



# VAJIRAM & RAVI

( Institute for Civil Services Examination )

## MAY 2021

# *the* RECITALS

Explore Current Affairs Through Q&A



Featured  
Articles



Mains  
Q & A



Prelims  
Q & A

Bridging  
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Human Rights

India-UK Virtual Meet



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## *From the Desk of the Director*

### **Dear Students**

The preparation of current affairs magazine is an evolutionary process as its nature and content keeps changing according to the demands of Civil Service Exam. As you are aware about the importance of current affairs for the prelims as well as mains exam, our aim is to follow an **integrated approach** covering all stages of examination from prelims to interview. Keeping these things in mind, we, at Vajiram and Ravi Institute, are always in the process of evolving our self so as to help aspirants counter the challenges put forward by UPSC.

In fulfillment of our objective and commitment towards the students, we have introduced some changes in our current affairs magazine. The CA Magazines, now with the name of “**The Recitals**”, will have four sections. These are:

1. **Feature Article:** As you are aware of the fact that civil service mains exam has become quite exhaustive and analytical, especially since 2013 after the change in syllabus, we have decided to focus on 2-3 topics every month that will provide an insight into the issue so as to help students understand the core of the issue. This will help in Essay writing as well as Mains Exam.
2. **Mains Q&A:** New students quite often struggle to find out that in what way the given topic is useful for them and in what form questions can be framed from the article. To help those students, we at Vajiram and Ravi have designed an innovative way to teach current affairs. Now, we will cover the current issues through questions and answers so as to make it more targeted towards exam. This will not just provide the information and analysis on current issues but will also help in learning the art of answer writing. Further the related information on the topics on which questions have been framed but that is outside the purview of answer will be given in the Box as ‘**Extra Mile**’.
3. **Prelims Q&A:** This section will contain prelims based MCQs that will test your diligence while reading the current issues. These MCQs will be of UPSC standard and will contain detailed explanation. Students are advised to attempt these MCQs honestly and read the Explanation carefully. The idea is to also provide students with a question bank of around 600 current affairs MCQs (50 Qs × 12 months = 600 Qs) just before their prelims examination, which will act as revision on issues spanning over the entire year.
4. **Bridging Gaps:** This section will contain miscellaneous topics which has not been covered through Q&A. That is why it is called Bridging Gaps, meaning the left-over topics.

So, the new magazine is a complete overhaul of what we have been doing for so long. We hope that the new beginning will be to the liking of students.

Thanks

Best Wishes

## India-UK Virtual Summit

Prime Minister Modi and Prime Minister of the United Kingdom Boris Johnson, held a Virtual Summit. India and UK enjoy a **Strategic Partnership since 2004**. It has been marked by regular high-level exchanges and growing convergences in diverse areas. Against this backdrop, this Summit provided an important opportunity to elevate the multi-faceted strategic ties and enhance cooperation on regional and global issues.

### Key Highlights

- An ambitious **'Roadmap 2030'** was adopted at the Summit to **elevate bilateral ties to a 'Comprehensive Strategic Partnership'**.
- The roadmap will pave the way for a **deeper and stronger engagement over the next ten years** in the key areas of people-to-people contacts, trade and economy, defence and security, climate action and health.
- The two leaders launched an **'Enhanced Trade Partnership' (ETP)** to **unleash the trade potential** between the 5th and 6th largest economies of the world. It has set an ambitious **target of more than doubling bilateral trade by 2030**.
- As part of the ETP, India and the UK agreed on a roadmap to negotiate a comprehensive and balanced FTA, including consideration of an Interim Trade Agreement for delivering early gains.
- A new **India-UK 'Global Innovation Partnership' (GIP)** was announced at the Virtual Summit. This partnership *aims to support the transfer of inclusive Indian innovations to select developing countries, starting with Africa*.
- Both sides agreed to enhance **cooperation on new and emerging technologies**, including Digital and ICT products, and work on supply chain resilience.
- They also agreed to strengthen defence and security ties, including in the maritime, counter-terrorism and cyberspace domains.
- Both sides also launched a **comprehensive partnership on migration and mobility** that will facilitate greater opportunities for the mobility of students and professionals between the two countries.
- They agreed to expand and enhance the **existing UK-India vaccines partnership**, highlighting the **successful collaboration between Oxford University, Astra Zeneca and the Serum Institute of India** on an effective Covid19 vaccine that **is 'developed in UK', 'Made in India' and 'distributed globally'**.
- In order to deepen their defence and security cooperation, both Prime Ministers welcomed the finalisation of the **new Logistics MoU between their armed forces**. They will build on existing collaboration on India's future combat air engine requirement by working together on the **indigenous development of the Light Combat Aircraft Mark 2**.
- They agreed to **increase maritime co-operation**, inviting the UK's Liaison Officer to India's Information Fusion Centre, establishing an annual **India-UK Maritime Dialogue** and strengthening operational coordination.

- During the deployment of the UK's Carrier Strike Group in the Indian Ocean Region in 2021, they **agreed to hold joint exercises** that will deepen cooperation in a region of critical strategic importance to both countries.
- They agreed to **step up India-UK collaboration on climate change and low carbon transition** through a new partnership on renewables and power, including offshore wind, energy efficiency and storage and electric mobility, and to **explore joint work on green hydrogen**.
- They agreed to announce a **green grids initiative at COP26** and to **promote climate resilient infrastructure** through a **new facility for Small Island Developing States** under the Coalition for Disaster Resilient Infrastructure and to **launch a India-UK Partnership on Forests**.
- They also agreed to explore enhanced partnerships with major private finance leaders to mobilise both public and private finance.

#### List of MoUs/Declarations Agreed/Announced

- Declaration for the launch of an Enhanced Trade Partnership
- MOU on India-UK Global Innovation Partnership (this MoU announces the launch of a **new Global Innovation Partnership (GIP)** between India and the UK)
- **MoU on India-UK Migration and Mobility Partnership** – It creates a new scheme for exchange of young professionals under which every year up to 3000 young Indian professionals can avail employment opportunities in UK for a period of 2 years without being subject to labour market test.
- **Joint Declaration of Intent on cooperation in the fields of Digital and Technology** – Aims to deepen cooperation on emerging technologies, digital infrastructure, and data policies
- **MoU on cooperation in the field of Telecommunications/ICT** – To enhance cooperation in the areas of telecoms infrastructure, including telecoms diversification and disaster resilience.
- Agreement on Customs Cooperation and Mutual Administrative Assistance in customs matters
- Statement of Principles on new joint work between India and the UK on the India Energy Security Scenarios Calculator
- **MoU in the field of medical products** regulation between the UK's Medicines and Healthcare products Regulatory Agency (MHRA) and India's Central Drugs Standard Control Organisation (CDSCO).
- MoU on Pharmacopoeial Cooperation between the Indian Pharmacopoeia Commission (IPC) and the British Pharmacopoeia (BP) – For the development of quality standards for medicines.

#### Enhanced Trade Partnership (ETP)

- This partnership envisaged facilitating market access in specific sectors. It also unveiled plans to **finalise an interim trade deal by mid-2022** as a precursor to a free trade agreement.
- ETP is being seen as **part of the UK's efforts to ramp up trade ties with countries** around the world following its exit from the European Union (EU).

- It will see Britain **open up its fisheries sector to more Indian players**, facilitate more opportunities for nurses, recognise Indian seafarers' certificates and enter into a joint dialogue on a social security agreement.
- In return, India will **lift restrictions to enable British fruit producers** to export their produce to the country and improved access to medical devices through the acceptance of the "UK Certificates of Free Sale".
- The two sides will also work towards **reciprocal opening up of legal services**.

### Roadmap 2030 for India-UK future

- It was launched during India-UK Virtual Summit. This ambitious Roadmap, we will elevate the India-UK relationship to a Comprehensive Strategic Partnership (CSP).
- Both the countries will have an **annual Strategic Review meeting at the Foreign Minister level** to monitor the implementation of the Roadmap.

### Key Highlights of The Roadmap

#### A. **Connecting our countries and people** – This will be achieved through

1. Political
2. Migration and Mobility
3. Consular cooperation
4. Education, Research and Innovation and Enterprise
5. Culture
6. Connectivity

#### B. **Trade and Prosperity** – It will have components

1. Trade
2. Financial Cooperation
3. Investment
4. Economic co-operation
5. Smart and Sustainable Urbanisation
6. Space
7. Cooperation in Nuclear Domain

#### C. **Defence and Security** – To achieve the objective in this part, both countries will focus on

1. Defence and International Security
2. Maritime Cooperation
3. Joint Exercises and Professional Military Exchanges
4. Defence Collaboration (Research, Innovation, Technology and Industry)
5. Cyber Security
6. Counter-Terrorism

D. **Climate** - To achieve this and related objectives, both the countries will

1. India/UK Partnerships
2. Clean Energy and Transport
3. Adaptation and Resilience
4. Nature and biodiversity
5. Waste Management and the Circular Economy
6. Regional and Multilateral Cooperation

E. **Health** – This sector will include cooperation in

1. Covid19 and Pandemic Preparedness
2. AMR (Anti-Microbial Resistance)
3. Non-Communicable Diseases
4. Digital Health
5. Ayurveda and Alternative medicine
6. NHS Partnership and Health Worker Mobility

## *Human Rights*

Human rights have been defined as **basic moral guarantees** that people in all countries and cultures allegedly have simply because they are people. Calling these guarantees “rights” suggests that they attach to particular individuals who can invoke them, that they are of high priority, and that compliance with them is mandatory rather than discretionary. Human rights are standards that recognize and protect the dignity of all human beings and govern how individual human beings live in society and with each other, as well as their relationship with the State and the obligations that the State have towards them. The moral doctrine of human rights aims at identifying the fundamental prerequisites for each human being leading a minimally good life and refer to a wide continuum of values or capabilities thought to enhance human or protect human interests.

### **Characteristics of Human Rights**

#### **Universal and Inalienable**

The principle of universality of human rights is the cornerstone of international human rights law. This means that everyone is equally entitled to human rights. At the same time, human rights are inalienable. They should not be taken away, except in specific situations and according to due process. For example, the right to liberty may be restricted if a person is found guilty of a crime by a court of law.

#### **Indivisible And Interdependent**

All human rights are indivisible and interdependent. This means that one set of rights cannot be enjoyed fully without the other. For example, making progress in civil and political rights makes it easier to exercise

economic, social and cultural rights. Similarly, violating economic, social and cultural rights can negatively affect many other rights.

### **Equality and Non-discrimination**

All individuals are equal as human beings and by virtue of the inherent dignity of each human person and they are entitled to their human rights without discrimination of any kind, such as race, colour, sex, ethnicity, age, language, religion, birth or other status.

### **Participation and inclusion**

Every person and all peoples are entitled to active, free and meaningful participation in, contribution to, and enjoyment of civil, political, economic, social and cultural development, through which human rights and fundamental freedoms can be realized.

### **Accountability And Rule Of Law**

States and other duty-bearers must comply with the legal norms and standards enshrined in human rights instruments. Where they fail to do so, aggrieved rights-holders are entitled to institute proceedings for appropriate redress before a competent court or other adjudicator, in accordance with the rules and procedures provided by law.

## **United Nations and Human Rights**

- The United Nations, founded in 1945 after World War II was created principally to maintain international peace and security and to encourage and promote respect for human rights and fundamental freedoms.
- Between 1946 and 2006 the UN Commission on Human Rights (UNCHR), created as a subsidiary body of Economic and Social Council (ECOSOC), served as the UN's central policy organ in the human rights field.
- During its first two decades, together with other UN bodies such as the ILO, UNESCO, the UN Commission on the Status of Women, and the Commission on Human Rights Crime Prevention and Criminal Justice, it concentrated on setting human rights standards and drafting a number of historically vital international human rights instruments. Among the most important of these was the Universal Declaration of Human Rights.

## **Universal Declaration of Human Rights (UDHR)**

- The Universal Declaration of Human Rights (UDHR) is a milestone document in the history of human rights. Drafted by representatives with different legal and cultural backgrounds from all regions of the world, the Declaration was proclaimed by the United Nations General Assembly in Paris in 1948 as a common standard of achievements for all peoples and all nations.
- Considered a foundational text in the history of human and civil rights, the Declaration consists of 30 articles detailing an individual's basic rights and fundamental freedoms.
- Although not legally binding, the contents of the UDHR have been incorporated into subsequent international treaties, regional human rights instruments, and national constitutions and legal codes.
- UDHR, together with the International Covenant on Civil and Political Rights and its two Optional Protocols (on the complaints procedure and on the death penalty) and the International Covenant on

Economic, Social and Cultural Rights and its Optional Protocol, form the so-called International Bill of Human Rights.

- The International Covenant on Economic, Social and Cultural Rights entered into force in 1976. The International Covenant on Civil and Political Rights and its First Optional Protocol entered into force in 1976. The Second Optional Protocol was adopted in 1989.

### **United Nations Human Rights Council (UNHRC)**

- The UNHRC was established by the United Nations General Assembly in 2006, to replace the United Nations Commission on Human Rights (UNCHR). UNHRC is an inter-governmental body within the United Nations system responsible for strengthening the promotion and protection of human rights around the world.
- Members meet around three times a year to debate human rights issues and pass non-binding resolutions and recommendations by majority vote. It responds to human rights emergencies and is responsible for investigating alleged human rights violations.
- **Structure of UNHRC**
  - The UNHRC has 47 members elected for three-year terms on a regional group basis.
  - The members of the United Nations General Assembly elect the members of the UNHRC.
  - The seats are distributed along the following lines: 13 for the African Group; 13 for the Asia-Pacific Group; 6 for the Eastern European Group; 8 for the Latin American and Caribbean Group; 7 for the Western European and Others Group.
- **Functioning of UNHRC**
  - One year later, in 2007, the UNHRC adopted its '**Institution Building Package**' to guide its work and set up its procedures and mechanisms. It includes the Universal Periodic Review, Advisory Committee and the Complaint Procedure.
  - The **Universal Periodic Review** mechanism is used to assess the human rights situations in all United Nations member states.
  - The **Advisory Committee** serves as the Council's "think tank" and provides expertise and advice on thematic human rights issues.
  - The **Complaint Procedure** allows individuals and organizations to bring human rights violations to the attention of the UNHRC.
  - The UNHRC also works with the **UN Special Procedures** established by the former Commission on Human Rights. These are made up of special representatives, independent experts and working groups that monitor, examine, advise and publicly report on thematic issues or human rights situations in specific countries.
- **Criticisms of UNHRC**
  - The main criticism against UNHRC is that it is made up of states not known for their human rights records and some of them are even frequent violators of human rights.
  - It has also been criticised as a mere debate forum with no impact on the actual ground scenario. However, it is important to note that accountability for human rights start by exposing these problems.

- In this regard, UNHRC's work demonstrates a much more determined and systematic attempt by the international community to monitor human rights violations.
- Furthermore, the Universal Periodic Review has added another layer of transparency and accountability for upholding international human rights norms.
- Nonetheless, greater documentation of violations does not translate into real accountability. Resources to do the field work are scarce and need to be replenished.
- Thus, a special implementation fund should be created to provide both governmental and nongovernmental bodies the tools they need to implement the hundreds of important and useful recommendations of the UNHRC.

### **Human Rights In India**

- The rights in the Universal Declaration of Human Rights are almost completely covered in the Indian Constitution either in Fundamental Rights or Directive Principles of State Policy
- India established the National Human Rights Commission (NHRC) in 1993 under the Protection of the Human Rights (PHR) Act, 1993. The Commission is an embodiment of India's concern for the promotion and protection of human rights.
- The members of the commission are appointed by the President on the recommendation of a Selection Committee.

### **Functions of NHRC**

- The NHRC plays four key roles — protector, advisor, monitor and educator of human rights. It investigates complaints regarding the violation of human rights either suo moto or after receiving a petition.
- It investigates the failure of duties on the part of any public official in preventing the violation of human rights and intervenes in any judicial proceedings involving any allegation of violation of human rights.
- The Commission is responsible for spreading of human rights awareness amongst the masses and encouraging the efforts of all stake holders in the field of human rights literacy not only at the national level but at international level too.

### **Achievements of NHRC**

- However, the Commission has taken up many important cases for the better protection and promotion of human rights in the country in domains like custodial deaths, fake encounters and police excesses.
- It is responsible for disposal of more than 17 lakh cases, payment of more than Rs 1 billion to victims of human rights violations, apart from conducting over 200 conferences to spread awareness of human rights across the country.
- On the recommendation of the NHRC, the Government has ratified the two optional protocols to the Convention on the Rights of the Child, viz. Optional Protocol to the CRC on the involvement of children in armed conflict and Optional Protocol to the CRC on the sale of children, child prostitution and child pornography.

- It is actively involved, in collaboration with other organisations, in providing human rights sensitisation and training to civil servants, personnel of army and paramilitary forces, judicial officers and prison officials.

### **Criticism of NHRC**

- It is important to note that the recommendations of NHRC are only advisory and not binding in nature. Much of the complaints that come to the commission are dismissed on procedural grounds even before a preliminary hearing, and critics argue that the NHRC shies away from contentious cases with political implications.
- The NHRC, woefully lacks the infrastructure to fulfil its mandate. Apart from the limited sanctioned strength, almost 50 per cent of the NHRC's staff is on deputation from other services. These officers keep changing, leaving the commission constantly short-staffed.
- The perennial staff shortage has meant that the NHRC, despite its quasi-judicial nature, has a problem similar to the courts - pendency.
- Furthermore, the NHRC does not have any jurisdiction to independently investigate human rights violations perpetrated by the armed forces. However, a very large number of complaints of human rights violations are directed against the members of the armed forces.

### **Lack of Independence**

- NHRC's independence has always been in question given that the very state, which causes the human rights violations, has to fund and provide resources to the rights watchdog.
- The officers conducting investigations are usually on deputation from the same forces that have been accused of violations and have to inevitably go back to them, creating a conflict of interest.
- Most instances of human rights violations that the NHRC investigates are against the police and, ironically, the commission comes under the Home Ministry. Inexcusable parliamentary delays in considering the NHRC's annual reports, thereby delaying the report's public release.

As enunciated in the first article of UDHR, all human beings are born free and equal in dignity and rights and they are endowed with reason and conscience. This, not only gives every individual the right but also the responsibility to uphold their own and other's rights and act towards one another in a spirit of brotherhood.

## MAINS Q&A

1. “Unpaid care work is the main barrier preventing women from getting into, remaining and progressing in the labour force”. Discuss.

### Answer

The manifestos for the ongoing Assembly elections in India have promised various forms of payment to homemakers, thus putting the spotlight on the unpaid domestic work done by women.

Unpaid care work, according to the OECD, refers to all unpaid services provided within a household for its members, including *care of persons, housework and voluntary community work*. These activities are considered work because theoretically one could pay a third person to perform them. Standard measures of economic activity do not take into account a large portion of this work, much of which is done by women and girls. The gender inequalities in the time allocated to this work are glaring, with **McKinsey estimating that women do 75% of the world's total unpaid care work**.

