia assumed the rotating chairmanship of the Arctic Council in May 2021.
- Following this, the U.S. rallied members to oppose Moscow's plans to set **maritime rules in the Northern Sea Route** and its desire to **resume military talks within the council**.

- Those **talks were suspended in 2014 over Russia's actions in Ukraine.**
- The US Secretary of State stressed the importance of **upholding effective governance** and the **rule of law** to ensure that the “**Arctic remains a region free of conflict where countries act responsibly.**”

#### Concerns:

- Russia has become active in the region due to the effects of climate change.
- The effort reflects **growing concerns in Washington and among some NATO allies** about a **surge in Russian military and commercial activity in the region.**
- The Northern Sea Route is one of several Arctic shipping routes.
- The Northern Sea Route runs from **Norway to Alaska.**
  - It runs from the **Barents Sea**, near Russia's border with Norway, to the **Bering Strait** between Siberia and Alaska.
- The **entire route lies in Arctic waters and within Russia's exclusive economic zone (EEZ).**

### 7. Sri Lanka Parliament passes Bill on China-backed Port City

#### Context:

The Sri Lankan Parliament passed a controversial bill on laws governing the **China-backed Colombo Port City.**

#### Details:

- The **\$1.4-billion Colombo Port City** was **launched in 2014** during the previous term of the Rajapaksa government, when Chinese President Xi Jinping visited the nation.
- It is currently **being built on land reclaimed alongside Colombo's iconic seafront.**
- Environmentalists and fisherfolk have opposed the move.

#### Issue:

- The ruling Rajapaksa administration tabled a Bill, titled '**Colombo Port City Economic Commission**', in Parliament, **outlining proposed laws for the \$1.4 billion-Port City** being built on reclaimed land at Colombo's seafront.
- It is **touted** by the government as an **investment hub for foreign capital.**
- However, opposition argues that it directly **affects Sri Lanka's sovereignty.**
  - They have **challenged the constitutional validity** of the proposed legislation for the Port City.



- The clauses **prohibit investment in the Port City in Sri Lanka rupees**, which will keep out Sri Lankans.
- In addition to the legal challenge, the government also faces sharp criticism from some of its backers, including sections of Sri Lanka's influential Buddhist clergy.
- They fiercely opposed Indian involvement at the East Container Terminal at the Colombo Port.
  - Sri Lanka then **backed out of an agreement with India and Japan** to develop the **East Container Terminal (ECT) at the Colombo Port**.

**Note:**

- The **Port City was launched** by President Xi Jinping during his state visit to the island nation in September **2014**.
- The successor government, led by President Maithripala Sirisena vowed to develop the site into an **Indian Ocean financial hub**, **despite an election promise to scrap it**, and amid protests from environmentalists and fisherfolk.

## **GS 3 : Economy, Science and Technology, Environment**

### **8. Can the economy survive the second COVID-19 wave?**

**Context:**

- The article analyzes the potential **economic impact of the second COVID-19 wave** and State-level lockdowns, while comparing it with the first wave.

**Comparison of the economic impact of the two waves of the pandemic:**

- A key difference between the first and second waves has been that while the nationwide lockdown last year in response to the first wave of the pandemic resulted in a severe supply shock, the **second wave has resulted more in a demand shock than supply shock**.

**Magnitude of economic slowdown:**

- **The impact of the second wave is likely to be less severe than the first one.**
- Businesses and people have started to adapt to lockdowns and the contraction in demand would be much lower this time.

- Though most forecasts are predicting that there won't be an economic contraction this year and are expecting positive growth for India, the **growth rate is going to be very low**.
- As against the predictions before the second wave, that FY 2021-22 GDP should cross the pre-pandemic 2019-20 GDP in such a scenario is highly unlikely.

### Challenges of the second wave:

#### Prolonged slowdown:

- The slow pace of vaccination and the **uncertainty and fear of a third wave** would result in the **government being hesitant in opening the economy up** very quickly.
- A significant section of the population has spent a large amount of their savings to fight COVID-19. Some have also been pushed into debt and poverty hampering their financial situation. Such sections will find it difficult to spend even on essentials. This is likely to have an **adverse impact on consumption expenditure based growth revival**.
- The second wave has created a lot of **uncertainty, pessimism and loss of confidence among households and businesses**. It will take time for people to start recovering because it has created a lot of uncertainty. The uncertainty would also disincentivize people with financial resources to spend.
- Hence a **V-shaped recovery is highly unlikely and the economic recovery is most likely to take a lot of time**.