### **Extent Of Unpaid Care Work Done By Women In India**

- In India, **women spend 299 minutes a day on unpaid domestic services** while men spend 97 minutes, according to the **2019 NSS report on time use**. This inequality has a direct correlation with participation in the formal economy.
- **India has slipped 28 places** to rank 140th among 156 countries in the **World Economic Forum's Global Gender Gap Report 2021**. Among the drivers of this decline is a decrease in women's labour force participation rate, which fell from 24.8 % to 22.3 %.
- It also estimated that **earned income of women in India is only one-fifth of men's**, which puts the country among the bottom 10 globally on this indicator. The **economic contribution of women is 17% of India's GDP** — less than half the global average.
- However, as the time use survey shows, **women spend a disproportionate amount of time (compared to men) on unpaid domestic work**, which is ironically the 'hidden engine' that keeps economies, businesses and societies running and contributes significantly to individual well-being.
- While this work is foundational for societies, it is mostly **invisible, undervalued and unaccounted** Worldwide. The ILO estimates that if such services were to be valued on the basis of an hourly minimum wage, they would amount to 9 per cent of global GDP (US\$11 trillion).

### **Challenges In Measuring And Monetizing Care Work**

- The value of unpaid work can be estimated by **calculating the amount of time spent on it – through time use surveys** – and then putting a price on it by calculating the opportunity cost or replacement cost, or by measuring the labour inputs that go into the activity. But this has its own challenges.
- According to an **Oxfam survey**, care work is often not considered 'work' and done 'automatically', hence **respondents are less likely to report time spent on care**. It is also difficult to capture the whole spectrum of care work as *multitasking* is common. For example, women might look after children while cooking or engaging in farm work.
- Another issue that arises is **accounting for unpaid work in national accounts**, and its international harmonisation. The System of National Accounts (SNA) puts unpaid labour in the category of '**own-account services**', and excludes it from the activities in the production account.

- There are instances of cash transfer schemes for women – such as Goa’s Griha Aadhar scheme and Assam’s Orunodoi scheme – but they are **positioned as financial support rather than payment for housework**.
- Apart from questions of implementation – **who pays, in what form, who gets it and how much** – payment for housework raises other issues regarding social implications and unintended consequences – whether it would further perpetuate patriarchal and caste inequalities.

### Way forward

- **Recognizing its value:** This requires data, especially on time-use. More data will make more unpaid care work visible and help frame targeted policies and enable better monitoring of the impact of policies and investments. The ‘NSS Report- Time Use in India 2019’ was the first such countrywide survey to be conducted in India.
  - **Investment in physical infrastructure:** Reducing unpaid care work by investment in physical infrastructure like clean water and sanitation, energy and public transport, and in social infrastructure such as care and health services and education.
  - **Redistribution of care work:** The redistribution of care work between men and women, and between families and the state will encourage positive social norms and economic development.
  - **More equitable childcare and maternity policies:** Policies should address the rising need for care and tackle the huge disparity between women’s and men’s care responsibilities. It could help reduce the ‘motherhood penalty’. This approach would help address discriminatory social institutions, encourage awareness and ‘de-feminise’ care work.
  - **Sustainable Development Goal 5:** It talks about recognising unpaid domestic work through the provision of public services, infrastructure and social protection policies and promotion of shared responsibility within the household, which will help ensure women’s full and effective participation at all levels of decision-making in political, economic and public life.
  - **Measuring unpaid care work:** The efficacy of classic economic indicators like GDP and unemployment rates in measuring living standards and social progress do not take into account the allocation of labour and time resources by households and their impact on livelihoods and well-being. Measuring unpaid care work is thus key to arriving at more inclusive socio-economic indicators, and in formulating policies to address the gender gap.
2. **The Supreme court recently observed that overcrowding of prisons, results in the violation of social distancing norms, and thus, poses a great threat during the ongoing pandemic. In this light, discuss the challenges associated with overcrowding of Prisons in India and suggest remedial measures?**

### Answer

Indian prisons have been housing more inmates than their capacity for decades now and this problem of overcrowded prisons is only getting worse. As on December, 2019, there were 4,78,600 inmates lodged in different prisons in India while they had a collective capacity to house only about 4,03,700 inmates. This means the number of **prisoners was 118.5% of the prison capacity, the highest since 2010**.

Eleven states have reported overcrowded prisons for five consecutive years. Prisons in Delhi were the most overcrowded among all states and union territories – there were about 17,500 prisoners lodged in jails with a collective capacity of about 10,000, which is a **prison overcrowding rate of 175%**. Uttar

Pradesh and Uttarakhand followed next in overcrowding at 168% and 159% respectively. Overcrowded prisons are more of a concern at present as the Covid-19 infection continues to spread in the country.

### **Overcrowding of Prisons- Challenges**

- **Shortage of adequate accommodation:** The populace of India is expanding step by step and along these lines combined with ascend in the wrongdoing; the quantity of detainees is likewise expanding fast. In India, as per the Prison Statistics India, brought out by the National Crime Records Bureau (NCRB) there has been an **average occupancy rate of 114% in most of the prisons.**
- **Poor Infrastructure of the Jail:** Prison structures in India are in dilapidated condition. Further, lack of space, poor ventilation, poor sanitation and hygiene make living conditions deplorable in Indian prisons.
- **Issue of Undertrials:** About 67% of total inmates were undertrials, which has further complicated the problem. The long incarceration of undertrial in any form is uncivilized, especially when it is so long drawn out and when the objective of criminal punishment should be one of reform rather than wreaking vengeance on a perpetrator of crime.
- **Poverty:** For poor and marginalized it is also difficult to get bail, which leaves them no option but to stay in jails and wait for courts final order.
- **Staff Shortage and Poor training:** The ratio between the prison staff and the prison population is approximately 1:7. In the absence of adequate prison staff, overcrowding of prisons leads to rampant violence and other criminal activities inside the jails
- **Lack of legal aid:** Legal aid lawyers are poorly paid and often over-burdened with cases. Further, there is no monitoring mechanism to evaluate the quality of legal aid representation in most states.
- **Custodial deaths:** In 2015, a total of 1,584 prisoners died in jails. A large proportion of the deaths in custody were from natural and easily curable causes aggravated by poor prison conditions. Further, there have been allegations of custodial deaths due to torture.
- **Unnecessary arrests:** Over 60 per cent of arrests were unnecessary and such arrests accounted for 3 percent of jail expenditure.

### **Ways to Reduce Prison Overcrowding**

- **Speedy trial:** Speedy trial remains one of the best ways to remedy the unwarranted phenomenon of overcrowding of prisons.
- **Special fast-track courts:** The fast-track courts be set up to deal exclusively with petty offences which have been pending for more than five years. Further, the accused persons who are charged with petty offences and those granted bail, but who are unable to arrange surety should be released on a Personal Recognizance Bond.
- **Alternatives to a jail term:** The courts should exercise discretion to award alternative sentences to imprisonment, such as fines, admonitions, and community service. Also, the courts could release offenders/ prisoners on probation at pre-trial stage and after trial in deserving cases.
- **Early release or parole:** Awarding those with good behavior with early release or parole is a great incentive to create better environments and outcomes for non-violent prisoners who receive education, rehabilitation or treatment.
- **Standardizing and reducing sentence lengths:** It can lower overcrowded prisons by routinely cutting sentences down to more manageable and suitable times.
- **Treatment for mental illness and drug Addiction:** Most prisons are ill-equipped to meet the needs of individuals who are mentally ill and once released, resulting in re-offending. Specialist facilities

could reduce the likelihood of re-offenses by getting the mentally ill and drug addicts better suited to manage their situations.

3. **Covid fatalities in the country have led to a rise in the number of orphans. This has led to concerns over violation of the adoption process in the country. Delineate the adoption process in India and the recent guidelines by the Centre to address the issue.**

### **Answer**

As Covid fatalities rise across the country, several children under the age of 18 have been orphaned. Messages circulating on social media containing adoption appeals for children have raised concerns.

#### **Adoption In India**

- Adoption is the process of legally establishing a parent-child relationship between persons who do not share this relationship biologically. In India, the **Central Adoption Resource Authority (CARA)** is mandated to monitor and regulate in-country and inter-country adoptions. CARA is a statutory body of Ministry of Women & Child Development.
- CARA is designated as the Central Authority to deal with inter-country adoptions in accordance with the provisions of the **Hague Convention on Inter-country Adoption, 1993**, ratified by India in 2003.
- Three laws govern adoption in the country:
  - i) **Hindu Adoption and Maintenance Act of 1956**, which is applicable to Hindus, Buddhists, Jains and Sikhs;
  - ii) **Guardian and Wards Act of 1890**, which is applicable to Muslim, Parsi, Christian and Jews in adoption; and
  - iii) **Juvenile Justice (Care and Protection) Act of 2000**.

#### **Process Of Adoption In India**

- Ordinarily, to adopt a child in India, a Prospective Adoptive Parent (PAP) has to upload their application for adoption and relevant documents on CARA's website.
- A home study of the PAP by a social worker of a **Specialised Adoption Agency (SAA)**, (which is an agency recognised by CARA) is then conducted, and uploaded on the website.
- Profiles of children identified as legally free for adoption are then shared by the SAA with the prospective parents, who are supposed to "reserve" a child within 48 hours. The SAA is then supposed to "match" the child with the prospective parent within a period of 20 days.
- According to the Juvenile Justice Act, earlier the SAA along with the prospective parent were supposed to file a petition in the designated court regarding the final decision on adoption. However, earlier this year, the Union Cabinet cleared amendments to the Act, allowing powers to the **District Magistrate** instead of the district court to grant final approval in adoption cases. This was done to speed up the process of adoption.

#### **Conditions For Adoption**

- Prospective Adoptive Parents should be physically, mentally and emotionally stable and financially capable. PAPs should not be suffering from any life-threatening diseases.
- Any PAP, irrespective of his/her marital status, can adopt a child. A single female can adopt a child of any gender. However, a single male is not eligible to adopt a girl child.

- In case a couple is adopting a child, they should have completed at least two years of stable marriage and should jointly agree to adopt the child.

### **Covid Related Guidelines**

To stop child trafficking amid pandemic, the Ministry of Women and Child Development (MWCD) has also laid down the procedure for rehabilitation of children who have lost their parents to Covid.

- MWCD has made it clear that any person who wants to adopt an orphaned child may approach CARA.
- Parents infected with Covid-19 who are being admitted to hospitals should declare in a form who their children should be handed over to if they die.
- Further, a child who has lost both parents to Covid-19 should be produced before the ***District Child Welfare Committee within 24 hours***. Information about any child who lost both parents can be shared with child welfare helpline (1098).

Ensuring that the adoption process is followed properly will not only put these children in the right hands but also protect them from human trafficking nets and lay the foundation of a better future for distressed children.

4. **The University Grants Commission (UGC) has released a concept note on blended mode of teaching and learning in Higher Education Institutes (HEIs). Elucidate various features of the proposed mode of blended learning.**

### **Answer**

- The University Grants Commission (UGC) has released a draft concept note on blended mode of teaching and learning in Higher Education Institutes (HEIs).
- As per the concept note, HEIs should be allowed to teach up to 40 per cent of each course through online mode and the remaining 60 per cent of the course through offline mode.
- The concept note has been prepared in accordance with the new National Education Policy (NEP), which gives acceptability to multiple modes of learning including face to face learning, online learning and distance or virtual mode.

### **Blended Learning**

- Blended learning is ***not just*** a mix of online and face-to-face mode, but it refers to a well-planned combination of meaningful activities in both the modes.
- The blend demands consideration of several factors, mainly focussing on learning outcomes and the learner centred instructional environment.
- It intends to create a structure where students can *pick teachers and timings; frame their own courses; design degrees; and study through any mode* with learning and examinations on demand.

### **Role of Teachers**

- Traditionally, classroom instruction has largely been teacher-directed, top-down, and one-size-fits-all. However, with blended learning, it now becomes more student-driven, bottom-up, and customised.
- Blended learning shifts the teacher's role from knowledge provider to coach and mentor.
- This shift does not mean that teachers play a passive or less important role in students' education. In fact, with blended learning, teachers can have a deeper influence and effect on students' learning.

**Infrastructure Upgradation**

- The concept note underlines that availability of infrastructure is fundamental to teaching and learning.
- Thus, required infrastructure for online systems such as accessibility of internet, bandwidth, hardware, space and other related resources should be made easily available for the smooth execution of blended teaching-learning process.
- The financial aid required to develop the infrastructure and resources must also be provided.

**Evaluation Process**

- In order to implement blended learning, the area of assessment and evaluation needs to be explored again.
- Exams for teaching under both modes (online and offline) can be conducted online. The concept note suggests *Continuous Comprehensive Evaluation (CCE)* in universities and colleges.
- Summative evaluation strategies including open book examination, group examinations even for conventional theory papers, spoken examinations, on demand examinations have been recommended.
- Classroom/online quizzes can be used along with developing creative products for evaluation.

Blended learning will bring about a significant transformation in knowledge dispensation by improving learning skills, greater access to information and improved satisfaction and learning outcomes.

**Extra Mile****Continuous Comprehensive Evaluation (CCE)**

- CCE evaluates students through a series of curricular and extra-curricular evaluations along with academics.
- The idea is to decrease the workload on the student by taking a number of small tests throughout the year in place of single test at the end of the academic program.

**University Grants Commission**

- The University Grants Commission (UGC) is a statutory body responsible for coordination and maintenance of standards of higher education in India.
- The UGC was first formed in 1945 to oversee the work of the three Central Universities of Aligarh, Banaras and Delhi. Its responsibility was extended in 1947 to cover all Indian universities.
- In 1956, the UGC became a statutory body, upon the passing of the University Grants Commission Act, 1956.
- **Functions**
  - 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; giving funds 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 education.

**5. The Ministry of Agriculture and Farmers Welfare recently enhanced the allocation for Mission for Integrated Development of Horticulture (MIDH). What is the Mission for Integrated Development of Horticulture? Highlight the impact of MIDH along with the significance of Horticulture.**

### **Answer**

Horticulture is a branch of plant agriculture dealing with garden crops, generally fruits, vegetables, and ornamental plants. It is the science of development, sustainable production, marketing and use of high-value, intensively cultivated food and ornamental plants.

### **Significance of Horticulture**

- Horticulture crops are a source of variability in farm produce and diets. They also have aesthetic value and protect the environment.
- Horticulture crops are useful for cultivation in wasteland or poor quality soil. They are of high value, labour intensive and generate employment throughout the year. They have national and international demand and are a good source of foreign exchange.
- Horticultural produce serves as raw material for various industries, such as processing, pharmaceutical, perfumery and cosmetics, chemical, confectionery, oils and paints, etc

### **Mission for Integrated Development of Horticulture**

- Mission for Integrated Development of Horticulture (MIDH) is a Centrally Sponsored Scheme, launched in 2014-15, for the holistic growth of the horticulture sector.
- The Central Government contributes 85% of total outlay for developmental programmes in all the states except the states in North East and Himalayas and 15% share is contributed by State Governments.
- MIDH covers fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo.

### **Objectives**

- Promote holistic growth of horticulture sector, based on regionally differentiated strategies, which include research, technology promotion, post-harvest management, processing and marketing.
- Encourage farmers to form farmer groups like Farmer Producer Organizations (FPOs) to bring economy of scale. Enhance horticulture production, increase farmer's income, and strengthen nutritional security.
- Support skill development and create employment generation opportunities for rural youth in horticulture and post-harvest management, especially in the cold chain sector.

### **Impact**

- MIDH has played a significant role in increasing the area under horticulture crops. Area and production during the years 2014-15 to 2019-20 has increased by 9% and 14% respectively.
- Government intervention in the horticulture sector has led to a situation where horticulture production has surpassed the agriculture production in the country.
- During the year 2019-20, the country recorded its highest ever horticulture production of 320.77 million tonnes from an area of 25.66 million hectares. Moreover, the mission has led to significant improvement in the quality of produce and productivity of farmland.

However, the horticulture sector is still facing a lot of challenges in terms of high post-harvest loss and gaps in post-harvest management and supply chain infrastructure. Initiatives like focus on planting material production, cluster development programme, credit push through Agri Infra Fund, formation and promotion of FPOs will help to address the issues in the horticulture sector.

Addressing the challenges will not only lead to India's self-sufficiency in the horticulture sector but also contribute towards achieving sustainable development goals of zero hunger, good health and wellbeing, no poverty and gender equality. Realising this, the Ministry of Agriculture and Farmers Welfare has provided an enhanced allocation of Rs. 2250 Crore for the year 2021-22 for 'Mission for Integrated Development of Horticulture' (MIDH). The allocation is significantly higher than the previous year allocation.

**6. The Supreme Court recently upheld a government notification related to personal guarantors under the Insolvency and Bankruptcy Code. Throw light on the issue, the Supreme Court ruling on the issue and its impact.**

**Answer**

- The Insolvency and Bankruptcy Code (IBC) provides a time bound process for resolving insolvency in companies and also among individuals. Insolvency is a situation where individuals or companies are unable to repay their outstanding debt.
- If a default occurs, the IBC allows the creditors of the company or the company itself to initiate a corporate insolvency resolution process (CIRP) by filing an application before the National Company Law Tribunal (NCLT).
- In November 2019, a government notification allowed lenders to initiate insolvency proceedings against personal guarantors, who are usually promoters, chairpersons and directors of big business houses.
- As per the notification, the National Company Law Tribunal (NCLT) would be the common forum for recovery of debt from debtors and the guarantors.
- However, the petitioners had claimed that the Centre did not have the power to extend IBC provisions to personal guarantors of corporate debtors.
- Later, the Supreme Court had transferred the petitions from High Courts to itself. The SC had also passed an interim order, staying the insolvency proceedings against personal guarantors.

**SC Ruling**

- The SC held that the notification in question is "legal" and "valid". The apex court said there was an "intrinsic connection" between personal guarantors and their corporate debtors.
- Due to this connection the government decided that corporate debtors and their personal guarantors should be dealt by a common forum - NCLT - through the same process.
- It further held that personal assets of chairpersons and directors, who gave guarantee for corporate loans from banks, would face liability in the resolution process under IBC.
- Thus, the resolution proceedings under the IBC would now consider the assets of personal guarantors while formulating a resolution plan.
- The petitioners had argued that the approval of a resolution plan extinguishes the liability of the personal guarantor (frees the personal guarantor from the responsibility of a guarantor).

- However, the SC held that the insolvency proceedings against the debtor does not extinguish the liability of the personal guarantor.

### Impact

- The Supreme Court ruling will help the creditors to recover the remaining debt from personal guarantors after the conclusion of the Corporate Insolvency Resolution Process.
- In fact, side by side bankruptcy proceedings before the same forum for both the corporate debtors and their personal guarantors, would help the NCLT to consider the total amount of assets available during the insolvency process.
- This would facilitate a realistic framing of resolution plans, by taking into account the assets of the personal guarantors.
- Including guarantors in the insolvency proceedings, will increase the possibility of guarantors to arrange for the payment of the debt to the creditor bank, which

The current ruling would go a long way in addressing the NPA issue and the overall health of the banking system, consequently maximising the value of assets and promoting entrepreneurship, which is one of the main purpose of IBC.

### Extra Mile

#### Concept of Guarantee

- The concept of 'guarantee' is derived from Section 126 of the **Indian Contracts Act, 1872**.
- A contract of guarantee is made among the debtor, creditor and the guarantor. If the debtor fails to repay the debt to the creditor, the burden falls on the guarantor to pay the amount.
- Usually, promoters of big businesses submit personal guarantees to creditors to get loans and assure repayment.

### 7. In India, the absence of uniform law to deal with its huge refugee population brings ad-hocism while providing enough scope for unequal treatment towards refugee groups. Comment.

#### Answer

India is a home of millions of refugees and asylum seekers such as Tibetans, Afghani, Burmese, Pakistani, Bangladeshi, Sri Lankans and Africans. Indian hospitality of welcoming these people lies in the ancient tradition of 'Athithi Devo Bhav' (Guest is our God).

However, the Indian government had announced its decision to deport 40000 Rohingya, including UNHCR recognised refugees. Not only has this step violated the ancient tradition of Athithi Devo Bhav, but it also highlighted flaws in Indian approach while dealing with refugees. These are:

- India has **not signed the 1951 Refugee Convention** which leads to **legal insecurity of refugees' status and difficulty to access in terms of refugee rights**.
- Due to the absence of specific laws, refugees and asylum seekers are **regulated under the Foreigners Act, 1946**. As a result, these people are **treated similar to tourist, illegal immigrants, and economic immigrants**.
- Absence of uniform law leads to **unequal treatment** towards refugee groups. This is reflected in how refugees from Tibet are well received compared to refugees from Myanmar in India.

- Incoming refugees are treated based on their **national origin and political considerations**, questioning the uniformity of rights and privileges granted to refugee communities as per the international human rights conventions and UN treaties.
- Recently, Indian Citizenship rules have been amended to accommodate specifically Hindu refugees from Pakistan and Bangladesh, ignoring other groups of refugees in need of protection.
- Analysts have termed this step to be motivated by **nationalist politics rather than humanitarian concern**.

**Conclusion:**

- Over the years India has received wave after wave refugees from many of its neighbours. And India has generally followed the **principle of non-refoulement**.
- However, Rohingya crisis has highlighted the fact that **an adaptive approach** towards the sensitive human rights issues like refugees **might lead to isolation among world community**.
- If India wants a permanent position in the United Nations Security Council and wants to provide able leadership to the world, then it must set a good example in South Asia by providing a secure legal protection to its refugees and asylum seekers.

**Safe Passage to Seven Myanmar Nationals to Approach UNHCR**

The **Manipur High Court** has allowed seven Myanmar citizens to **seek protection from the office of United Nations High Commissioner for Refugees** in New Delhi. The court directed authorities in the state to make arrangements for their transportation.

**What Was The Issue**

- The seven Myanmar citizens **fled after a coup plunged Myanmar into crisis**. They took shelter in Moreh in Tengnoupal district of Manipur.
- In March 2021, the Ministry of Home Affairs (MHA) had directed the authorities of the border states in the North-East and the Assam Rifles to check the flow of illegal migrants from Myanmar in the wake of the coup.
- Against this order, a petition was filed in Manipur HC. The petition contended that the order of MHA **failed to differentiate between a migrant and a refugee**.

**Observation Made by The HC:**

- The HC noted that **though India has no clear refugee protection policy** or framework, it **does grant asylum** to a large number of refugees from the neighbouring country.
- It further noted that **India usually respects UNHCR's recognition of the status of such asylum seekers**, mainly from Afghanistan and Myanmar.
- Hence, the court observed that the seven in question are **not migrants**, but **are asylum seekers**.
- They fled the country of their origin under imminent threat to their lives and liberty. They aspire for **relief under International Conventions** that were put in place to offer protection and rehabilitation to refugees/asylum seekers.

**India's Refugee Policy**

- India does not have a national, regional or international policy for the protection of refugees. It is **not a party to the 1951 UN Refugee Convention and its 1967 Protocol**.

- The provisions of the **Foreigners Act, 1946**; the **Foreigners Order, 1948**; and the **Registration of Foreigners Act, 1939** are used to deal with the issue of refugees.
- Indian law does not define who is a refugee, the government can brand all refugees and asylum seekers under the umbrella “illegal migrant” term.
- Many analysts have termed India’s refugee policy as ambiguous. They often highlight the fact that the **Tibetan refugees were allowed to form an exile government** in India, the Tamilians that came in during the Sri Lankan civil war were put in strict, heavily monitored camps.
- Also, India is presently in the **process of deporting thousands of Rohingya Muslims originally from Myanmar**.

#### **Why India Has Not Joined The UN Refugee Convention?**

- India under Jawaharlal Nehru chose not to sign the 1951 Convention and the 1967 Protocol due to the **fear of international criticism** and **unnecessary interference** in what it has always maintained is its “internal matter”.
- The Convention requires the signatory nation to accord a minimum standard of hospitality and housing towards those it accepts as refugees. Failure to provide the minimum continues to attract a lot of international criticism for host nations even today.
- The **porous nature of borders in South Asia, continuous demographic changes, poverty, resource crunch, and internal political discontent** made it impossible for India to accede to the Protocol.
- Many analysts believe that that signing the 1951 Convention or its Protocol would have meant **allowing international scrutiny of ‘India’s internal security, political stability and international relations’**.

#### **Supreme Court Stand on Refugee**

- In the absence of refugee law in India, SC has interpreted the word “person” in the Article 21 of the Constitution in an unprecedented judicial tradition.
- According to the judicial interpretation of the SC, the term “person” also includes non-citizens.
- In cases of **Khudiram Chakma v. State of Arunachal Pradesh**, and **National Human Rights Commission v. State of Arunachal Pradesh**, the SC held that “all the refugees living in India have the right to life and the personal liberty” as enshrined in Article 21 of the Constitution of India.
- The ‘state is obligated to protect the life and freedom of each, be a citizen or otherwise, and it cannot permit individual or group of individuals to threaten the refugees, to leave.

**8. Due to various advantages inherent to it, cryptocurrencies like bitcoin are rapidly transforming into mainstream money. However, these virtual currencies are not entirely risk free. Discuss.**

#### **Answer**

Cryptocurrency is an electronic or digital currency that **works on a peer-to-peer basis**. It weeds out the need for a trusted third party such as a banks. Cryptocurrencies have shown impressive gains and many believe that it will offer serious competition to national currencies issued by central banks.

#### **Advantages:**

- Information is **Transparent** - With the block chain, all finalized transactions are available for everyone to see and anyone can verify the transaction.

- **User Anonymity** - Bitcoin purchases are discrete and cannot be traced back to him.
- **No Third-party Interruptions** - Governments, banks and other financial intermediaries have no way to interrupt user transactions or place freezes on Bitcoin accounts. As a result, users experience a greater degree of freedom than with national currencies.
- **Very Low Transaction Fees** - Since Bitcoin transactions have no intermediary institutions or government involvement, the costs of transacting are kept very low. This can be a major advantage for travelers and MSME sector.
- Additionally, any **transfer in Bitcoins happens very quickly**, eliminating the inconvenience of typical authorization requirements and wait periods.
- **Freedom in Payment** - Bitcoin users can pay for their coins anywhere they have Internet access. This means that purchasers never have to travel to a bank or a store to buy a product.

#### **Risks posed by these Currencies:**

- **Risk and Volatility** - There is no underlying or backing of any asset for these currencies and their value seems to be a matter of speculation. Huge volatility in their value has been noticed in the recent past.
- **Cyber Security Threat** – These are prone to losses arising out of hacking, loss of password, compromise of access credentials, malware attack etc.
- **Outside the regulatory zone** – These are being traded on exchange platforms set up in various jurisdictions whose legal status is unclear. Hence, the traders are exposed to legal as well as financial risks.
- **Source of Money Laundering and Terror financing** – Due to anonymity, black money can proliferate easily and terror funding becomes easy.

#### **Conclusion**

Cryptocurrency is still a relatively young and new currency. Global regulations must be passed at the earliest to govern crypto currency transactions across the world such that emerging economy concerns are addressed.

#### **NPCI Refuses to Ban Cryptocurrency**

- The domestic **payments authority** National Payments Corporation of India (NPCI) has refused to ban cryptocurrency transactions.
- It has put the **onus on banks whether to ban transactions** of cryptocurrency trades or not. Banks have been asked to take a decision based on the advice of their legal and compliance departments.

#### **Background:**

- Many banks have restricted payments for cryptocurrency deals. Almost half-a-dozen banks have directed payment gateway operators to blacklist merchants involved in the trade of cryptocurrencies.
- These banks had asked the agency to block crypto transactions on its network (UPI and RuPay cards).
- In March 2020, the Supreme Court of India **set aside the Reserve Bank of India's banking ban on cryptocurrency trading**. However, the Indian government has been mulling a ban on private cryptocurrencies.

**About NPCI**

- Serves as an umbrella body for the operation of retail payment in India
- Established by the **RBI along with the Indian Bank's Association** under the provisions of the **Payment and Settlement Systems Act, 2007**.
- **Few Products of NPCI** – RuPay, National Common Mobility Card, UPI, BHIM etc.

**Inter-Ministerial Committee on Virtual Currencies**

- In July 2019, **Inter-Ministerial Committee on Virtual Currencies** has submitted its Report along with **Draft Bill 'Banning of Cryptocurrency & Regulation of Official Digital Currency Bill, 2019'**. The committee was headed by **finance secretary Subhash Chandra Garg**.

**Key Highlights:**

- The report has highlighted the **positive aspect of distributed-ledger technology (DLT)** and suggested various applications, especially in financial services, for use of DLT in India.
- These applications are - loan-issuance tracking, collateral management, fraud detection and claims management in insurance, and reconciliation systems in the securities market etc.
- The report has **recommended banning of the cryptocurrencies** in India and **imposing fines and penalties** for carrying on of any activities connected with cryptocurrencies in India.
- As virtual currencies and its underlying technology are still evolving, the Group has proposed that the Government may establish a Standing Committee to revisit the issues addressed in the Report as and when required.

**What Are Distributed Ledgers?**

- A distributed ledger **is a database** that is **consensually shared and synchronized** across multiple sites, institutions or geographies.
- It allows **transactions to have public "witnesses,"** thereby making a cyberattack more difficult.
- The participant at each node of the network can access the recordings shared across that network and can own an identical copy of it.

**9. NASA has planned to send baby squids and tardigrades to the International Space Station. Highlight the significance of the move.**

**Answer**

On June 3, NASA will send 128 **glow-in-the-dark baby squids** and some 5,000 **tardigrades (also called water bears)** to the **International Space Station** for research purposes. The water animals will be launched aboard **SpaceX's 22nd cargo resupply** mission to the ISS. The experiment is composed of two **Fluid Processing Cassettes (FPC)** that will house an experimental group and a control group.

**Significance Of the Move**

- The **water bears and bobtail squid** will be involved in experiments aboard the **floating laboratory** and will be arriving in a **semi-frozen state** before they are thawed out, revived and grown in a **special bio culture system**.
- **Tardigrades, aka water bears, can live in the most extreme environments, making them a fascinating organism to study.**

## VAJIRAM & RAVI

- These are part of experiments that could help scientists design improved protective measures for astronauts going on long-duration space travel.
- The experiments are aimed at **better understanding how beneficial microbes** interact with animals, potentially leading to breakthroughs in improving human health on Earth.
- One of these studies involves looking at how the **water bears– tiny animals (around 1mm long)** that can adapt to extreme conditions on Earth, including high pressure, temperature and radiation– would behave in a spaceflight environment.
- By learning how the water bears can survive in low gravity conditions, it would be possible to design better techniques to **keep astronauts healthy on long-duration space missions.**
- Scientists also want to look at how **microgravity conditions** affect the relationship between the **bobtail squid** – which are also tiny (3 mm long)– and beneficial microbes, as part of a study called UMAMI, short for **Understanding of Microgravity on Animal-Microbe Interactions.**
- Microbes play a **crucial role** in the normal development of animal tissues and in maintaining human health, and the research will allow scientists to have a better **understanding of how beneficial microbes interact with animals** when there is a lack of gravity.
- In the **human body**, microorganisms contribute to a variety of functions, including digestion, developing the immune system and detoxifying harmful chemicals. A disruption in our relationship with these microbes can lead to disease.



### Extra Mile

#### Space Station

- A space station is **essentially a large spacecraft** that remains in **low-earth orbit** for extended periods of time. It is **like a large laboratory in space** and allows astronauts to come aboard and stay for weeks or months to carry out experiments in microgravity.
- The **ISS has been in space since 1998** and has been known for the exemplary cooperation between the **five participating space agencies** that run it: **NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada).**
- For over 20 years since its launch, humans have continuously lived and carried out **scientific investigations** on the \$150 billion ISS under microgravity conditions, being able to make breakthroughs in research not possible on Earth.
- As per NASA, the **floating laboratory** has hosted more than 3,000 research and educational investigations from researchers in 108 countries and areas, carrying out cutting edge research in various disciplines, including biology, human physiology, and physical, material and space science.

**PRELIMS MCQS**

1. 'Article 311' recently in news was related to which among the following?

- a) Safeguards to civil servants
- b) Functions of Public Service Commissions
- c) Reservation of seats for Scheduled Castes and Scheduled Tribes in the House of the People.
- d) Use of the Hindi language for the official purposes of the Union

**Answer: A**

**Explanation:**

Suspended police officer Sachin Waze, arrested by the National Investigation Agency (NIA) in connection with the Mukesh Ambani terror scare case, was dismissed from service by Mumbai Police Commissioner **under Article 311 (2) (b) without a departmental enquiry.**

**About Article 311**

- Article 311 says that no government employee either of an all-India service or a state government shall be dismissed or removed by an authority subordinate to the own that appointed him/her.
- Section 2 of the article says that no civil servant shall be dismissed or removed or reduced in rank **except after an inquiry** in which s/he has been informed of the charges and given a **reasonable opportunity of being heard in respect of those charges.**

**Exceptions Where A Person Can Be Dismissed Without Departmental Enquiry (DE)**

- As per Article 311 (2) (a), if a government employee is convicted in a criminal case, he can be dismissed without DE.
- Apart from this, under 311 (2) (c), a government employee can be dismissed when the **President or the Governor**, as the case may be, is satisfied that in the interest of the security of state it is not expedient to hold such an enquiry, the employee can be dismissed without DE.
- In Waze's case, Mumbai Police Commissioner wrote that he was the competent disciplinary authority and was satisfied that holding a departmental enquiry against Waze "**will not be reasonably practicable.**"
- The government employee dismissed under these provisions can approach **either tribunals** like the state administrative tribunal or Central Administrative Tribunal (CAT) or **the courts.**

2. Consider the following statements about Pradhan Mantri Swasthya Suraksha Yojana (PMSSY):

- 1. PMSSY is a centrally sponsored scheme.
- 2. New regional All India Institutes of Medical Sciences have been set up under PMSSY.

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

**Answer: B**

**Explanation**

- New regional All India Institutes of Medical Sciences (AIIMS), set up under the Pradhan Mantri Swasthya Suraksha Yojana, have played a very significant role in management of COVID since the beginning of the pandemic last year.
- The new AIIMS have responded to the challenge of the second Covid wave by expanding bed capacities (including Oxygen and ICU beds) for treatment for moderate and severe COVID patients.
- Being tertiary care centres, the new regional AIIMS also delivered other critical non-COVID health services to COVID patients such as those requiring dialysis or those with serious heart ailments, pregnant women and paediatric cases.
- Their contribution becomes even more significant as they serve areas where the health infrastructure was weak.

**PMSSY**

- Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) is a Central Sector Scheme. It was launched in 2006 to address imbalances in affordable healthcare facilities in the different parts of the country.
- It also aims to improve facilities for quality medical education in the under-served states of the country.
- Pradhan Mantri Swasthya Suraksha Yojana has two components.
  - a) Setting up of AIIMS like Institutions**
    - So far setting up of 22 new AIIMS has been approved under the scheme, out of which six AIIMS at Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur and Rishikesh are already fully functional.
    - In another seven AIIMS, OPD facility and MBBS classes have started, while in five more institutes only MBBS classes has started.
  - b) Upgradation of Government Medical Colleges (GMC):** 75 Projects have been considered under this component under different phases.

**3. Consider the following statements about aerosols:**

- 1. An aerosol is a solid particle suspended in a gas.**
- 2. Aerosols can scatter sunlight but cannot absorb it.**

**Which of the statements given above is/are incorrect?**

- |                        |                           |
|------------------------|---------------------------|
| <b>a) 1 only</b>       | <b>b) 2 only</b>          |
| <b>c) Both 1 and 2</b> | <b>d) Neither 1 nor 2</b> |

**Answer: B**

**Explanation**

- The Centre has released a new advisory, which warns that the SARS-CoV-2 virus can be transported through air as well in the form of aerosols.
- It was initially suggested that the virus spreads predominantly through large droplets that come out when a person is talking, sneezing or coughing.
- These droplets, because of their large size, were supposed to travel only short distances before falling on the ground. A person 6 feet (2 metres) away was considered safe from infection.

**Centre's Advisory**

- As per the advisory, droplets and aerosol remain the main modes of transmission of the Covid-19 disease. An aerosol is a suspension of fine solid particles or liquid droplets in air or another gas.
- The advisory has adopted a cautious approach, and warned that transmission through aerosols could happen even at a distance of 10 metres.
- In closed, unventilated indoor spaces, droplets and aerosols become quickly concentrated and greatly increase the risk of transmission to the people in the area.
- It stresses that the infection transmission risk was much lower in outdoor areas since the virus particles get easily dispersed.
- The advisory has also warned of the possibility of surface transmission. Surface transmission takes place when droplets fall on different surfaces, and are picked up by people who touch these surfaces.

**Note:** Most aerosols in the atmosphere only scatter light from the sun, sending some of the sun's radiant energy back to space and exert a cooling influence on Earth's climate. Other aerosol particles, termed "black carbon" and "brown carbon" -- typically created from wildfires, industrial processes, and car exhaust -- can both scatter and absorb light from the sun.

**4. Which of the following are benefits under PM CARES for Children scheme?**

1. Scholarship for higher education.
2. Health insurance under Ayushman Bharat scheme.
3. A corpus fund for monthly financial support.

Which of the statements given above is/are correct?

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

**Answer: D**

**Explanation**

The Union government has launched a **PM CARES for Children scheme** for support & empowerment of **Covid affected children**. All children who have lost both parents or surviving parent or legal guardian/adoptive parents due to Covid will be supported under PM-CARES for Children scheme.

**Fixed Deposit For Children**

- The PM-CARES will contribute through a specially designed scheme to create a corpus of Rs 10 lakh for each child when he or she reaches 18 years of age.
- This corpus will be used to give a monthly financial support or stipend, through a fixed deposit in the name of the child, from 18 years of age for the next five years.
- This will be used to take care of his/her personal requirements during the period of higher education.
- On reaching the age of 23 years, he or she will get the corpus amount as one lump-sum amount for personal and professional use.

**Provision for School Education**

- For children **under 10 years**, the child will be given admission in the nearest Kendriya Vidyalaya or in a private school.