#### Doubtful effectiveness of monetary responses:

- As against the previous year, where the RBI announced a large number of monetary measures to mitigate the economic impact of the first wave of the pandemic, there have been very few measures this time around.
- This can be attributed to the fact that there is **very little space for an expansionary monetary policy** given that India is experiencing bouts of inflation as well as growth slowdown, raising **fears of stagflation**.
- The fact that the Indian **economy is not currently in sync with the global business cycle** has resulted in a situation where inflation in the domestic economy has been rising despite a domestic demand slowdown.
  - In advanced economies, growth is picking up and as a result, inflation is picking up as demand recovers. As a result, global commodity prices on items such as crude oil have been surging and this has had an impact on India's domestic inflation.

- The RBI's attempts to incentivise banks to lend to sectors that have been hit hard have not been very successful because of the **risk-averse behaviour of the banks** and their lack of willingness to lend.
- Also despite several incentives for businesses to borrow like the ease of approvals, lower interest rates, etc., there has been **negligible credit off take growth**.
- The risk-averse nature of banks and the lack of interest in businesses to borrow limit the effectiveness of the monetary measures in reviving economic growth.

#### **Limited ability to execute fiscal responses:**

- Given that India's **debt-to-GDP ratio has risen to around 90%** and there has been a collapse in revenues, the ability of the government to employ fiscal responses to revive growth is limited.

#### **Impact on rural areas:**

- Compared to the first wave, this time the **rural areas have witnessed a larger number of infections and mortalities**.
- The **reverse migration** to rural areas has caused an increase in unemployment and MGNREGA is not able to absorb workers, which has resulted in a huge mismatch between demand and supply.
- There has been a larger number of job losses in the rural sector. Last time, rural employment was in a much better position as compared to urban unemployment. **The fear of infections has also led to the deceleration of economic activity in rural areas** this time around.
- During the first wave, the robust growth in the agricultural sector had helped limit the national economic contraction to some extent.
- Unlike the last year when the government was able to spend their way out of trouble by spending to create economic activity, this time around it would be difficult to implement such a policy.

### **9. Infrastructure status for Convention Centres**

The **Ministry of Finance** has granted '**Infrastructure**' status for Exhibition-cum-Convention Centres.

#### **Major Highlights:**

- Exhibition-cum-Convention Centre has been included in the **Harmonised Master List of Infrastructure sub-sectors**.

- It has been placed in the category of **Social and Commercial Infrastructure**.
- The benefits available as 'infrastructure' projects would only be available for projects with a minimum built-up floor area of **1,00,000 square metres** of exclusive exhibition space or convention space or both combined.
- This **includes primary facilities** such as exhibition centres, convention halls, auditoriums, plenary halls, business centres, meeting halls etc.

### Significance:

- The infrastructure tag would help such projects get **easier financing** from banks.
- India **doesn't have large convention centres** or **single halls** with capacities to hold 7,000 to 10,000 people.
  - This move can give boost to India to become a global **MICE destination**.
  - Becoming a **MICE** (Meetings, Incentives, Conferences and Exhibitions) destination can **generate significant revenue** with several global companies active in India.
- This move will **enable more such projects** to come up across India's tourist destinations.

### Harmonized Master list of infrastructure sub-sectors:

- Harmonized Master list of infrastructure sub-sectors aims for a **uniform definition of infrastructure**.
- The **Cabinet Committee of Infrastructure** (CCI) came up with a harmonized master list of 5 main infrastructure sectors (Transport, Energy, Water and sanitation, Communication and Social and commercial infrastructure) and 29 infrastructure sub sectors.
- The list **acts as a guide** to all agencies involved in the field of infrastructural development or financing in India.
- The following are the **six characteristics** that make any new sub sector eligible to be included in the master list:
  - Natural monopoly
  - High sunk costs and asset specificity
  - Non-tradability of output
  - Non-rivalrous in consumption
  - Possibility of price exclusion
  - Presence of externalities

## 10. World's largest iceberg breaks off

### Context:

A huge ice block has **broken off from Western Antarctica** into the **Weddell Sea**, becoming **the largest iceberg in the world**.