- For children **between 11-18 years**, the child will be given admission in any Central government residential school such as Sainik School, Navodaya Vidyalaya etc.
- In case the child (11-18 years) continues to live with grandparents, extended family or a guardian, then he or she will be given admission in the nearest Kendriya Vidyalaya or in a private school.
- If the child is admitted in a **private school**, the fees as per the Right to Education norms will be given from the PM CARES. PM-CARES will also pay for expenditure on uniforms, textbooks and notebooks.

### Support for Higher Education

- The child will be assisted in obtaining **education loans** for professional courses and higher education in India as per the existing Education Loan norms. The interest on this loan will be paid by the PM-CARES.
- As an alternative, **scholarship** equivalent to the course fees for undergraduate or vocational courses, will be provided to such children under Central or State government schemes.
- For children who are not eligible under the existing scholarship schemes, PM-CARES will provide an equivalent scholarship.

### Health Insurance

- All Covid-19 orphans will be enrolled as beneficiaries under the **Ayushman Bharat Scheme** (PM-JAY) with a health insurance cover of Rs 5 lakhs.
- The premium amount for these children, till the age of 18 years, will be paid by PM-CARES.

### 5. Consider the following statements regarding National Medical Commission (NMC):

1. NMC is a statutory body.
2. NMC operates under the Medical Council of India.
3. NMC can frame guidelines for fees in private medical institutions.

Which of the statements given above is/are correct?

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

**Answer: C**

### Explanation

- Almost two years after the NMC Act was passed, the National Medical Commission has released draft guidelines on fixing fees in private and deemed medical colleges across the country.
- Once these norms are passed, fees for 50% MBBS and postgraduate medical seats in these colleges will be regulated.

### Highlights Of The Guidelines

- As per the guidelines no institution should be allowed to charge a **capitation fee** in any form. Capitation fee refers to the amount charged in cash or kind in excess of the prescribed or approved fees to grant admission to someone who may not otherwise deserve a seat.
- For the determination of fee, colleges must follow the '**not-for-profit**' model. It is necessary that all operating costs and other expenses for running and maintenance of the institution for imparting

medical education on a sustainable basis are covered in the fee. However, no excessive expense and exorbitant profit component should be allowed to be added to it.

- **Fee Determination:** The total sanctioned strength of the number of students should be taken into account to determine cost per student, separately for MBBS and Post Graduate courses. The operating cost should primarily form the basis for the determination of fees for medical education. Any grant, aid or concessions received by the institution should be accounted while determining the fees.
- **Components Of Operating Cost**
  - Medical colleges cannot add the cost of running a hospital to the cost for providing medical education. Only the portion of hospital resources used for teaching can be included while computing the fees.
  - Even the stipends paid to post graduate students on residency cannot be included in the operation cost of the medical college and will be counted as the hospital's expenses.

### **National Medical Commission**

- National Medical Commission (NMC) is a regulatory body constituted under the National Medical Commission Act, 2019. It replaced the Medical Council of India in 2020.
- It regulates medical education and medical professionals in India.
- **Functions of the NMC**
  - **Frame policies** for regulating medical institutions and medical professionals
  - **Assess requirements** of healthcare related human resources and infrastructure.
  - **Ensure compliance** by the State Medical Councils of the regulations made under the NMC Act.
  - **Frame guidelines for determination of fees** for up to 50% of the seats in private medical institutions and deemed universities which are regulated under the Bill.

### **6. Neglected Tropical Disease are caused by:**

- a) Protozoa.
- b) Parasitic worms.
- c) Bacteria.
- d) All of the above.

**Answer: D**

### **Explanation**

- The 74th World Health Assembly recently declared January 30 as 'World Neglected Tropical Diseases Day'. The first World NTD Day was celebrated informally in 2020. This year, the new NTD road map was launched.
- World NTD Day commemorates the simultaneous launch of the first NTD road map and the London Declaration on NTDs on 30 January 2012.
- The WHO's new road map for 2021–2030 calls for three strategic shifts to end NTDs:
  - From measuring process to measuring impact.
  - From disease-specific planning and programming to collaborative work across sectors.
  - From externally driven agendas reliant to programmes that are country-owned and country-financed.

**Neglected Tropical Diseases**

- NTDs are a group of infections that are most common among marginalised 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 affect more than a billion people globally but they generally receive less funding for research and treatment than malaises like tuberculosis, HIV-AIDS and malaria.
- Some examples of NTDs include snakebite envenomation, scabies, yaws, trachoma, Leishmaniasis and Chagas disease.
- They are preventable and treatable but these diseases — and their intricate interrelationships with poverty and ecological systems — continue to cause devastating health, social and economic consequences.

**7. Which of the following medical systems are included under AYUSH?**

- |                |           |
|----------------|-----------|
| 1. Ayurveda    | 2. Yoga   |
| 3. Naturopathy | 4. Siddha |
| 5. Acupuncture |           |

Choose the correct option using the codes below:

- |                    |                     |
|--------------------|---------------------|
| a) 2, 3 and 4 only | b) 1, 3, and 5 only |
| c) 1, 2 and 4 only | d) 1, 2, 3 and 4    |

**Answer: D**

**Explanation:**

The Ministry of Ayush recently launched the Ayush Clinical Case Repository (ACCR) portal and the third version of Ayush Sanjivani App.

**Ayush Sanjivani App**

- The AYUSH Sanjivani app will help to generate data on acceptance and usage of AYUSH advocacies and measures among the population and its impact in prevention of COVID 19.
- The app would help Ayush to present itself more aggressively by utilising the scientific data gained through it.
- It is developed by the Ministry of AYUSH and MEITY and shall reach out to a target of 50 lakh people.

**ACCR Portal**

- ACCR Portal is conceptualized and developed by the Ministry of Ayush as a platform to support both Ayush practitioners and the public.
- The portal **covers all the seven systems of Ayush** viz. Ayurveda, Yoga, Naturopathy, Unani, Siddha, Homoeopathy and Sowa Rigpa.
- Ayush practitioners from all over the world can enrol and share information about successfully treated cases on the ACCR portal for the benefit of all. Cases whose details are posted here will be screened by experts, and will be uploaded for all to read subject to their review.
- This may help to spread awareness among the public and also trigger the thought process in other practitioners for adopting treatment approaches found successful by their peers.



- Diagnosis of suspected cases was entirely dependent on conventional techniques, which were laborious and time consuming, delaying timely diagnosis and increased disease burden.
- Quick and reliable molecular diagnostic tests were developed, but these tests required well-equipped lab facilities and trained staff available in limited numbers earlier.
- Point-of-care tests would be beneficial for the diagnosis of KFD as the outbreaks mainly happen in remote areas, where there is lack of well-equipped sample handling and laboratory testing facilities.
- It would also be useful in quick patient management and controlling further spread of the virus.

### **Kyasanur Forest Disease**

- Kyasanur forest disease (KFD) is a re-emerging **zoonotic disease endemic in Karnataka**. It is caused by Kyasanur Forest disease virus (**KFDV**), which primarily affects humans and monkeys.
- First identified in 1957 from Kyasanur forest area of Shivamogga district of Karnataka. the disease derives its name from the forest range where the virus was first isolated.
- The disease can be transmitted to human by the bite of infected ticks or via contact with a sick or recently dead monkey. Human to human transmission has not been reported yet.
- Hard ticks are the reservoir of KFD virus and once infected, remain so for life. Rodents, shrews, and monkeys are common hosts for KFDV after being bitten by an infected tick.
- In most cases, patients can recover without complication after 1-2 weeks - but the convalescent period is typically long, lasting for several months. The estimated fatality rate is from 2% to 10% for KFD. Convalescence is the period in which the body recovers from a serious illness, injury or surgery
- There is no specific treatment for KFD, however, early medical care and supportive therapy such as maintenance of hydration and management of neurological symptoms is important.

### **10. Consider the following statements about PM KISAN scheme:**

- 1. PM KISAN is a central sector scheme.**
- 2. Identification of farmers under the scheme is the responsibility of the Union Government.**

**Which of the statements given above is/are correct?**

- |                        |                           |
|------------------------|---------------------------|
| <b>a) 1 only</b>       | <b>b) 2 only</b>          |
| <b>c) Both 1 and 2</b> | <b>d) Neither 1 nor 2</b> |

**Answer: A**

**Explanation:**

The Prime Minister recently released the eighth instalment of the financial benefit under the Pradhan Mantri Kisan Samman Nidhi (PM KISAN) scheme. As part of this instalment, more than Rs 19,000 crore was transferred in the bank accounts of over 9.5 crore beneficiary farmer families.

### **PM KISAN**

- PM KISAN is a **central sector scheme**, with 100 per cent funding from the Union Government. The scheme was started to increase the income of the farmers by providing income support to eligible landholding farmers' families across the country.
- It aims to supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health, appropriate yields as well as to meet domestic needs.

- Under the scheme, which became effective from December 2018, the Centre provides Rs 6,000 per year to eligible farmers in three equal instalments of Rs 2,000, in a year.
- The state governments and Union Territory administration identify the farmers who are eligible for the scheme and share the list with the Centre. The central government then directly transfers the fund to the bank accounts of the beneficiaries.

### **Eligible Farmers**

- The Scheme initially provided income support to all Small and Marginal Farmers' families across the country, holding cultivable land upto 2 hectares.
- In June, 2019, the scheme was extended to **cover all farmer families** in the country irrespective of the size of their land holdings.

### **Exclusion Criteria**

However, the following categories of people holding cultivable land have been excluded from the scheme:

- Institutional landholders.
- Present or retired officers and employees of state/central government as well as PSUs and government autonomous bodies.
- Income Tax payers in last assessment year.
- Farmer families holding constitutional posts.
- Professionals like doctors, engineers and lawyers.
- Retired pensioners with a monthly pension of over Rs 10,000.

### **11. Consider the following statements:**

1. **Under Employees' Deposit Linked Insurance, the employer and employee both contribute equally.**
2. **Under Employees State Insurance Scheme, the employer and employee both contribute equally.**

**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 |

**Answer: D**

### **Explanation:**

- In addition to the measures announced under PM CARES for Children, the Union government has announced additional measures to help families who have lost the earning member due to Covid.
- Under this component, the government will provide **pension to families** of those who died due to Covid and an enhanced & liberalised **insurance compensation**.

### **Family Pension under ESIC**

- The benefits under the Employees State Insurance Corporation (ESIC) pension scheme for employment-related death cases will be extended to even those who have died due to Covid.
- All dependent family members of such persons will be eligible for pension equivalent to 90 % of average daily wage drawn by the worker as per the existing rules.

- This benefit will be available retrospectively with effect from March 24 last year till March 24, 2022.

### **ESI Scheme**

- The ESI Act applies to **all factories and notified establishments** located in implemented areas employing 10 or more persons. The ESI Scheme is currently notified in 575 Districts of the country.
- The employees registered under the ESI scheme are entitled to medical treatment for themselves and their dependents, unemployment cash benefits in certain emergencies, and maternity benefit in case of women employees.
- In case of employment-related disablement or death, there is provision for a disablement benefit and a family pension respectively.
- For all employees earning wages up to Rs 21,000 per month (Rs 25,000 for persons with disabilities), the employer contributes 3.25% and the employee contributes 0.75%. The funds are managed by the Employees State Insurance Corporation (ESIC).

### **Provisions Under EPFO-EDLI Scheme**

- The insurance benefits under the Employees' Deposit Linked Insurance (EDLI) scheme have been enhanced and liberalized. Apart from all other beneficiaries, this will help the families of employees who have lost their lives due to COVID.
- Amount of maximum insurance benefit has been increased from Rs 6 lakh to Rs 7 lakh.
- The provision of minimum insurance benefit of Rs 2.5 lakh has been restored and will apply retrospectively from 15th February 2020 for the next three years.
- To benefit families of contractual/ casual workers, the condition of continuous employment in only one establishment has been liberalized.
- Thus, families of even those employees who may have changed jobs in the last 12 months before employee's death, will get the benefits under EDLI.

### **EPFO-EDLI**

- Employees' Provident Fund Organisation (EPFO) covers organisations employing 20 or more employees. Any employee who has an EPF account automatically becomes eligible for EDLI scheme.
- The EDLI scheme is managed on the basis of a contribution of 0.5 % of monthly wages paid by the employer to the fund and there is no employee contribution.
- The nominee registered by the employee is eligible to claim the benefit under the scheme.

### **12. Consider the following statements regarding Production-Linked Incentive (PLI) scheme for advanced chemistry cells (ACC):**

1. ACCs can store electric energy as chemical energy.
2. The ACC manufacturing facility under PLI scheme would have to be commissioned within a period of two years.

**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 |

**Answer: C**

**Explanation**

- The Union Cabinet recently approved a ₹18,100 crore production-linked incentive (PLI) scheme for advanced chemistry cell (ACC) battery storage. The scheme titled the **National Programme on Advanced Chemistry Cell (ACC) Battery Storage** comes under the Department of Heavy Industry.
- The latest programme is **part of the 13 PLI schemes**, proposed by the government last year, to expand manufacturing, improve supply chains and boost exports.

**ACC Batteries**

- Advanced Chemistry Cells (ACC) are the new generation of advanced storage technologies. ACC batteries can store electric energy either as **electrochemical or as chemical energy** and convert it back to electric energy as and when required.
- The world is moving towards clean energy but clean energy sources like solar and wind cannot provide energy continuously.
- In such a scenario, storage of energy becomes important to tap energy from clean energy sources and provide a continuous supply. ACC battery storage can solve this energy storage problem.
- The manufacturing of ACCs is expected to facilitate demand for electric vehicles (EVs), which are proven to be significantly less polluting. **One GWh** (1,000-megawatt hour) of battery capacity is sufficient to power 1 million homes for an hour and around 30,000 electric cars.
- Globally, manufacturers are investing in these new generation technologies at commercial scale to fill the expected increase in battery demand.
- However, there is negligible investment in manufacturing of ACCs in India and all the demand of ACCs is currently being met through imports in India.

**PLI Scheme for ACC**

- ACC battery storage manufacturers will be selected through a transparent competitive bidding process. Each selected ACC battery storage manufacturer would have to set-up an ACC manufacturing facility of **minimum 5 GWh capacity**.
- The manufacturing facility would have to be commissioned **within a period of two years**. The incentive will be disbursed thereafter over a period of five years.
- The incentive amount will rise with increased specific energy density and cycles and increased local value addition.
- The manufacturer has to achieve a domestic value addition of at least 25% and incur the mandatory investment of Rs 225 crore/GWh within two years (at the mother unit level).
- They have to raise the value addition to 60% within five years, either at the mother unit level (in-case of an integrated unit), or at the project Level (if it's a "hub & spoke" structure).

**Benefits**

- The PLI scheme will attract direct investments of around Rs 45,000 crore over five years. It will also reduce import dependence and result in an annual import substitution of about Rs 20,000 crore.
- The government also expects the scheme to potentially reduce the country's oil import bill by Rs 2,00,000-2,50,000 crore (over five years), as increased ACC storage manufacturing will promote greater adoption of electric vehicles.
- The scheme will be a key contributing factor to reduce India's Green House Gas (GHG) emissions which will be in line with India's commitment to combat climate change.



- It will bring in additional investment in electronics manufacturing of around Rs 2,350 crore.
- It will help India's IT hardware industry to become a part of the global value chain and lead to increase in exports.
- Of the total production of Rs 1.60 lakh crore, more than 37% will be contributed by exports of around Rs 60,000 crore.
- It is expected to generate approximately 37,500 direct employment opportunities in the next four years along with the creation of additional indirect employment of nearly three times the direct employment.

**14. Which of the following are macronutrients required by plants?**

- |              |            |
|--------------|------------|
| 1. Nitrogen  | 2. Copper  |
| 3. Magnesium | 4. Sulphur |
| 5. Iron      |            |

**Choose the correct option using the codes below:**

- |                    |                     |
|--------------------|---------------------|
| a) 2, 3 and 5 only | b) 1, 3 and 4 only  |
| c) 1, 2 and 5 only | d) 1, 2, 3, 4 and 5 |

**Answer: B**

**Explanation**

- The Centre has increased its share of subsidy for di-ammonium phosphate (DAP) fertilizer by 140 per cent from Rs 500 to Rs 1,200 per bag. The amount of subsidy per bag has never been increased so much at once.
- Di-ammonium Phosphate (DAP) is a popularly used fertiliser in India, as it contains both Nitrogen and Phosphorus which are primary macronutrients.
- It is manufactured by reacting Ammonia with Phosphoric acid under controlled conditions. It is highly soluble and thus dissolves quickly in soil to release the macronutrients.

**Background**

- Last year, the actual price of DAP was Rs 1,700 per bag, in which Central Government was giving a subsidy of Rs. 500 per bag. So, the companies were selling fertiliser to farmers for Rs 1200 per bag.
- Recently, the international prices of phosphoric acid, ammonia etc. used in DAP have increased by 60% to 70%. After this, the actual price of a DAP bag was coming around Rs 2400. Thus, fertiliser companies had to sell DAP at Rs 1,900 per bag as the Central subsidy was just Rs 500 per bag.
- With the government providing higher subsidy, the farmers will continue to get a bag of DAP at the old price of Rs 1200.
- The Central Government spends about Rs 80,000 crore on subsidies for chemical fertilisers every year. With the increase in subsidy in DAP, the Central Government will spend an additional Rs 14,775 crore as subsidy in Kharif season.

**Nutrient Based Subsidy**

- The Nutrient Based Subsidy (NBS) Policy is being implemented by the Department of Fertilizers, **Ministry of Chemicals & Fertilizers** since 2010.

- Under NBS, a fixed amount of subsidy decided on annual basis, is provided on each grade of subsidized Phosphatic & Potassic (P&K) fertilizers, except urea, based on its Nutrient Content.
- In case of urea, the government fixes the maximum retail price (MRP). The difference between the production cost and the MRP is reimbursed to manufacturers.
- The MRPs of non-urea fertilisers are decontrolled and are fixed by the companies. The Centre, however, pays a flat per-tonne subsidy on these nutrients to ensure they are priced at reasonable levels. Decontrolled fertilisers, are thus, costlier than urea and also get lower subsidy.
- Apart from ensuring availability of P&K fertilisers, NBS aims to ensure balanced use of fertilisers, consequently protecting the soil quality and improving agricultural productivity.

**Note:**

- **Macronutrients** are nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg) and sulphur (S).
- **Micronutrients** are Manganese (Mn), Boron (B), Copper (Cu), Iron (Fe), Zinc (Zn), Nickel (Ni), Molybdenum (Mo) and Chlorine (Cl).

**15. Which of the following is not a zone classification for drone operations in India:**

- a) Red
- b) Green
- c) Yellow
- d) Orange

**Answer: D**

**Explanation:**

- The Civil Aviation Ministry has permitted drone operations in 166 new green zones across the country, which are in compliance with its no-permission-no-takeoff (NPNT) scheme.
- These zones are in addition to the 66 green zone sites approved earlier. The approved sites allow drone usage up to 400 feet above the ground.
- Drone flights in the green zone sites have to be compliant with the Unmanned Aircraft System (UAS) Rules, 2021 released in March 2021 and other relevant orders/ guidelines issued by the Ministry of Civil Aviation.

**Flying Zones**

- As per drone regulations in India, the air space has been partitioned into **three zones**. There are Red Zone (flying not permitted), Yellow Zone (controlled airspace) and Green Zone (automatic permission).
- In other words, flying in the **Green Zone** only requires intimation of the time and location of the flights via the Digital Sky portal or app.

**Digital Sky Platform**

- The Digital Sky Platform is the ***national unmanned traffic management platform*** in India.
- It is an umbrella platform for the entire drone-related activities in India, which covers registration, manufacturers, operators, importers' licenses
- It controls and monitors drone flights across the country in order to ensure the smooth functioning of No Permission No Takeoff (NPNT).

- No Permission No Takeoff requires an operator to take permission from aviation regulator DGCA, using the Digital Sky platform, before each drone flight (except nano category). If this permission is not received, the drone cannot take off.

### **Unmanned Aircraft System (UAS) Rules, 2021**

The Unmanned Aircraft System Rules, 2021 specifies the rules for drone operations in India.

#### **Classification of Drones**

- The Rules classify UAS into **three categories**:
  - i) **Remotely Piloted Aircraft System (RPAS)**: An Unmanned Aircraft System with a remote pilot.
  - ii) **Model Remotely Piloted Aircraft System**: These are RPAS with a maximum weight of 25kg, used for education purpose only and flown within visual line of sight.
  - iii) **Autonomous Unmanned Aircraft System**: These are UAS that do not require pilot intervention in the management of the flight.
- Unmanned Aircraft are **further classified on the basis of maximum all-up-weight** (including payload) as: nano (upto 250 gram); micro (250 gram to 2 kg); small: (2-25 kg); medium (25-150 kg) and large (over 150 kg).

#### **Approval of Drones**

- Each drone importer, manufacturer, trader, owner and operator has to take approval from the Directorate General of Civil Aviation (DGCA).
- An authorised manufacturer or importer can sell its devices only to an individual or entity approved by the aviation regulator DGCA.
- A drone cannot operate in India unless its type and class has a valid **certificate of manufacture and air worthiness** issued by the DGCA.
- Furthermore, drones will not be allowed to fly in India without a **Unique Identification Number (UIN)**.

#### **Owning And Using Drones**

- For owning and using a drone, one has to be at least 18 years old.
- In the case of **companies**, they have to be registered in India and have their main place of business within India.
- The Rules have also made it compulsory for all the operators to insure their drones via third-party drone insurance companies. This will cover the liability that may arise in case of accidents.

#### **Drone Ports**

- The rules also allow setting up of drone ports which will be similar to airports.
- Drone ports, for arrival, departure, surface movement and associated maintenance or commercial activities of compliant UAS, can only be established in permitted areas after obtaining licence and authorisation from the DGCA.

#### **Carriage of Payload**

- The Rules prohibit carriage of payload and dropping of articles by unmanned aerial vehicles, except specified by the director-general.
- This means that the plans for facilitating deliveries of hyperlocal delivery service providers Dunzo, Zomato, Swiggy etc will have to wait.





**Answer – A**

**Explanation**

- Lithuania has **quit China’s 17+1 cooperation forum with central and eastern Europe**. It has called this forum divisive.
- Lithuania, a Baltic Country, has urged other EU members to pursue “a much more effective 27+1 approach and communication with China.”

**About 17+1**

- It is a **China-led format** with an aim to expand **cooperation between Beijing and the CEE (Central and Eastern Europe) member countries**, with investments and trade for the development of the CEE region.
- It was founded in 2012 in Budapest.
- Member Countries include **twelve EU member states and five Balkan states** — Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia.
- This platform is largely seen as an extension of China’s flagship Belt and Road initiative.

**19. Recently, Bollywood actor Sanjay Dutt has received a golden visa. Which of the following country has started Golden Visa Initiative?**

- a) United Kingdom
- b) Saudi Arab
- c) France
- d) United Arab Emirates

**Answer – D**

**Explanation**

Bollywood actor Sanjay Dutt has been granted the Golden Visa by the the United Arab Emirates (UAE) government.

**What is Golden Visa?**

- The golden visa is a **long-term residency visa programme launched by the UAE**. It grants 5 or 10-year visa that is renewable.
- UAE first announced its long-term visa plan in 2018. After that, **in 2019, it started** granting 5- and 10-year renewable visas to certain foreign investors, entrepreneurs, chief executives, scientists and outstanding students.
- Typically, the **golden visa is targeted at wealthy individuals** keen to offer the UAE significant investment in exchange for an opportunity to reside within the country.
- The system also functions as a way for the UAE government to broaden its tax base.
- Those seeking the 10-year visa are required to **put forth an investment of, at least, AED 10 million**, either through an investment fund or a company. The rules are, largely, the same for the 5-year visa except the investment required is AED 5 million.
- Additionally, at least **60 per cent of this investment cannot be in the form of real estate** or have been loaned.
- Investors retain full ownership of the assets invested into. An investor must also be able to retain the investment for a period of three years.



d) None of the above

**Answer: A**

**Explanation:**

- The Indian Navy launched **operation 'Samudra Setu-II'** to ferry liquid medical oxygen from friendly foreign countries in the Persian Gulf and South-East Asia.
- As part of the operation, seven Indian Naval ships viz. Kolkata, Kochi, Talwar, Tabar, Trikand, Jalashwa and Airavat have been deployed for **shipment of liquid medical oxygen-filled cryogenic containers and associated medical equipment** from various countries.
- Operation Samudra Setu was **launched in 2020** as part of the national effort **to repatriate Indian citizens from overseas** during the COVID-19 pandemic.
- Indian Naval Ships Jalashwa, Airavat, Shardul and Magar participated in this operation.
- Indian Navy has previously undertaken similar evacuation operations as part of **Operation Sukoon in 2006 (Beirut)** and **Operation Rahat in 2015 (Yemen)**.

**22. Consider the following Statements regarding BRICS:**

1. **The first-ever meeting of BRICS Employment Working Group was hosted by China.**
2. **India has assumed the Chairmanship of BRICS for the year 2021.**

**Which of the above statements is/are Correct?**

- |                 |                    |
|-----------------|--------------------|
| a) 1 Only       | b) 2 Only          |
| c) Both 1 and 2 | d) Neither 1 nor 2 |

**Answer – B**

**Explanation**

The **first-ever BRICS Employment Working Group** was hosted by India. India assumed BRICS Presidency in 2021. It was conducted in the virtual mode.

**Key Highlights**

The prime agenda for the discussions were Promoting Social Security Agreements amongst BRICS Nations, Formalization of labour markets, Participation of women in labour force and Gig and platform workers – Role in labour market.

**A. On the issue of Social Security Agreement–**

- The participating leaders decided to enter into dialogue and discussion in order to develop a framework on this issue.
- International organizations such as ISSA and ILO expressed willingness to provide technical support in facilitating conclusion of such agreements.
- Social Security Agreement would help the international workers to port their benefit to their home countries thereby preventing loss of their hard-earned money. Further they will be exempted from contributing both in home as well as host countries.

**B. On the issue of Formalization of Labour Market**

Member Nations discussed various initiatives taken by them towards formalization of jobs and how Covid-19 has enhanced informalization risk.

**C. On participation of Women in the Labour Force**

- The member countries resolved to promote participation of women in remunerative, productive and decent work and to extend social security cover to the women workers engaged in informal sector.
- Impact of Covid-19 on participation of women in labour force was also discussed.

**D. On the issue of Gig and Platform workers and their role in labour market**

- The member nations discussed how the proliferation of Digital Labour Platforms is transforming the labour processes in the world of work.
- Challenges faced by them and various measures being taken by member nations including extension of social protection system were also discussed.

**7th BRICS Astronomy Working Group Meeting**

- India hosted the **7th meeting of the BRICS Astronomy Working Group (BAWG)** as well as the astronomers from these countries in an online mode.
- The meeting took place under the **science, technology, and innovation track of the BRICS.**
- The participating members recommended the **networking of existing telescopes in BRICS countries** as well as creating a data network.
- The meeting indicated the future directions of research in areas such as building data network and network of intelligent telescopes, big data, a study of transient astronomical phenomena in-universe, artificial intelligence, machine learning application for processing the voluminous data generated because of the enhanced multi-wavelength telescope observatory.

**23. Who among the following has become the first Indian fencer to qualify for the Olympics?**

- |                    |                      |
|--------------------|----------------------|
| a) Srinivas Raju   | b) Bashir Ahmed Khan |
| c) CA Bhavani Devi | d) None of the above |

**Answer – C**

**Explanation**

- India's international sabre fencer CA Bhavani Devi has qualified for the Tokyo Olympics.
- She became the first Indian fencer to qualify for this game. There were **two Olympics quota places in the Asia Oceania group**. A Japanese fencer was the first while Bhavani was second

**24. Consider the following statements regarding the Codex Alimentarius Commission (CAC):**

1. It is an international body responsible for establishing food standards.
2. It is jointly established by the Food and Agriculture organization (FAO) and the World Health Organization (WHO).
3. The Secretariat of this commission is situated at Rome.

**Which of the above statements is/are Correct?**



**Answer – D**

**Explanation**

- Recently, Governor's Seminar on "**Cooperation for a Resilient Future**" was held as part of ADB's annual meeting 2021.
- India was represented by the union minister for Finance and Corporate Affairs and Asian Development Bank's (ADB) Governor for India Smt. Nirmala Sitharaman.

**About Asian Development Bank (ADB)**

- ADB (founded in 1966) is an international development finance institution whose mission is to help its developing member countries reduce poverty and improve the quality of life of their people.
- **Headquartered in Manila**, and established in 1966, ADB is owned and financed by its 67 members, of which 48 are from the region and 19 are from other parts of the globe.
- The two largest shareholders of the Asian Development Bank are the United States and Japan.
- **Voting rights** in ADB are **distributed in proportion with members' capital subscriptions**.
- ADB is an **official United Nations Observer**.

**26. ECOWAS, recently seen in news, is**

- a) A peace keeping mission of UN in West Africa**
- b) An economic alliance between Australia and Singapore**
- c) A regional political and economic union of countries located in West Africa**
- d) A subsidiary organ of United Nation**

**Answer – C**

**Explanation**

The Economic Community of West African States (ECOWAS) is trying to mediate in order to solve the crisis in Mali.

**What Happened in Mali?**

- For the second time in nine months, Col Assimi Goïta has **seized power in Mali**, detaining transitional President Bah Ndaw and Prime Minister Moctar Ouane.
- These detained leaders have been accused of failing in their duties and trying to sabotage the West African state's transition to democracy.
- ECOWAS, the United States and France have all warned of new sanctions if democracy is not restored.

**ECOWAS**

- It is a regional political and economic union of **fifteen countries** located in West Africa.
- The union was established in May 1975, with the **signing of the Treaty of Lagos**.
- It is widely considered as an important regional pillar of the African Economic Community (AEC).
- The stated goal of ECOWAS is to achieve "collective self-sufficiency" for its member states by creating a single large trade bloc by building a full economic and trading union.

27. Consider the following statements regarding Interpol:

1. Interpol is an international police organization of United Nation.
2. Agents of Interpol have the power to make arrests.
3. Once the Interpol issues Red Notices, States are obliged to follow these notices.

Which of the above statements is/are Correct?

- |            |                      |
|------------|----------------------|
| a) 1 and 2 | b) 1 and 3           |
| c) 2 and 3 | d) None of the above |

**Answer – D**

**Explanation**

- After a '**yellow cornor**' notice issued by the Interpol, fugitive diamantaire Mehul Choksi was captured in Dominica. Choksi is wanted in a Rs 13,500 crore loan fraud in Punjab National Bank.
- The Yellow Notice is issued by the Interpol to track missing persons.

**About Interpol:**

- **Full Name** - International Criminal Police Organisation
- Interpol is an **international police organisation** made up of 194 member countries. Interpol does not work under UN. It has enjoyed a special role – that of **Permanent Observer at the United Nations** - since 1996.
- **Founded** in 1923; **Headquartered** at Lyon, France
- It is **not a police force** in the traditional sense—its agents are **not able to arrest criminals**.
- It is **more of an information-sharing network**, providing a way for national police forces to co-operate effectively and tackle international crime ranging from human trafficking and terrorism to money laundering and illegal art dealing.
- The organization operates centralised criminal databases that contain fingerprint records, DNA samples and stolen documents.
- "**Red Notice**" - a notification that a member state would like someone arrested. States are not obliged to follow these notices, but will often treat them as a warrant for someone's arrest and extradition.
- **Kim Jong Yang** of South Korea was elected **president of Interpol for a two-year term** until 2020.

**Interpol General Assembly:**

- The General Assembly is Interpol's **supreme governing body**, and comprises representatives from all its member countries.
- It meets annually for a session lasting approximately four days, to vote on activities and policy. It takes decisions in the form of resolutions.

28. Consider the following sentences

1. **Doomsday Scrolling** is continuously scrolling through pandemic-related news and social media feed almost compulsively.
2. **Doomsday Surfing** refers to the tendency to continue to surf or scroll through bad news, even though that news is saddening or depressing.







- Study of physical properties of the icy crusts
- Investigation of Ganymede's atmosphere. Study about its magnetic field.

**Science Instruments**

Some of the science instruments on board will be:

- Jovis, Amorum ac Natorum Undique Scrutator (JANUS)
- Moons And Jupiter Imaging Spectrometer (MAJIS)
- GAnymede Laser Altimeter (GALA)
- Radar for Icy Moons Exploration (RIME)
- JUICE-MAGnetometer (J-MAG)
- Planetary Radio Interferometer and Doppler Experiment (PRIDE)

**33. The term “Tlatolophus Galorum”, seen in the news, is related to**

- |                       |                                      |
|-----------------------|--------------------------------------|
| a) Talkative Dinosaur | b) Ancient Man                       |
| c) Place on Mars      | d) New Lake discovered in Antarctica |

**Answer: A**

**Explanation:**

- A **new species of dinosaur** identified by Mexican paleontologists is believed to have been "very communicative" and used low-frequency sounds like elephants to talk to each other.
- The specimen, which has been named **Tlatolophus galorum**, is thought to have died around **72 million years** ago in what is now **Mexico's northern state of Coahuila**.
- After initially discovering the tail, paleontologists later found most of its skull, a 1.32-meter (4.3-foot) bony **hollow crest** through which it communicated, as well as bones such as its **femur and shoulder**.
- These "**peaceful, but talkative**" dinosaurs could also have had the ability to emit loud sounds to scare off predators.

**34. Which of the following captured images of shining clouds on Mars?**

- |                           |                                     |
|---------------------------|-------------------------------------|
| a) NASA's Curiosity Rover | b) China's Mars Rover Zhurong       |
| c) India's Mangalyaan     | d) Emirates Mars Mission Hope Probe |

**Answer: A**

**Explanation:**

- **NASA's Curiosity Rover** has captured **images of “shining clouds”** on Mars.
- The contrast of **grey clouds** over the **brown mountain, Mont Mercou**, a cliff on Mars, was shot by NASA's Curiosity rover on March 19, 2021 - - the day it completed **3,063 Martian days, (one day in Mars is called sol)**.







**Answer: D**

**Explanation:**

### **Thane Creek Flamingo Sanctuary**

- The Union Environment Ministry has notified a revised **eco-sensitive zone (ESZ) of 48 square kilometres (sq km) around the Thane Creek Flamingo Sanctuary (TCFS)**, spread across Mumbai suburban and Thane districts.
- The ESZ is meant to act as a buffer for protected areas and reduces developmental pressures around a wildlife sanctuary or national park.
- TCFS is home to **12 true mangrove species**, 39 mangrove associates, 167 species of birds including flamingos, fish species, butterflies, insect species, among other mammals such as jackals.
- In May 2018, the state had declared it a flamingo sanctuary.

### **Anamalai Tiger Reserve**

- Residents of two tribal settlements, within the limits of the Anamalai Tiger Reserve (ATR), were gearing up for the annual festival of their local deity, **Vairapattan**.
- Anamalai Tiger Reserve lies **South of the Palakkad gap** in the Southern Western Ghats.
- The Anamalai Tiger Reserve falls within the **Western Ghats mountain chain** of South West India, a region designated as one of 25 Global Biodiversity Hotspots.
- **Significance**
  - The Tiger Reserve supports **diverse habitat types** viz. Wet evergreen forests, semi evergreen forests, moist deciduous, dry deciduous, dry thorn and shola forests. Other unique habitats like **montane grass lands, savannah and marshy grass lands** are also present.
  - Anaimalais is worth to be designated as '**Anthropological Reserve**' as it supports 6 indigenous people viz. **Malasar, Malai malasars, Kadars, Eravallars, Pulayars and Muduvars**. This is very unique in the entire Tamil Nadu and probably the only Tiger Reserve with diverse groups of indigenous people.
  - **The Parambikulam – Aliyar Project and Amaravathy dam** housed in the Anaimalais, play a vital role in the regional economy by providing water and power.

### **Kaziranga National Park and Tiger Reserve**

- The authorities in Assam have begun probing cases of clearance of forest land, digging and construction activities on at least **three animal corridors within the eco-sensitive zone** of the Kaziranga National Park and Tiger Reserve.
- These corridors are crucial for the rhinos, elephants, tigers, deer and other animals that escape a flooded Kaziranga during the monsoon months for the safety of the hills of Karbi Anglong district beyond the highway skirting the southern boundary of the tiger reserve.
- Kaziranga National Park, situated in Assam state of India, is a **UNESCO world heritage sites of India** and known for **Great Indian one horned Rhinoceros**.
- **Formed in 1908 on the recommendation of Mary Curzon** (Wife of the Viceroy of India – Lord Curzon of Kedleston), the park is located in the edge of the **Eastern Himalayan biodiversity hotspots**.

- Kaziranga was declared as **Tiger Reserve in 2006**. Also, the park is recognized as an **Important Bird Area by BirdLife International** for the conservation of avifaunal species.
- **Flora and Fauna**
  - Due to the difference in altitude between the eastern and western areas of the park, here one can see **mainly four types of vegetation** like alluvial inundated grasslands, alluvial savanna woodlands, tropical moist mixed deciduous forests, and tropical semi-evergreen forests.
  - **Kumbhi, Indian gooseberry, cotton tree, and elephant Apple** are amongst the famous trees that can be seen in the park.

### **Banni grasslands Reserve**

- The National Green Tribunal (NGT) ordered all encroachments to be removed from **Gujarat's Banni grasslands** within six months and directed a joint committee to prepare an action plan in a month.
- The region's nomadic pastoralist community, the **Maldharis**, livelihoods are dependent on this protected shrub-savanna. The community, united under Banni Pashu Uchherak Maldhari Sangthan (BPUMS), had filed a case against the rampant encroachment in the ecologically-sensitive grassland in May, 2018.
- The court also said the Maldharis will continue to hold the right to conserve the community forests in the area, granted to them as per the provisions in **Section 3 of Forest Rights Act, 2006**.
- Banni Grasslands Reserve or Banni grasslands form a belt of **arid grassland ecosystem** on the outer southern edge of the desert of marshy salt flats of **Rann of Kutch in Kutch District, Gujarat**.
- Banni grassland is spread over 2,618 kilometre and account for almost 45 % of the pastures in Gujarat.
- **Two ecosystems**, wetlands and grasslands, are juxtaposed in Banni. The area is rich in flora and fauna, with 192 species of plants, 262 species of birds, several species of mammals, reptiles and amphibians.
- Banni grasslands, traditionally, were managed following a system of **rotational grazing**. On May 11 1955, the court notified that the grassland will be a reserve forest. On July 3, 2019, the tribunal ordered to **demarcate the boundaries of the Banni grassland and restricted non-forest activities**.