**Details:**

- The iceberg has been named **A-76**.
- It had been monitored by scientists **since it began to separate from the Ronne Ice Shelf**.
- It measures **around 170 km long and 25 km wide**, with an area of 4,320 sq km and is now **floating in the Weddell Sea**.
  - It is slightly larger than the Spanish island of Majorca.
- It is the **latest in a series of large ice blocks to dislodge** in a region acutely **vulnerable to climate change**.
- According to the scientists, it appeared to be **part of a natural polar cycle**.

**Note:**

- **A-23A, the previous world's largest titleholder** has remained in the same area since 1986.
- Icebergs form when chunks of **ice break off from ice shelves or glaciers** and begin to **float in open water**.
- Once it melts, the **new iceberg will not lead to a sea-level rise**, because it was part of a floating ice shelf.

**How are these icebergs named?**

- Icebergs are traditionally named from the **Antarctic quadrant in which they were originally sighted**, then a **sequential number** and, if the iceberg breaks, a **sequential letter** is given to it.

**GS 2 : Polity, Governance, International Relations**

**1. India, Oman MoU**

**Why in News**

Recently, **India and Oman** renewed the Memoranda of Understanding (MoUs) on **military cooperation** as well as on **maritime security**.

**Key Points**

- **India-Oman Relationship:**
  - The Sultanate of Oman is a **strategic partner of India** and an important speaker at the **Gulf Cooperation Council (GCC)**, **Arab League** and **Indian Ocean Rim Association (IORA)** fora.
    - **India is a member of IORA but not a member of GCC and Arab League.**
  - India and Oman are **linked by geography, history and culture** and enjoy **warm and cordial relations**, which are attributed to **historical maritime trade linkages**, intimacy of the Royal family with India and the **seminal role played by Indian expatriate community** in building Oman, which is acknowledged by the Omani Government.
  - Institutional mechanisms like Joint Commission Meeting (JCM) and Joint Business Council (JBC) **oversee economic cooperation** between the two.
  - Key **bilateral agreements/MoUs cover cooperation** in Defence; peaceful uses of Outer Space; Extradition; Legal and judicial cooperation in civil and commercial matters; Agriculture; Civil Aviation; Avoidance of Double Taxation; Maritime issues; etc.
- **Defence Cooperation:**
  - In West-Asia, **Oman is one of India's oldest defence partners** and an **ally in anti-piracy campaigns**.
  - India has **supplied rifles to Oman**. Also, India is **considering setting up a defence production unit in Oman**.
  - India and Oman **conduct regular biennial bilateral exercises** between all three services.
    - Army exercise: **Al Najah**
    - Air Force exercise: **Eastern Bridge**
    - Naval Exercise: **Naseem Al Bahr**



- **Maritime Cooperation:**
  - Oman is at the gateway of **Strait of Hormuz** through which India imports one-fifth of its oil imports.
  - The **berth rights given by Oman to Indian vessels** is important for the Indian Navy to carry out anti-piracy operations in the Gulf of Aden.
  - **India signed a pact with the country in 2018 to access the Duqm port of Oman.**
  - India is working closely with Oman **to enhance strategic depth in the region and add heft to its Indo-Pacific vision** in the Western and Southern Part of Indian Ocean.
  - **India needs its support to counter the growing Chinese foothold in the region.**
    - India is concerned with China's acquisition of strategic assets in the region including setting its base at Port of Doraleh in Djibouti.

## 2. Coviself: Self Testing Kit

### Why in News

Recently, the **Indian Council of Medical Research (ICMR)** approved India's first self-use **Rapid Antigen Test (RAT)** for Covid-19 named as **CoviSelf**.

- It is developed by **MyLab Discovery Solutions**, a Pune-based molecular company.
- **ICMR** is the **apex body in India** for the formulation, coordination and promotion of biomedical research, and is **one of the oldest medical research bodies in the world**.

### Key Points

- **About:**
  - It **uses a RAT** and gives **results within 15 minutes**. This test is **synced with a mobile app, CoviSelf**, which will **help directly feed the positive case's report on the ICMR portal**.
  - ICMR has advised this **test only for those who have symptoms or are high-risk contacts of positive patients** and need to conduct a test at home.
  - This test is **not advised for general screening in public places** of hawkers, show owners, or commuters.