**39. Protected Planet Report 2020, recently in news, was released by?**

- a) Friends of the Earth International
- b) **United Nations Environment Programme (UNEP) and the International Union for the Conservation of Nature (IUCN)**
- c) World Meteorological Organization (WMO)
- d) Conservation International

**Answer: B**

#### **Explanation**

- Protected Planet Report 2020 was issued by **UNEP World Conservation Monitoring Centre (UNEP-WCMC)** and **IUCN**, with support from the National Geographic Society, a global non-profit.
- Protected Planet Reports are biennial landmark publications that assess the ***state of protected and conserved areas around the world***.

### Highlights Of The Report

- The report underlined the progress the world has made toward the ambitious goals agreed by countries in 2010 at the United Nations Convention on Biological Diversity —known as **Aichi Biodiversity Target 11**, a set of 20 targets of the Convention on Biological Diversity.
- As many as 82 % of countries and territories increased their share of protected area and coverage of **other effective area-based conservation measures (OECM)** since 2010. **OECM** are a conservation designation for areas that are achieving the effective in-situ conservation of biodiversity outside of protected areas.
- On an average, 62.6 per cent of **key biodiversity areas (KBA)** either fully or partially overlap with protected areas and OECMs. **KBAs** are sites that contribute significantly to the global persistence of biodiversity, in terrestrial, freshwater and marine ecosystems.
- The report called for **existing protected and conserved areas to be identified and recognised** by accounting for the efforts of indigenous peoples, local communities and private entities. A global network of effective and equitable protected and conserved areas will play a vital role in safeguarding the health of people and planet for generations to come.
- A new framework of goals is due to be agreed upon at the United Nations Biodiversity Conference in Kunming, China, on October 11, where leaders are anticipated to scale up coverage and effectiveness of protected and conserved areas.
- Managed effectively, protected and conserved areas can help to prevent further ecosystem degradation and consolidate progress on the **UN Decade on Ecosystem Restoration**. It will be officially launched on June 5, 2021, the World Environment Day.

#### 40. What is 'A-76' recently seen in news?

- a) The newly discovered galaxy
- b) An asteroid just came 'exceptionally close' to hitting Earth
- c) Largest iceberg currently afloat in the world
- d) None of the above

**Answer: C**

#### **Explanation:**

- A giant slab of ice bigger than the **Spanish island of Majorca** has sheared off from the frozen edge of Antarctica into the Weddell Sea, becoming the largest iceberg currently afloat in the world.
- The newly calved berg, **designated A-76** by scientists, was spotted in recent satellite images captured by the **Copernicus Sentinel-1 mission**.
- Its surface area spans 4,320 square km (1,668 square miles) and measures 175 km long by 25 km wide.
- The enormity of **A-76**, which broke away from **Antarctica's Ronne Ice Shelf**, ranks as the **largest existing iceberg on the planet**, surpassing the now **second-place A-23A**, about 3,380 square km (1,305 square miles) in size and also floating in the Weddell Sea.

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## VAJIRAM & RAVI

### BRIDGING GAPS

#### Puducherry Becomes 'Har Ghar Jal' UT

- Puducherry has become 'Har Ghar Jal' UT by ensuring that every rural home in the Union Territory gets a household tap connection.
- With this, the UT becomes the fourth State/UT after **Goa, Telangana and Andaman & Nicobar Islands** to provide assured tap water supply to every rural home under Union Government's flagship programme, Jal JeevanMission.

To read more about Jal JeevanMission, refer Recitals February 2021.

#### Draft Lakshadweep Development Authority Regulation 2021 (LDAR)

The people of Lakshadweep began a 12-hour long hunger strike to protest against the recently introduced draft Lakshadweep Development Authority Regulation 2021 (LDAR).

#### **What Is Lakshadweep Development Authority Regulation (LDAR) 2021?**

- The draft LDAR 2021 is aimed to oversee development of towns on the islands with sweeping changes in the way land can be acquired and utilized.
- It is to be enacted by exercising powers conferred by **Article 240** of the Constitution, under which the **President** has the power to make regulations for **peace, progress, and good government** of the Union territory of Andaman and Nicobar Islands; Lakshadweep; Dadra & Nagar Haveli and Daman & Diu; and Pondicherry.

#### **Provisions of LDAR 2021**

- **Lakshadweep Development Authority (LDA):** The regulation empowers the government, identified as the administrator, to constitute Planning and Development Authorities under it to plan the development of any area identified as having "bad layout or obsolete development". Only cantonment areas are exempted from this.
  - An authority thus created would be a body corporate with a government-appointed chairman, a town planning officer and three 'expert' government nominees besides two local authority representatives.
  - These authorities are to prepare land use maps, carry out zonation for type of land use and indicate areas for 'proposed national highways, arterial roads, rings roads, major streets etc.
- **'Development':** The draft regulation defines development as the "carrying out of building, engineering, mining, quarrying or other operations in, on, over or under land, the cutting of a hill or any portion thereof or the making of any material change in any building or land or in the use of any building or land.
- **Ban on contesting panchayat polls if you have more than 2 kids:** No person shall be a member of a Gram Panchayat or continue as such who has more than two children.
- **Penalties:** A development plan shall not, either before or after it has been approved, be questioned in any manner, in any legal proceedings whatsoever. It establishes penalties such as imprisonment for obstructing the development plan's work or workers.
- **Processing fee:** It stipulates that islander must pay a processing fee for zone changes. It implies that localities would be required to pay fees to gain approval to alter zones as per the development plan, as well as fees for permission to develop their own land.

**Criticisms**

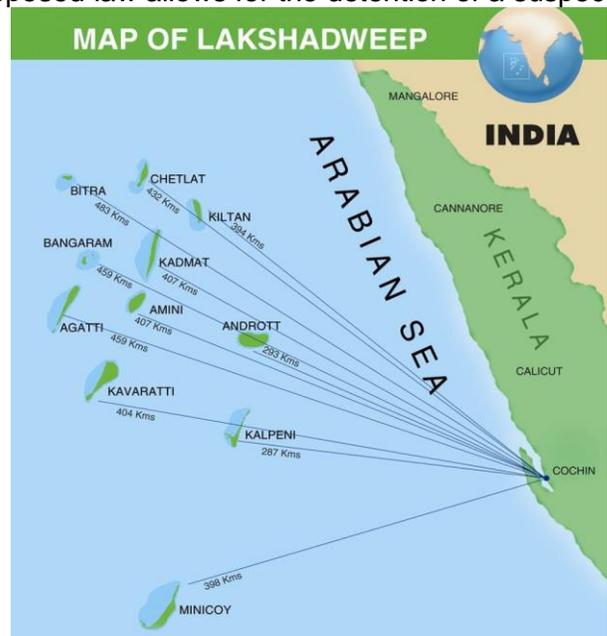
- **Ecological Fragility of Islands:** The draft regulation is aimed at "carrying out building, engineering, mining, quarrying or other operations" in Lakshadweep as a requirement sensed by the government. The protesters point out to the ecological fragility of the islands that are tiny, vulnerable and densely populated.
- **Issues with Infrastructural Projects:** Androth, the largest inhabited island in Lakshadweep, is spread over only 4.9 sq km with a density of 2,312 persons per sq km. The protesters question what kind of highways or mega infrastructural projects could be built on such small lands.
- **Real Estate Interests:** The draft regulation bill is being widely resented, with protesters alleging this law is aimed at serving "real estate interests" and usurping the small land holdings of Schedule Tribe people.
- **Forcible Eviction:** Legislation vests such powers with the authority that it can prepare comprehensive development plans for any area and *relocate people regardless of their will*. It provides for forcible eviction, puts the onus on the owner to develop his holding as per the plan prepared by the authority, and also heavily penalise them in the event of non-compliance.
- **Land for development:** The Regulation also gives the powers to the Government to choose any land for "development" activities that have been provided under its regulation.

**Other Law Proposals by the Administrator**

- **Allowing Liquor Sale:** It has proposed to allow bars in Lakshadweep as a measure to boost tourism. Lakshadweep just like Gujarat has a prohibition law that bans sale and consumption of liquor.
- **The Anti-Social Activities Regulation Bill:** The proposed law allows for the detention of a suspect without the requirement of a court-issued warrant. The protesters have termed it the "**Goonda Act**" and opposed the bill saying **Lakshadweep has the country's lowest crime rate** according to National Crime Record Bureau (NCRB) data.
- **Beef Ban Versus Cow-Slaughter Law:** The administrator has proposed the Lakshadweep Animal Preservation Regulation 2021 that bans slaughter of cows, bulls and bullocks.

**About Lakshadweep**

- It is a beautiful archipelago consisting of twelve atolls, three reefs, five submerged banks, and a total of about thirty-nine islands and islets. Only 10 of these are inhabited.
- Lakshadweep is **India's smallest Union Territory** with a population of 65,000 (2011 census).
- It has the highest population share of Muslims (96%) and Scheduled Tribes (94.8%) among the UTs.



**IPPPR Report**

- The Independent Panel for Pandemic Preparedness and Response (IPPPR) recently released a report titled **Covid-19: Make it the Last Pandemic**.

- The Independent Panel for Pandemic Preparedness and Response was established by the **World Health Organization (WHO)** Director-General in response to the 73rd World Health Assembly held in May, 2020.
- The mission of the Independent Panel is to provide an evidence-based path for the future, to effectively address health threats.

### **Key Findings Of The Report**

- The catastrophic scale of the Covid-19 pandemic could have been prevented, but a series of bad decisions allowed Covid-19 to kill at least 3.3 million people and destroy the global economy.
- Poor strategic choices, delays in implementing travel restrictions, unwillingness to tackle inequalities and an uncoordinated system allowed the pandemic to turn into a catastrophic human crisis.
- In the first weeks of the pandemic, the World Health Organization (WHO) could have warned countries to assume that the SARS-CoV-2 virus was spreading among people as a precaution. However, the WHO declared Covid-19 as a pandemic -- a term that is not officially part of its alert system —only in March, 2020. The delay in the announcement led to a "lost month" of February.

### **Recommendations To Increase Vaccination**

- Rich and well-vaccinated countries should provide the 92 poorest territories in the Covax scheme with at least one billion vaccine doses by September 1, and more than two billion by mid-2022.
- The G7 industrialised nations should pay 60% of the \$19 billion required to fund vaccines, diagnostics and therapeutics via the WHO's access to Covid Tools Accelerator programme in 2021.
- The WHO and the World Trade Organization should also get major vaccine-producing countries and manufacturers to allow technology transfers for Covid-19 vaccines.
- If required actions do not take place within three months, a waiver of intellectual property rights should come into force immediately.

### **Recommendations To Avoid Future Crisis**

- The panel recommended to form a **Global Health Threats Council** made up of world leaders, and a pandemic convention, to address future outbreaks and pandemics.
- The G20 should also create an **International Pandemic Financing Facility**, to spend \$5-10 billion a year on preparedness. It should also have the capacity to spend \$50 to \$100 billion in the event of a crisis.
- The WHO should be overhauled to give it greater control over its funding and more authority for its leadership. WHO's alert system need to be faster and it should have the authority to send expert missions to countries immediately without waiting for their approval.

### **Right To Be Forgotten**

- In an important order on '**Right to be forgotten**' and 'Right to be left alone', Delhi High Court has ordered removal of one of its own judgements from a website (Indian Kanoon).
- RTBF is the right to have personal information removed from publicly available sources, including the internet and search engines, databases, websites etc. once the personal information in question is no longer necessary or relevant.
- In the pre-internet era, such information would have been practically inaccessible after its initial publication. However, in the digital world, such information is easily accessible.

- The simple logic for the creation of this right is that a person must be able to control his/her data by seeking its deletion.

### **Background**

- The petitioner in this case is an American citizen of Indian origin. The petitioner had travelled to India in 2009 and a case under the Narcotics Drugs and Psychotropic Substances Act, 1985 was registered against him.
- He was later acquitted by the trial court in 2011 and the Delhi High Court in 2013. However, after going back to the United States, the petitioner faced a huge disadvantage in getting a job.
- This happened because the judgement by the Delhi HC was available on Google, to any potential employer, who wanted to conduct his background verification before employing him.
- The petitioner had sent legal notices to Google and websites hosting the concerned judgement. However, when Google and websites did not remove the judgement, the petitioner filed a petition in Delhi HC invoking Right to privacy.

### **High Court Order**

- In its current order, the Delhi HC has asked a website — Indian Kanoon — to remove the 2013 high court judgement link given in an NDPS Act case so that it can't be accessed by Google and Yahoo search engines.
- The court acknowledged that even though the petitioner was acquitted, availability of the past judgement is damaging his social life and career prospects.
- The Court highlighted that the '*Right to privacy*' includes '*Right to be forgotten*' and '*Right to be left alone*'. Thus, the Court held that the petitioner was entitled to some interim (temporary) protection.

### **RTBF Provisions in India**

- There is no statutory provision in India at present that provides right to be forgotten.
- The Personal Data Protection (PDP) Bill 2019 contains a provision on the right to be forgotten. However, the bill is yet to be passed in the Parliament.
- Under the PDP Bill, RTBF may be granted only after the 'Adjudicating Officer' appointed under the PDP Bill approves an application made by the individual.
- Hence, the proposed RTBF under the PDP Bill is a limited right and is subject to approval by the Adjudicating Officer.

### **RTBF in Europe**

- RTBF has been recognized as a **statutory right** in the European Union (EU) under the **General Data Protection Regulation (GDPR)**, and has been upheld by a number of courts in the United Kingdom, and in Europe.
- GDPR is Europe's digital privacy law passed by the 28-member bloc (EU) in 2018.
- As per GDPR, the right to be forgotten empowers individuals to ask organisations to delete their personal data, when it is not needed or when the person concerned revokes his consent.

### **One Stop Centre**

- The Ministry of Women and Child Development (WCD) has announced that it will set up One-Stop Centres (OSC) in foreign missions in collaboration with the Ministry of External Affairs (MEA).

- This is to help women overseas, who are victims of violence or are simply stuck due to particular situations.
- The first 10 OSCs will be introduced in Australia, Canada, Singapore, Bahrain, Kuwait, Oman, Qatar, UAE, and Saudi Arabia.
- These centres will be run by the MEA, though they will be funded by the WCD Ministry.
- There are currently 700 One-Stop Centres in the country. The WCD Ministry plans to add 300 more such centres across the country this year.
- WCD ministry has also announced a fund of Rs 74 crore under the Nirbhaya fund for rape victims who are minors.

### **OSC Scheme**

- The One Stop Centre scheme was approved for implementation in 2015. It was launched under the umbrella scheme ***National Mission for Empowerment of Women***.
- The scheme aims to facilitate access to an integrated range of services including medical aid, police assistance, legal aid/case management, psychosocial counselling, and temporary support services to women affected by violence.
- The OSC scheme is funded by the Nirbhaya Fund. The Central government offers ***100% financial aid to States/UTs for OSCs***.

### **Digital Transformation Of Tribal Schools**

- The Ministry of Tribal Affairs recently signed a Memorandum of Understanding (MOU) with Microsoft to support the digital transformation of schools, such as Eklavya Model Residential Schools (EMRS) and Ashram Schools.
- Microsoft will make AI curriculum available to tribal students in both English and Hindi at all EMRS schools under the Ministry to skill educators and students in next-generation technologies including Artificial Intelligence.

### **Details Of The Project**

- Microsoft will work closely with schools across states under the Ministry to accelerate digital transformation.
- These schools will be equipped with the technology, training and tools required to transform them into Microsoft Showcase Schools, which embody technological innovation.
- Under this program in the first phase, 250 EMRS schools have been adopted by Microsoft out of which 50 EMRS schools will be given intensive training and 500 master trainers would be trained in the first phase.
- Teachers across states in India will be trained in a phased manner for using productivity technologies like Office 365 and AI applications in teaching. This will help them to deliver blended or remote learning experiences to students in a more personalized, productive and secure manner.
- Under the partnership, students from schools under the Ministry will be mentored on projects that involve AI applications for societal good and the UN's Sustainable Development Goals (SDGs).
- Students will also be trained and exposed to gamified environments on Minecraft to help build design thinking skills.

### **Benefits**

- The initiative can be of great help to the tribal students for maintaining continuity in their education during the lockdown.
- It is a step to enable education equity, providing equal opportunity and access for the next generation of learners and educators from schools under the Ministry.
- The program will prove beneficial in terms of readiness and preparedness of students at various international forums.
- It will ensure that tribal students get chance to change their future, their environment, their village, and overall community.

### **Hunger Watch Report**

- According to a report released by Hunger Watch, the pandemic has left the urban poor in India poorer, hungrier and with less nutrition than their rural counterparts.
- Hunger Watch is a **loose collection of social groups and movements**. This is the first report of the collective, based on interviews with 3,994 households across 11 states.
- The data was collected in Oct 2020 and compared with pre-lockdown levels on the same parameters.

### **Highlights Of The Report**

- On average, urban respondents reported a 15 percentage point worse condition than their rural counterparts across all important parameters.
  - Incomes reduced by half or a quarter for more than half the urban respondents while it was a little over one-third for rural respondents.
  - Similarly, a decline in nutritional quality and quantity was more among the urban respondents. Around 54 % urban respondents had to borrow money for food. This was 16% lower for rural respondents.
  - The social security schemes also had a relatively better coverage among the rural poor as rural areas had better access to PDS rations. A larger proportion of households in urban areas did not have access to ration cards.
- Things were much worse for socially vulnerable groups such as households headed by single women, households with people having disabilities, transgender people and old persons without caregivers.
- The report also pointed out that the economic crisis was deepening as people who lost their jobs were yet to find replacements and little had been accomplished after the lockdown for the revival of livelihoods in the informal sector.

### **Model Insurance Village**

- To boost insurance penetration in rural areas, the Insurance Regulatory and Development Authority of India (IRDAI) has come up with the concept of 'Model Insurance Village' (MIV).
- The idea behind the concept is to offer comprehensive insurance protection to all the major insurance risks that villagers are exposed to and make available covers at affordable or subsidised cost.

### **Details of MIV**

- IRDAI has asked insurance companies to set up MIVs in 500 villages across the country in the first year and gradually scale this up to 1,000 villages in the subsequent two years.