### Rapid Antigen Test

- It is a **test on swabbed nasal samples that detects antigens** (foreign substances that induce an immune response in the body) that are found on or within the **SARS-CoV-2** virus.
- It is a **point-of-care test**, performed outside the conventional laboratory setting, and is used to quickly obtain a diagnostic result.
- Like **RT-PCR (Reverse Transcription Polymerase Chain Reaction)**, the **RAT too seeks to detect the virus** rather than the **antibodies** produced by the body.
  - While the **mechanism is different**, the most significant **difference between the two is time**.
  - In an RT-PCR test, **RNA (Ribonucleic acid)** is extracted from the swab collected from the patient. It is then converted into **DNA (Deoxyribonucleic acid)**, which is then amplified.
  - RT-PCR test takes a minimum of 2-5 hours whereas the maximum duration for interpreting a positive or negative test in RAT is 30 minutes.
- **Benefits of Self Testing:**
  - **Cost Effective:**
    - Swab collection in this case is fairly simple and quick, and **reduces overall testing expenditure** and the **stress of booking appointments** in labs.
    - It is **cheaper than RT-PCR and a RAT** in the laboratory.
  - **Reduced Risk of Transmission:**
    - A person testing himself at home rather than visiting a hospital or lab, or calling a technician at home, **reduces the risk of transmission to others**.
    - Reliable self-collection and self-testing will **reduce population movement, reduce Covid-19 exposure risk**.
  - **Reduced Burden:**
    - Self-testing will **reduce the burden on laboratories that are currently working 24 hours** up to full capacity with manpower that is already saturated.
  - **Mass Surveillance:**
    - Cheap rapid tests can **help in accomplishing the aim of mass surveillance** even if their sensitivity to capture accurate results are inferior to other tests.
- **Concerns:**
  - **Reliability:**
    - The reliability of results remains a major concern. The likelihood of the **sample not being collected correctly, or the swab stick getting contaminated, is high**.
  - **False Sense of Security:**

- RAT comes with a **high chance of false negatives**. If a Covid-infected person is asymptomatic and tests negative, the test may give a **false sense of security**.
- **Challenge to Response Measures:**
  - **Shifting the responsibility** of reporting test results **from health professionals and laboratories to individuals** could lead to **underreporting**, and **make response measures** such as contract tracing and quarantine of contacts even **more challenging**.

### Way Forward

- Self-tests **can be effective if the patient follows isolation norms**, feeds correct data and is able to interpret the results accurately.
- However while a RAT serves as a **quick mass surveillance tool**, **over-dependence on it for testing is not advisable**. It can supplement, not form, the bulk of testing.

### 3.Places in news: Paracel Islands

A United States warship sailed through the Paracel Islands in the disputed South China Sea.

#### Paracel Islands

- The Paracel Islands, also known as the Xisha Islands are a disputed archipelago in the South China Sea.
- The archipelago includes about 130 small coral islands and reefs, most grouped into the northeast Amphitrite Group or the western Crescent Group.
- They are distributed over a maritime area of around 15,000 square kilometers with a land area of approximately 7.75 square kilometers.
- The archipelago includes Dragon Hole, the deepest underwater sinkhole in the world.
- It is surrounded by productive fishing grounds and a seabed with potential, but as yet unexplored, oil and gas reserves.

### 4.White Fungus

#### Why in News

As the central government asks states to notify **black fungus or mucormycosis** an **epidemic**, an infection called white fungus or Candidiasis has also been found to affect some people.

- **Covid-19** patients are **more prone to white fungus** as it affects the lungs and similar symptoms are created like that of coronavirus.
- **Black fungus** is a serious but rare fungal infection caused by a group of molds called **mucormycetes**, which is abundant in the environment.

## Key Points

- **About:**
  - **White Fungus or Candidiasis** is a fungal infection caused by a yeast (a type of fungus) called Candida.
  - Candida **normally lives on the skin and inside the body**, in places such as the mouth, throat, gut, and vagina, without causing any problems.
  - Candida **can cause infections** if it grows out of control or if it enters deep into the body (for example, the bloodstream or internal organs like the kidney, heart, or brain).
    - The most common species that causes infection is **Candida albicans**.
- **Cause:**
  - This infection **can be caused due to low immunity**, or if people come in **contact with** things that contain these **moulds** like water, etc.
    - Children and women are more at risk of contracting the fungal infection.
  - **Like the black fungus**, white fungus is also more likely to afflict people with compromised **immune systems**, pre-existing medical conditions, **AIDS**, a recent kidney transplant or **diabetes**.
- **Symptoms:**
  - People **experience symptoms similar to Covid** if it reaches the lungs such as chest infection, despite testing negative for the virus.
  - White fungus affects the lungs as well as other parts of the body including the nails, skin, stomach, kidney, brain, private parts and mouth.
- **Diagnosis and Treatment:**
  - **CT scans or X-Rays** can reveal the condition.
  - Patients with the white fungus are currently being treated with known **anti-fungal medication**.
- **Prevention:**
  - Special caution is required of moulds in water that can lead to infection.
  - Proper sanitation is very important.