- In these model villages, insurance companies will have to work towards covering the entire populations and their properties, farms, machineries, vehicles and different village-level services, among others.
- The idea of this initiative is not only to boost insurance penetration but also ensure that people in the rural areas start understanding the concept of insurance and its benefits.
- The efforts in selected villages need to be continued for a *minimum period of three to five years* so as to make the insurance benefits visible to the community.
- Insurance companies need to study the risk profile of villages, their insurance needs and design their products accordingly.
- Besides, they will also have to engage insure-tech as well as fin-tech firms for support in product design and use technology at all the levels of insurance processes from marketing, servicing, loss assessment to claims settlement.
- In order to make the premium affordable, financial support needs to be explored through NABARD, other institutions, CSR funds, government support and support from re-insurance companies.
- Insurance companies have been advised to tap various initiatives of the Ministry of Rural Development as well as network of SHG members and bank correspondent Sakhis (BC Sakhis) for insurance product distribution and servicing.
- Besides, as bank assurance has proved to be more acceptable than any other traditional intermediary, banks in rural areas can be used for selling rural and agriculture insurance products.

#### **Possible Insurance Products in MIV**

- Weather index products or hybrid products combining weather index and indemnity-based insurance protection for various crops that remain uncovered under Pradhan Mantri Fasal Bima Yojana.
- Flexible farm insurance package policies targeting comprehensive needs of crops, livestock, farmer, farm implements.
- Separate products for high value agriculture, contract farming and corporate farming community as their needs are different.
- Even states can be offered macro insurance covers based on pre-defined parametric weather indexes covering large complex risks arising out of natural catastrophes affecting the agriculture ecosystem and rural economy.

#### **Remittance Report**

- The **World Bank** recently released the remittances data for 2020 in its latest ***Migration and Development Brief***. As per the report, remittance flows remained resilient in 2020, registering a smaller decline than previously projected.
- India received over **USD 83 billion** in remittances in 2020, a drop of just 0.2 per cent from the previous year, despite a pandemic that devastated the world economy.
- Much of India's decline was due to a 17 per cent drop in remittances from the United Arab Emirates.
- China, which received USD 59.5 billion in remittances in 2020 against USD 68.3 billion the previous year, is a distant second in terms of global remittances for 2020.
- Remittance outflow was the maximum from the United States (USD 68 billion), followed by UAE (USD 43 billion), Saudi Arabia (USD 34.5 billion), Switzerland (USD 27.9 billion), Germany (USD 22 billion), and China (USD 18 billion).

- Remittances outflow from India in 2020 was USD 7 billion, against USD 7.5 billion in 2019.

### **Kharif Strategy for Oilseeds**

- To achieve self-sufficiency in the production of oilseeds, the Ministry of Agriculture and Farmers Welfare has formulated Kharif Strategy 2021.
- Under the strategy, the government has approved an ambitious plan for the free distribution of high yielding varieties (HYV) seeds to the farmers for 2021 Kharif season in the form of mini-kits.
- The special Kharif programme 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.
- Both area and productivity enhancement has been formulated for soybean and groundnut with a focus on free seed distribution under the National Food Security Mission (Oil Seeds and Oil Palm).

### **National Mission on Oilseeds and Oil Palm**

- National Mission on Oilseeds and Oil Palm has the objective to augment the availability of edible oils and reduce the import of edible oils by increasing production and productivity of oilseeds and oil palm.
- It employs a multi-pronged strategy as follows:
  - Increasing the seed replacement ratio with focus on varietal replacement.
  - Increasing irrigation coverage.
  - Nutrient management.
  - Intercropping with cereals/pulses/sugarcane.
  - Productivity improvement and adoption of proven and climate-resilient technologies.
  - Creation of 36 oilseed hubs with a focus on regional approach for larger availability of quality seeds.
  - Formation of Farmer Producer Organisations.
- As a result of the above efforts, the production of oilseeds has increased from 27.51 million tonnes in 2014-15 to 37.31 million tonnes in 2020-21 (2nd advance estimates).
- During the same period, the area has increased from 25.99 million hectares to 28.82 million hectares and yield from 1075 kg/hectares to 1295 kg/hectares.

### **Regulations Review Authority**

- RBI has set up a Regulations Review Authority (RRA 2.0), initially for a period of one year from 1 May, 2021 to streamline regulations and reduce the compliance burden of regulated entities.
- In 1999, the RBI had set up a RRA for reviewing the regulations, circulars, reporting systems, based on the feedback from the public, banks, and financial institutions.
- The RRA 2.0 will review the regulatory prescriptions internally as well as by seeking suggestions from the RBI regulated entities and other stakeholders on their simplification and ease of implementation.
- The RRA has constituted an Advisory Group, representing members from regulated entities, including compliance officers, to support the RRA in achieving the objective set forth in the terms of reference of RRA 2.0.
- The advisory group will assist the RRA by identifying regulations, guidelines, and returns that can be rationalised.

### **Social Stock Exchanges**

- A technical group (TG) on social stock exchanges (SSEs), constituted by the Securities and Exchange Board of India (SEBI), recently released its report.
- An SSE allows the listing of **non-profit or non-government organisations** on stock exchanges, providing them with an alternative fund-raising structure.
- It may be listed on Bombay Stock Exchange or National Stock Exchange. Countries like the **UK, Canada and Brazil** have SSEs.
- The proposal to set up SSEs in the country was first floated during the Union Budget in 2019. In September 2019, SEBI constituted a working group to explore the idea.
- In September 2020, SEBI set up the TG as it felt further expert advice and clarity was needed on the WG's recommendation.

### **Highlights Of The Report**

- Social Enterprises (SE), eligible to participate in SSE, shall be entities (Non-Profit Organization- NPO and For-Profit Social Enterprise- FPE) having social intent and impact as their primary goal.
- However, corporate foundations, political or religious organizations/ activities, professional or trade associations, infrastructure and housing companies (except affordable housing) **will not be permitted** on SSE.
- The TG has suggested **three parameters** to establish primacy of social impact objective as follows:
  - The enterprise should be engaged in at least one of the 15 broad eligible activities.
  - The enterprise should target underserved or less privileged population segments or regions.
  - The enterprise should have at least 67% of its activities qualifying as eligible activities to the target population.
- The report has drawn a list of broad activities based on those identified by NITI Aayog under sustainable development goals that Social Enterprises can engage in. These include eradicating hunger, poverty malnutrition and inequality; promoting gender equality by empowerment of women and LGBTQIA+ communities; training to promote rural sports; and slum area development, affordable housing.
- Entities listed on SSE will have to disclose their social impact report on an annual basis covering aspects such as strategic intent and planning, approach, impact score card.

### **Fund Raising**

- The panel has recommended different modes of fund raising for NPOs and FPEs.
- NPOs can raise funds through equity, zero coupon zero principal bond, development impact bonds, social impact fund currently known as social venture fund (SVF) with 100 per cent grants-in grants out provision, and donations by investors through mutual funds.
- For FPEs it has recommended fundraising through equity, debt, development impact bonds, and social venture funds (SVF).
- To boost investor participation in SVF- the Sebi panel has recommended that the minimum corpus size for such funds be reduced from Rs 20 crore to Rs 5 crore and the minimum subscription amount be reduced from Rs 1 crore to Rs. 2 lakh.
- The SVF will fall under **category-I Alternative Investment Fund (AIF)** and will allow 100 per cent grants-in and grants-out.

- The capacity building fund for SSE should have a **corpus of Rs 100 crore**. This fund should be housed under Nabard. Exchanges and other developmental agencies such as SIDBI should be asked to contribute towards this fund.

### **Digitally Inclusive Bharat**

- NITI Aayog and Mastercard recently released a report titled 'Connected Commerce: Creating a Roadmap for a Digitally Inclusive Bharat'.
- The report identifies challenges in accelerating digital financial inclusion (DFI) in India and provides recommendations for making digital services accessible to its 1.3 billion citizens.

### **Challenges**

- There has been a lot of effort and success on the supply side of DFI: in e-governance, the JAM trinity, in GST. However, the break in the digital financial flow comes at the last mile, where account holders mostly withdraw cash for their end-use.
- MSMEs have been a key growth driver for the Indian economy. The widespread inability to access formal finance is a common issue for MSMEs. The lack of proper documentation, bankable collateral, credit history and non-standard financials force them to access informal credit at very high interest rates.
- There has been a tremendous growth in digital payments in the past few years. This growth has increased the risk of possible security breaches both for consumers and businesses. Thus, it is important to protect the digital financial system against frauds and security breaches.
- Farmers face multiple challenges, such as access to markets, information, inputs, financial services, expert advice, etc. However, most agri-techs have not succeeded in digitizing financial transactions for farmers or enabling formal credit at lower rates of interest by leveraging transaction data.

### **Recommendations**

- For market players, it is critical to address the gap on the demand side by creating user-friendly digital products and services that encourage the behavioural transition from cash to digital.
- Strengthening the payment infrastructure to promote a level playing field for NBFCs and banks.
- Digitizing registration and compliance processes and diversifying credit sources to enable growth opportunities for MSMEs.
- Building information sharing systems, including a fraud repository, and ensuring that online digital commerce platforms carry warnings to alert consumers to the risk of frauds.
- Enabling agricultural NBFCs to access low-cost capital and deploy a 'phygital' (physical + digital) model for achieving better long-term digital outcomes. Digitizing land records will also provide a major boost to the sector.
- To make city transit seamlessly accessible to all with minimal crowding and queues, leveraging existing smartphones and contactless cards, and aim for an inclusive, interoperable, & fully open system.

### **Tentative List of World Heritage Sites**

- Six Indian sites have recently been added to the tentative list of UNESCO's world heritage sites, which is a requirement before the final nomination of any site.
- The submissions were made by Archaeological Survey of India, which is responsible for the conservation and preservation of Indian monuments.

- The six sites are Satpura Tiger Reserve, Iconic riverfront of the historic city of Varanasi, Megalithic site of Hire Benkal, Maratha Military Architecture in Maharashtra, Bhedaghat-Lametaghat in Narmada Valley- Jabalpur, and temples of Kanchipuram.

### **Satpura Tiger Reserve**

- Located in Madhya Pradesh, the Satpura National Park is home to 26 species of the Himalayan region including reptiles, and 42 species of Nilgiri areas. It is the largest tiger-occupied forest and also has the largest tiger population.
- It has more than 50 rock shelters with paintings that are 1500 to 10,000 years old.

### **Ghats of Varanasi**

- Varanasi's riverfront mainly falls into the second category of cultural properties, i.e: groups of separate or connected buildings which, due to their architecture, their homogeneity or their place in the landscape are of outstanding universal value from the point of view of history, art or science.
- The Ganga river with its riverfront ghats also fulfill the criteria of Cultural Landscapes - that retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress.

### **Megalithic site of Hire Benkal**

- The 2,800-years-old megalithic site of Hire Benkal in Karnataka is one of the largest prehistoric megalithic settlements where some funerary monuments are still intact.
- The granite structures are burial monuments that may also have served many ritual purposes.

### **Maratha Military Architecture in Maharashtra**

- There are 12 forts in Maharashtra dating back to the era of the 17th-century Maratha king Chhatrapati Shivaji.
- They are Shivneri (the birthplace of Shivaji); Raigad (the capital fort rebuilt for the coronation of the Maratha king), Torna (the first fort of the Maratha empire), Rajgad, Salher-Mulher, Panhala, Pratapgad, Lohagad, Sindhudurg, Padmadurga, Vijaydurg and Kolaba.
- This theme will highlight how the formation of Military Landscape in the form of hill and sea forts as a response to hilly terrain in the area is of outstanding universal value.

### **Bhedaghat-Lametaghat in Narmada Valley- Jabalpur**

- Bhedaghat, often referred to as the Grand Canyon of India, is a town in the Jabalpur district. It is known for its marble rocks and their various morphological forms on either side of the Narmada river which flows through the gorge.
- Several dinosaur fossils have been found in the Narmada valley, particularly in Bhedaghat-Lametghat area of Jabalpur.

### **Temples of Kanchipuram**

- Synonymous with spirituality, serenity, and silk, the temple town of Kanchipuram in Tamil Nadu, is dotted with ancient temples that are architectural marvels.
- Situated on the banks of River Vegavathi, this historical city once had 1,000 temples, of which only 126 (108 Shaiva and 18 Vaishnava) now remain.
- Its rich legacy has been the endowment of the Pallava dynasty, which made the region its capital between the 6th and 7th centuries and led to the creation of architectural gems that are a fine example of Dravidian styles.

**World Heritage site**

- A World Heritage Site is a landmark or area which is selected by UNESCO as having cultural, historical, scientific or other form of significance, and is legally protected by international treaties. The sites are judged important to the collective interests of humanity.
- To be selected, a World Heritage Site must be an already classified landmark, unique in some respect as a geographically and historically identifiable place having special cultural or physical significance.
- It may signify a remarkable accomplishment of humanity, and serve as evidence of the intellectual history on the planet.
- The sites are intended for practical conservation for posterity, which otherwise would be subject to risk from human or animal trespassing or threat from local administrative negligence.

**China Threatens Bangladesh**

- China has warned Bangladesh against joining the US-led Quad alliance. It said that Dhaka's participation in the **anti-Beijing "club" would result in "substantial damage"** to bilateral relations.
- The undiplomatic manner in which Bangladesh has been warned by China indicates China's deep annoyance with the grouping.

**What Was Bangladesh' Reaction?**

- Bangladesh reiterated that being an independent and sovereign country, it has full right to decide its foreign policy. It has termed this comment unfortunate and aggressive.
- Bangladesh had been following a **"non-aligned"** and **"balanced"** foreign policy. Dhaka has so far **has not expressed about the Quad** while nobody either approached Bangladesh to join the platform.

**Analysis**

- These comments of Chinese envoy give a message that the Subcontinent — including Beijing's friends and foes — will face **challenges from the assertive superpower** at its doorstep.
- Beijing is conscious that Bangladesh's impressive economic performance in recent years as well as its location lends a new strategic salience to Dhaka. Also, **India is developing a strategic partnership with Dhaka.**
- At the same time, China is also aware of the emerging interest of **Washington and Tokyo to expand cooperation with Dhaka.** Bangladesh, which supports China's Belt and Road Initiative, is open to similar infrastructure cooperation with the US, Japan and India.
- Against this backdrop, these comments are being seen as a pre-emptive step from China telling **Bangladesh to resist any Indo-Pacific temptation.**

**Growing Friendship Between China and Bangladesh:**

- In October 2020, Chinese President Xi Jinping expressed his willingness to work with Bangladesh in order to **better align development strategies** between the two countries. He also urged Bangladesh to **jointly promote the construction of Belt and Road Initiative (BRI).**
- Chinese President made these remarks on the occasion of 45th anniversary of the establishment of the bilateral diplomatic relationship between China and Bangladesh.
- Beijing began its **diplomatic relations with Dhaka in 1976.** The cooperation between the two countries began as a process of comprehensive cooperation for trade, economic cooperation, and technology exchange.

- **China replaced India as the top trade partner** in Bangladesh in 2015.
- President Xi Jinping visited Bangladesh in 2016 and investments worth \$24 billion were announced.
- Beijing granted **duty free access to 97 percent of Bangladeshi products** effective from July 1, 2020. Bangladesh has also recently requested from China an **infrastructure fund worth \$64 billion**.
- China has offered help to Bangladesh in order to deal with the COVID-19 pandemic on the condition that Bangladesh will agree to form **sister city alliances with Chinese cities**. These alliances are considered as a tool to develop people-to-people relations.
- China has also stated that **Dhaka will be a priority** should Chinese researchers develop a vaccine against the new coronavirus.

*For detailed coverage of Quad Group, please refer The Recitals- February 2021.*

### **Israel-Palestine Violence**

After 11 days of fighting, a **ceasefire has been agreed between Israel and the Palestinian** militant group Hamas. This was the **fourth round of fighting** between Israel and Hamas since 2008, and the worst since 2014.

#### **What Caused The Recent Violence**

- The beginning of the escalation can be traced to the protests (in mid-April) by 13 Palestinian families in **Sheikh Jarrah, a locality in East Jerusalem**.
- These families were facing eviction from their homes after losing a court battle against Jewish settlers. It provoked counter protests by extremist Jewish groups, sparking violence and rioting that soon spread to to clashes in the **Al-Aqsa compound**.
- In order to control the riot, the Israeli armed forces stormed Al-Aqsa Mosque in the Haram esh-Sharif in Jerusalem. As a result, Hamas launched a barrage of rockets indiscriminately.
- The Israeli Defence Force retaliated by launching a full-fledged military campaign, codenamed **Operation Guardian of the Wall**.

#### **The Sheikh Jarrah Dispute**

- When the **State of Israel was created in 1948**, many Palestinians were forced out of their homes. Out of these displaced Palestinians, **28 families moved to Sheikh Jarrah in East Jerusalem to settle there**.
- In 1956 (then East Jerusalem was under Jordan), the govt. of Jordan along with U.N. Relief and Works Agency facilitated the construction of houses for these families in Sheikh Jarrah.
- Later, **Israel captured East Jerusalem from Jordan in 1967** and it started demanding the families leave the land. Israeli agencies claimed that these houses sat on the land they had purchased from Ottoman Empire in 1885.
- Earlier this year, the **Central Court in East Jerusalem upheld a decision to evict four Palestinian families** from their homes in Sheikh Jarrah in favor of Jewish settlers.

#### **Key Takeaways From This Violence**

- The Israeli-Palestinian conflict is not dead. The hopes for the revival of the peace process, that had been raised in the wake of the **signing of the Abraham Accords**, have diminished.
- The clashes have underlined the **pre-eminence of Hamas as the Palestinian faction** that can no longer be ignored by the international community.

- The violence **reemphasised the centrality of the city of Jerusalem**. The city holds political and religious significance for both the parties; it is the **third holiest site in Islam and the holiest in Judaism**, housing the **sanctum sanctorum of the Second Temple destroyed in 70 AD**. Further, for Israel, the undivided Jerusalem is the capital of the State of Israel and for the Palestinians, East Jerusalem is capital of the future State of Palestine.
- In the regional geopolitics, **Iran has emerged as a major regional threat**. Iran is the most important supporter of the militant Palestinian factions in the region.

### India's Stand on Israel-Palestine Conflict

- India took a **balanced stand** on the recent Israel-Palestine conflict. India urged both sides to show restraint to the highest level and asked them to begin negotiations.
- In the recent UNSC emergency meeting regarding the Israel Palestine conflict, India **reiterated its support to the just Palestinian cause**. It also reemphasized **its unwavering commitment to the two-state solution**.
- India's policy on the Israel-Palestine conflict has gone from being **unequivocally pro-Palestine** in the past, to a tense balancing act with its three-decade-old friendly ties with Israel.
- It appears that New Delhi has recognised the complexities of problem and decided to move away from the decade-long position of **support for a Palestinian state** with 'East Jerusalem as its capital.'
- This does not mean that India is prepared to accept Jerusalem as Israel's capital but it prefers a **negotiated political resolution through mutual recognition and compromise between the parties concerned**.
- In a major shift in foreign policy, **New Delhi is de-hyphenating Israel from Palestine** and is prepared to deal with the two separately and independently.