## **GS 3 :Economy, Science and Technology,Environment**

### **5. E-way bill integrated with FASTag, RFID**

In a move which will help curb tax evasion, GST authorities will now be able to **track real-time data of commercial vehicle (CV)** movement on highways by integration of the e-way bill (EWB) system with FASTag and RFID.

#### **Significance:**

- The integration of e-way bill, RFID and FASTag will enable tax officers to undertake live vigilance in respect of EWB compliances by businesses and will aid in preventing revenue leakage by real-time identification of cases of recycling and/or non-generation of EWBs.
- Tax officers can access reports on vehicles that have passed the selected tolls without EWBs in the past few minutes.
- Vehicles carrying critical commodities specific to the state and having passed the selected toll can be viewed.
- Any suspicious vehicles and vehicles of EWBs generated by suspicious taxpayer GSTINs, that have passed the selected toll on a near real-time basis, can also be viewed in this report.
- The audit and enforcement wing can use these reports to identify fraudulent transactions like bill trading, recycling of EWBs.

#### **E-way Bill:**

- E-Way Bill is an **Electronic Way bill** for movement of goods to be generated on the eWay Bill Portal.
- A GST registered person **cannot transport goods** in a vehicle whose value exceeds Rs. 50,000 (Single Invoice/bill/delivery challan) without an e-way bill that is generated on **ewaybillgst.gov.in**.
- Alternatively, E-way bill can also be generated or cancelled through SMS, Android App and by site-to-site integration through API.
- When an e-way bill is generated, a unique **E-way Bill Number (EBN)** is allocated and is available to the supplier, recipient, and the transporter.

#### **RFID technology:**

- Radio Frequency Identification (RFID) refers to a **wireless system comprised of two components:** tags and readers.

- The reader is a device that has one or more antennas that **emit radio waves and receive signals** back from the RFID tag.
- Tags, which use radio waves **to communicate their identity** and other information to nearby readers, can be passive or active.
- Passive RFID tags are powered by the reader and **do not have a battery**. **Active** RFID tags are powered by batteries.
- RFID tags can store a **range of information from one serial number** to several pages of data.
- Readers can be mobile so that they can be carried by hand, or they can be mounted on a post or overhead.
- Reader systems can also be **built into the architecture of a cabinet, room, or building**.
- A transporter would be required to obtain an RFID Tag embedded at a pre-specified location (typically on the windscreen) on the vehicle.
- RFID tag is embedded on the windscreens of the vehicles for transporters. RFID can be installed by visiting the distribution centres assigned for each jurisdiction across India.

## 6. Explained: Cryptocurrency Market Crash

The cryptocurrency market saw a big correction with prices of major currencies, including Bitcoin, Ethereum, BNB, and others crashing as much as 30% within 24 hours. This came in the backdrop of Chinese regulators announcing a crackdown on cryptocurrencies.

### Crackdown on Crypto Market

- China has barred financial institutions and payment companies from providing any services related to cryptocurrency transactions.
- This means that banks and online payment channels must not offer clients any service involving cryptocurrencies, such as registration, trading, clearing, and settlement.
- China had issued such a ban in 2017 as well, but compared with the previous ban, the new rules have expanded the scope of prohibited services, and surmise that “virtual currencies are not supported by any real value”.

### Other reason behind this crash: The Tesla story

- Tesla recently announced that it wouldn't favor Bitcoin on 'environmental' concerns because Bitcoin mining requires electricity which is mostly generated using fossil fuels.



- However, this seems to be motivated and raises a few questions like – didn't the Tesla management already know about Bitcoin mining before diversifying into it?

### **What does this fall imply?**

- A crackdown by one of the world's biggest economy notwithstanding, those in the ecosystem has termed this decline as a short-term correction.
- A nearly 40% dip in the bitcoin price from its all-time high looks dramatic but is normal in many volatile markets, including crypto, especially after such a large rally.
- Such corrections are mainly due to short-term traders taking profits.
- Long-term value investors might call these lower prices a buying opportunity.

## **7. Magnetospheric Multiscale Mission**

Indian Scientists have developed a theory that helps understand the complicated nature of Sun-Earth interaction's happening in the magnetosphere

### **Magnetospheric Multiscale (MMS) Mission**

- The Magnetospheric Multiscale (MMS) Mission is a NASA robotic space mission to study the Earth's magnetosphere, using four identical spacecraft flying in a tetrahedral formation.
- The mission is designed to gather information about the microphysics of magnetic reconnection, energetic particle acceleration, and turbulence – processes that occur in many astrophysical plasma.
- Indian researchers have developed a theory that solves every bit of uncertainty regarding the conflict between the observations from MMS Mission.

### **What is the Magnetosphere?**

- The magnetosphere is the region of space surrounding Earth where the dominant magnetic field is the magnetic field of Earth, rather than the magnetic field of interplanetary space.
- It is formed by the interaction of the solar wind with Earth's magnetic field.

## Findings of the Indian Researchers

- The MMS spacecraft observed negative monopolar potential (electric field potentials which can be visualized in the form of single-humped pulse-type structures).
- The scientific community suddenly recognized its importance, and publications were presented.
- However, none of the available theories could explain the characteristics of these structures due to the exotic background conditions.
- Indian theory provides a better understanding of their characteristics and sheds light on the generation of these structures.
- This has led to the unraveling of nature's greatest mystery that causes phenomena -plasma transport and heating of plasma- the fourth state of matter after solid, liquid, and gas.



## Prelims Practice Questions

1) China has recently launched the Haiyang-2D (HY-2D) satellite through its Long March-4B rocket. Which of the following is the main objective of the satellite?

- a. Space debris removal Satellite System
- b. Establishing a Permanent Space Station
- c. Ocean Environment Monitoring System
- d. Navigation and Military Surveillance System

Answer : c

### Explanation:

- China has successfully launched a new **ocean-monitoring satellite** into orbit.

### Haiyang-2D (HY-2D)

- The satellite was launched by a Long March-4B rocket from the Jiuquan Satellite Launch Centre in northwest China.
- The HY-2D will form a constellation with the HY-2B and HY-2C satellites.
- The constellation will build an all-weather and round-the-clock dynamic **ocean environment monitoring system** of high frequency and medium and large scale.
- The constellation will support the country's early warning and prediction of marine disasters, sustainable development and utilisation of ocean resources, effective response to global climate change as well as ocean research.

2) Which of the following organizations has recently unveiled the World's first 2-nanometre chip-making technology for faster computing?

- a. IBM
- b. Apple
- c. Google
- d. Microsoft

Answer : a

### Explanation:

- IBM has recently introduced the world's first 2-nanometre chipmaking technology.
- According to the company, the technology could be as much as 45% faster than the mainstream 7-nanometre chips in many of today's laptops and phones and up to 75% more power efficient.
- The 2-nanometre chips will be smaller and faster than today's leading edge 5-nanometre chips, which are just now showing up in premium smartphones like Apple Inc's iPhone 12 models, and the 3-nanometre chips expected to come after 5-nanometer.

### 3) Consider the following pairs:

#### GI Tagged Products - States

1. Gholvad Sapota - Maharashtra
2. Banganapalli Mango - Karnataka
3. Suvarnarekha Mango - Andhra Pradesh

Which of the pair(s) given above is/are correctly matched?

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

Answer : c

#### Explanation:

- A consignment of Dahanu Gholvad Sapota was recently shipped from Palghar district of Maharashtra to the United Kingdom.
- Earlier this month, a consignment of 2.5 Metric Tonne of GI certified **Banganapalli & Survarnarekha mangoes** sourced from farmers in Krishna & Chittor districts of **Andhra Pradesh** was exported to South Korea.

#### Gholvad Sapota

- GI certification of Ghovad Sapota is held by **Maharashtra** Rajya Chikoo Utpadak Sangh and the fruit is known for its sweet and unique taste.
- It is believed that the unique taste is derived from calcium rich soil of Gholvad village.
- Sapota is grown in many states- Karnataka, Gujarat, Maharashtra, Tamil Nadu, West Bengal and Andhra Pradesh.

- Karnataka is known to be the highest grower of the fruit, followed by Maharashtra.
- It can be used in fruit salads, blended into milk or yogurt, as a smoothie or processed to make a jam out of it.

**4) Which of the following organisations is responsible for Naming tropical Cyclones formed over Bay of Bengal and Arabian Sea?**

- a. World Meteorological Organization
- b. Ministry of Earth sciences
- c. Indian Institute of Tropical Meteorology
- d. Regional Specialized Meteorological Centre (RSMC)

**Answer : d**

**Explanation:**

**Naming Cyclones**

- In 2000, the World Meteorological Organisation (WMO) agreed to start assigning names for cyclones over the North Indian Ocean basin using a list of names suggested by the countries surrounding the ocean basin.
- Initially, India expressed reservations to naming cyclones and after four years of continuous deliberations, the India Meteorological Department (IMD) initiated the naming of the North Indian Ocean storm with Cyclone Onil in September 2004.
- There are six regional specialised meteorological centres (RSMCs) and five regional Tropical Cyclone Warning Centres (TCWCs) across the globe to monitor cyclogenesis, issue advisories and name cyclones.
- IMD's RSMC in New Delhi is one among them that provide advisories to 13 countries in the north Indian Ocean basin: Bangladesh, India, Iran, Maldives, Myanmar, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, United Arab Emirates and Yemen.
- RSMC, New Delhi is, therefore, responsible for naming cyclones over the Bay of Bengal and the Arabian Sea based on the suggested names from all these countries.
- Out of several criteria for naming cyclones, some very important ones are: names should be politically and culturally neutral, should not be rude and cruel and should be short, easy to pronounce.
- The maximum permissible length of the cyclone names is eight letters.

**5) Medicine from the Sky Project is announced by which of the following states?**

- a. Maharashtra
- b. Andhra Pradesh
- c. Telangana
- d. Karnataka

**Answer : c**

**Explanation:**

**Medicine from the Sky Project**

- Recently, the Telangana government has selected 16 Primary Healthcare Centres (PHCs) for pilot testing the ambitious 'Medicine from the sky', the first-of- its-kind project.
- The project involves delivery of medicines through multiple drones.
- The project is being launched following the approval granted by the Civil Aviation Ministry.
- The Ministry has granted conditional exemption to the Telangana Government from the Unmanned Aircraft System Rules 2021 for conducting experimental Beyond Visual Line of Sight (BVLOS) drone flights for delivery of vaccines.
- Telangana government, World Economic Forum and HealthNet Global are celebrating for this project.

**6) Sulawesi Caves recently found in news is known for which of the following?**

- a. Active Volcanoes
- b. Sumatran Orangutan
- c. Oldest cave art
- d. Ancient rock edicts

**Answer : c**

**Explanation:**

**Sulawesi Caves**

- It is a Pleistocene-era rock paintings dating back to 45,000-20,000 years ago.
- It is located in cave sites in southern Sulawesi, on the Indonesian island of Sulawesi.



- The limestone cave walls are adorned with hand stencils of red and mulberry tint, in addition to paintings of native mammals and human-animal hybrids.
- The artwork in the area includes what is believed to be the world's oldest hand stencil created by pressing the hand on a cave wall, and spraying wet red-mulberry pigments over it.
- A nearby cave features the world's oldest depiction of an animal, a warty pig painted on the wall 45,500 years ago.
- The cave art of Sulawesi is much older than the prehistoric cave art of Europe.



## **Mains Practice Questions**

**1Q. Examine the major differences between peasant movements of 19th and 20th century and their impact on society. (250 words)**

### **Approach**

- Give introduction of conditions causing peasant movements.
- Describe characteristics of 19th century peasant movements.
- Show the contrast in nature of 20th century peasant movements.
- Give conclusion.

**2Q. What have been the recent issue related to dispute settlement at WTO? Have the policies at WTO worked against the interest of emerging economies like India?**

### **Approach**

- Write in brief regarding dispute settlement at WTO.
- Enlist the issues related to crisis at dispute settlement system at the WTO.
- Give arguments to show policies at WTO worked against the interest of emerging economies like India.
- Give conclusion.