### Synopsis Of the Conflict

- For centuries there was no such conflict. In the 19th century the land of Palestine was inhabited by a multicultural population – approximately 86 percent Muslim, 10 percent Christian, and 4 percent Jewish – living in peace.
- In the late 1800s, a group in Europe decided to colonize this land. Known as Zionists, they represented an extremist minority of the Jewish population. Their goal was to create a Jewish homeland, and they considered locations in Africa and the Americas, before settling on Palestine.
- Hitler's rise to power, combined with Zionist activities to sabotage efforts to place Jewish refugees in western countries, led to increased Jewish immigration to Palestine, and conflict grew.
- **UN Partition Plan**



- Finally, in 1947 United Nations decided to intervene. However, rather than adhering to the principle of “self-determination of peoples,” in which the people themselves create their own state and system of government, the UN chose a strategy whereby an outside power divides up other people’s land.
- Under considerable Zionist pressure, the UN recommended giving away 55% of Palestine to a Jewish state – despite the fact that this group represented only about 30% of the total population, and owned under 7% of the land.
- **1947-1949 War** - Fighting began almost as soon as the Resolution of November 29, 1947 was approved.
- On May 14, 1948, one day before the British Mandate (as Palestine was a part of Ottoman empire, later British empire) expired, Britain declared "the establishment of a Jewish State in Eretz-Israel, to be known as the State of Israel". The termination of the British mandate over Palestine and the Israeli Declaration of Independence sparked a full-scale war (1948 Arab–Israeli War) which erupted after May 14, 1948.
- By the end of the war, Israel had conquered 78 percent of Palestine; and a new map was drawn up, in which every city, river and hillock received a new, Hebrew name, as all vestiges of the Palestinian culture were to be erased.
- **1967 War** - Also known as a **six-day war**, Israeli forces launched a highly successful surprise attack on Egypt, Israel occupied the final 22% of Palestine that had eluded it in 1948 – the West Bank and Gaza Strip
- It also occupied parts of Egypt (since returned) and Syria (which remain under occupation).

### **Way Forward**

- The suggested way for the resolution of the age-old conflict between Israel and Palestine is the "**two-state solution**" that would create an independent Israel and Palestine.
- The idea is that Israelis and Palestinians want to run their countries differently. Israelis want a Jewish state and Palestinians want a Palestinian one.
- Because neither side can get what it wants in a joined state the only possible solution that satisfies everyone involves separating Palestinians and Israelis.

### **Nepal Heads for Mid-term Polls**

- Bidya Devi Bhandari, President of Nepal, at the recommendation of PM Oli dissolved the House of Representatives of Nepal.
- She declared the dates of **mid-term polls to be held on November 12 and 19 respectively, almost two years before its expiry.**

### **Constitutional Provision:**

- The decision to hold elections in November in two phases was taken as **per Article 76 (7) of the Nepalese Constitution** following the event in which PM Oli failed to prove the majority in the House.
- It is for the **second time** that President at the recommendation of PM Oli had dissolved the Nepalese Parliament; the first time she dissolved it was on December 20, 2020.
- Nevertheless, the Supreme Court later on in its verdict had reinstated the dissolved Parliament.

### **Background:**

- Oli commanded the **support of nearly two-thirds of MPs** in the 275-member HoR in the general elections in 2017, when he had the backing of Maoist leader Pushpa Kamal Dahal Prachanda.

- Under an agreement between these two leaders, Oli was expected to remain the Prime Minister for the first two-and-a-half years followed by Prachand during the second half of the term.
- It was on this ground that the two leaders even merged their political parties in the first place, the CPN-UML and the Communist Party of Nepal–Maoist Centre in May 2018 and the new party **Nepal Communist Party (NCP) was thus formed.**
- Subsequently, the rivalry between Prime Minister Oli and Prachand intensified when the latter was not allowed to become the Prime Minister during the second half of the tenure.

### **Saudi-Iran Talks**

- Iran confirmed publicly for the first time that it is in **talks with its regional arch rival Saudi Arabia. Iraqi PM Mustafa Al Kadhim** played a key role in bringing **both countries to the negotiating table.**
- Although the details have not been divulged, it is said that these talks were aimed at reducing regional tensions.
- The potential for Iran-Saudi rapprochement comes as the **US reduces its presence in the troubled region** and has **ended its support for the war in Yemen.**

### **Rivalry Between Iran and Saudi**

- Iran and Saudi Arabia have been locked in a rivalry that has played out in proxy conflicts across the region, **from Yemen to Syria to Iraq.**
- Iran supported Qatar when other Arab nations imposed a blockade on it that was only lifted in January 2021. The two countries **cut diplomatic ties in 2016.**
- Given the rivalry between these two countries, these talks hold significance. It has the potential to **change the geopolitics and security in the West Asian region.**

### **Why These Two Rivals Started the Talk?**

- Iran and Saudi Arabia are facing significant **security and economic challenges** as a result of their regional policies. The Houthis have launched drone and missile attacks on a number of vital installations in the Kingdom including the ARAMCO oil facilities.
- Saudi involvement in the military operations in Yemen has not **achieved its intended objective** of driving the Houthis out of capital Sanaa. Rather, the years of military operation in Yemen has been a **drain on its national budget.**
- The Iranian economy is **suffering badly from crippling sanctions** imposed on the country since the US withdrawal from the Joint Comprehensive Plan of Action (JCPOA).

### **The EU-China Comprehensive Investment Agreement**

- After seven years, the EU and China concluded negotiations in principle on the **Comprehensive Agreement on Investment (CAI).** It was concluded in December 2020.
- The aim of the deal is to create a more **level playing field for investors in both markets** and, therefore, increase foreign direct investment (FDI) as well as trade flows.

### **Political And Economic Significance of This Deal:**

- Of late, China has been criticized for undermining Hong Kong's autonomy by implementation of the National Security Law, violations of human rights in Xinjiang, assertiveness in South China Sea, or the disinformation during the COVID-19 pandemic.

- Hence, finalising CAI at this juncture has **undermined the EU's credibility** on the international stage as a promotor of human rights and its vision of a world order based on international law.
- US shares many objections regarding China's foreign and economic policy. Hence, this agreement showed that China can drive a wedge between America and its allies (EU has been an important ally of US). Thus, the CAI can be perceived as a **diplomatic success for China**.
- When it comes to the potential economic impact of the CAI for the EU, the picture is also not so favourable. In some areas, such as media or agriculture, **access to the Chinese market is still restricted**.
- With regard to labour rights and environmental issues, Chinese commitments are weak and non-binding.

### **China Suspends Economic Accord with Australia**

- China has **indefinitely suspended** all activities under the **China-Australia Strategic Economic Dialogue**, a forum launched in 2014 and last convened in 2017.
- This suspension is seen as an apparent **tit-for-tat response to Australia's scrapping of a Belt and Road infrastructure pact** and threat to undo a deal leasing Darwin Port to a Chinese company.

### **Background**

- Relations between the two sides have collapsed into acrimony after Australia called for an **independent probe into the origins of the coronavirus pandemic** and banned telecoms giant Huawei from building Australia's 5G network.
- China -- **Australia's biggest trading partner** -- has already imposed tariffs on more than a dozen key industries, including wine, barley and coal, decimating exports.
- China has yet to move on to its nuclear option, **that is to cut the iron ore trade**, but observers have said that Beijing was making clear that it was running out of patience.

### **Bangladesh-Sri Lanka Currency Swap**

Bangladesh's central bank has approved a \$200 billion currency swap facility to Sri Lanka. This will help Colombo tide over its foreign exchange crisis. Sri Lanka is staring at an external debt repayment schedule this year. It is in urgent need of foreign exchange.

### **What Is Currency Swap Agreement?**

- A currency swap is effectively a loan that Bangladesh will give to Sri Lanka in dollars, with an agreement that the debt will be repaid with interest in Sri Lankan rupees.
- For Sri Lanka, this is cheaper than borrowing from the market, and a lifeline as is it struggles to maintain adequate forex reserves.
- The period of the currency swap will be specified in the agreement.

### **Credit Swap Facility Between India and Sri Lanka**

- RBI has a framework under which it can offer credit swap facilities to SAARC countries within an overall corpus of \$2 billion.
- In July 2020, the Reserve Bank of India did **extend a \$400 million credit swap facility to Sri Lanka**, which Central Bank of Sri Lanka settled in February. The **arrangement was not extended**.

- Sri Lanka had made an additional request to India for a special \$1.1 billion currency swap facility. But India-Sri Lanka relations have been tense over Colombo's decision to cancel a valued container terminal project at Colombo Port.

#### **Currency Swap: Sri Lanka and China**

- The country is already deep in debt to China. In April, Beijing gave Sri Lanka a \$1.5 billion currency swap facility.
- Separately, China, which had extended a \$1 billion loan to Sri Lanka last year, extended the second \$500 million tranche of that loan.
- According to media reports, Sri Lanka's owes China up to \$5 billion.

#### **U.K. Plans for Digital Border**

- Britain is to announce plans for a "**fully digital border**" including the **introduction of US-style electronic travel authorisation** to pre-check travellers to the UK.
- It will also include the introduction of a points-based migration system. This step is being seen as a part of a wider overhaul of the country's immigration system.
- **Digital identity checks** will also be used to reduce the need to visit visa application centres.
- Digitising the border will mean **officials can now count** who is coming in and out of the country and whether they have permission to be there.

#### **China's Population Growth Slows**

- As per the China's seventh census, its population grew at its slowest pace in decades.
- The **average annual growth rate was 0.53%** over the past 10 years, down from a rate of 0.57% between 2000 and 2010 - **bringing the population to 1.41bn**.
- **China's working-age population** - which it defines as people aged between 16 and 59 - has also **declined by 40 million** as compared to the last census in 2010.
- The results add pressure on Beijing to boost measures for couples to have more babies and avert a population decline.
- In 2016, the **government ended a controversial one-child policy** (introduced in 1979) and allowed couples to have two children. But the reform failed to reverse the country's falling birth rate.

#### **Kyrgyzstan-Tajikistan Border Tension**

- Recently, Kyrgyzstan and Tajikistan got involved in a violent clash over border issue.
- The violence was the **worst cross-border military conflict in Central Asia** in many years. The two countries quickly called a ceasefire and committed to resolving immediate tensions through diplomacy.
- Both nations claim the **area around the water supply facility in Kok-Tash**, a dispute dating back decades to when they were both part of the Soviet Union.
- The meandering boundary between Tajikistan and Kyrgyzstan is particularly tense as over a **third of its 1,000-km length is disputed**.

- Restrictions on access to land and water that communities regard as theirs have often led to deadly clashes in the past.

### **Covaxin Approval Issue**

- Covaxin, the vaccine developed by the Hyderabad-based Bharat Biotech, is **not yet on the WHO's 'emergency use list'** (EUL), nor does it have **similar approval from the EU's European Medicines Agency (EMA)**.
- As a result, those who have been fully vaccinated with Covaxin may not be eligible to receive 'vaccine passports' and hence will not be eligible to enter Europe.

### **Who All Are Allowed To Enter EU Countries**

- Under the EU plan, the bloc would accept visitors **who have completed their immunization** at least two weeks before their arrival, using **one of the shots approved by its own regulator or by the World Health Organization**.
- That covers the vaccines from Oxford AstraZeneca, Johnson & Johnson, Moderna, Pfizer-BioNTech and Sinopharm.

### **Covaxin in Other Countries**

- Besides the European Union, the **United Kingdom and Canada also have not included Covaxin in their approved list of vaccines**.
- At present **Covaxin has been approved for use in nine countries** — Iran, Philippines, Mauritius, Mexico, Nepal, Guyana, Paraguay, Zimbabwe and India.

### **Why India is Worried?**

- Over 2 crore people have been administered with Covaxin in India. As a result, many Indian citizens would not be able to enter the EU countries.
- Also, India is worried that a patchwork of approvals across countries and regions is laying the **groundwork for a global vaccine bifurcation**. It will lead to a situation where the **shots one gets would determine which countries he/she can enter and work in**.
- The recognition will also help **scientific research and collaboration** between the Indian and foreign vaccine producers as well as help citizens to travel smoothly.
- Bharat Biotech has signed agreements with pharmaceutical companies from Brazil and the U.S. where the vaccine will be either co-produced or exported.
- However, the absence of endorsement from WHO and other multilateral bodies is creating difficulties for the vaccine.

### **Steps Taken by India to Address the Issue**

- The government has decided to help ensure that Hyderabad-based Bharat Biotech receives clearances from both the WHO and the EMA.
- The Ministry of External Affairs has been tasked with studying the matter, given both the **need for recognition for the Indian-made vaccine**, as well as the **desire to push for more export orders in the future**.

**Visit of External Affairs Minister to the United Kingdom**

External Affairs Minister visited UK in order to participate in the **G7 Foreign Ministers Meeting**, at which India has been invited as a guest country. It was the **first in-person meeting of G7 foreign ministers in over two years**. After participating in the G7 meeting, he undertook a bilateral visit to the UK.

**Key Highlights**

- Participating leaders deliberated on how to tackle the COVID-19 pandemic, focusing on expanding vaccine production and reliable supply chains.
- On bilateral front, India emphasized on the convergence. Both India and UK agreed on an ambitious **2030 Roadmap towards a Free Trade Agreement (FTA)**.
- Indian minister highlighted the **many UKs that India seeks to engage simultaneously**: the Global Britain, the Atlantic UK, the European one after Brexit, the City of London, the non-London UK, the diaspora one, the innovation and education UK, and the strategic and historical UKs.
- On the other hand, UK described India as a **"technologically endowed high trust partner"**.
- The 2030 Roadmap will take the UK-India relationship to the level that has been aspired to for many years.

**Background**

- In January 2021, UK PM Boris Johnson has invited **Indian PM to attend the G7 summit** to be held in June 2021.
- However, given the prevailing covid-19 situation in India, it has been decided that the **Indian PM will not attend the G-7 Summit in person.**

**Key Facts:**

- UK is the **current president of G7** and the proposed summit will be the **first in-person G-7 summit in almost two years**. Last year's G7 meeting, due to be hosted by U.S., was cancelled due to the pandemic.
- Besides India, **Australia and South Korea** have also been invited as guest countries. These nations, combined with those in the G7, represent **2.2 billion people and over half of the world's economy.**

**About G7:**

- G7 originally came into **being in 1975** when the heads of the **world's six leading industrial nations**- the US, UK, France, Germany (West), Japan and Italy decided to hold a meeting in the wake of the oil shock of 1973 and the following financial crisis.
- The **six countries were joined by Canada** in 1976.
- In 1998, Russia was formally inducted in the group, which transformed G7 into G8.
- However, when **Russia annexed Crimea** in 2014, it was suspended from the grouping. As a result, the group became **G7 again in 2014.**
- **Current members are** - US, UK, Canada, France, Germany, Italy and Japan (Most developed and the advanced economies of the world)

**India-France-Australia Joint Statement****Context:**

- India's EAM also met with his counterparts from France and Australia **in a trilateral format** on the sidelines of the G7 Foreign Ministers' Meeting.

- This was the **first India-France-Australia Trilateral Ministerial Dialogue**.

**Key Highlights of the Joint Statement:**

- Expressed their support for the rule of law, freedom of navigation and overflight, peaceful resolution of disputes, democratic values, and respect for sovereignty and territorial integrity.
- Reaffirmed the commitment to ASEAN's centrality and their support for **ASEAN's Outlook on the Indo-Pacific**, and noted its **complementarity with India's Indo-Pacific Oceans Initiative (IPOI)**.
- It welcomed **French decision to join IPOI** by taking lead on the **Marine Resources pillar** and acknowledged **Australia's lead on its Marine Ecology pillar**.
- It called for **fair and equitable access** to safe, effective and affordable COVID-19 vaccines.
- It acknowledged the important role of regional forums such as the Indian Ocean Rim Association, the Indian Ocean Naval Symposium, ASEAN, the East Asia Summit and the Pacific Islands Forum.
- The first India-France-Australia Foreign Secretaries' Trilateral Dialogue was held in September 2020. It progressed on **three pillars: maritime safety and security, marine and environmental cooperation, and multilateral engagement**.
- To deepen cooperation on maritime safety and security in the Indo-Pacific region, the joint statement welcomed the **trilateral information sharing workshop** on maritime domain awareness held at the **Information Fusion Centre for the Indian Ocean Region (IFC-IOR)**.

**EAM Visit to US**

- External Affairs Minister of India visited US to discuss COVID-related cooperation between the two countries.
- He also interacted with business forums on economic and COVID-related cooperation between India and the US.
- India is engaged in talks with various US entities involved in **Covid vaccines production** and is looking forward to procuring and subsequently producing these vaccines. This visit is aimed to address these issues.

**India – US Cooperation During COVID 19**

- The cooperation has resulted in the delivery of over \$ 500 million in relief materials (state, federal and private sector sources) from the U.S. to India.
- US has already provided large oxygen plants, concentrators, critical medicines like Remdesivir and raw materials for vaccine manufacturer Serum Institute of India, which is manufacturing Covishield.
- US is also backing **India sponsored proposal on TRIPS waiver at the WTO**. The TRIPS waiver aims to **increase global vaccine production** in order to take on the challenge of vaccinating the poorest of the poor and save lives.
- In October 2020, India and South Africa, along with 57 members of WTO **proposed a waiver from certain provisions of the TRIPS agreement** for prevention, containment, and treatment of the coronavirus.

**India-US Ties: Overcoming Hesitation**

- The Biden administration had earlier invoked the US Defense Production Act to ban the **export of critical raw material for the production of vaccines** and other medical equipment. It started affecting the production of vaccines at the Serum Institute of India (SII).

- The Freedom of Navigation Operation exercise by an American Navy Destroyer through India's EEZ near Lakshadweep, in April 2021, further affected the relation between the two countries.
- All of a sudden, India-USA ties, so far being termed as the emerging strategic partnership of the 21st century, **seemed headed for the doldrums**.
- Later, the Biden administration revisited and reversed some decisions that were crucial for India's fightback against the virus. The **Indian-American community weighed in on behalf of India**, as did several leading political leaders in the US Congress.

#### **Indian-American Neera Tanden To Serve As Senior Adviser To Biden**

- Indian-American Neera Tanden has been appointed **senior adviser to US President Joe Biden**.
- She has been entrusted with two tasks — launch a review of the US Digital Service, and plan contingencies that could result from the Supreme Court's consideration of Republican lawsuits seeking to strike down the Affordable Care Act.

#### **India-EU Leaders' Meeting**

- **At the invitation of the President of the European Council**, Mr. Charles Michel, PM Modi participated in the meeting of the European Council. The was hosted by PM of Portugal as Portugal currently holds the Presidency of the Council of the European Union.
- The leaders exchanged views on the COVID-19 pandemic and healthcare cooperation; fostering sustainable and inclusive growth; strengthening the India-EU economic partnership as well as regional and global issues of mutual interest.

#### **Key Highlights:**

The three broad clusters of discussions during the meeting were 1. Trade, Technology and Connectivity, 2. COVID-19, Environment and Climate Change and 3. Foreign Policy, Security and Regional Issues.

#### **1. On Trade, Technology and Connectivity**

- Both sides have agreed to **resume negotiations for balanced and comprehensive free trade and investment agreements**. The negotiations were suspended in 2013 after several rounds of talks spanning six years.
- There has also been an agreement to **start negotiations on a separate agreement on geographical indications**. The High-Level Trade and Investment Dialogue will monitor the progress of these new decisions.
- India and the EU have also agreed on a comprehensive and ambitious **Connectivity Partnership** covering digital, energy, transport and people-to-people connectivity.
- Both sides also shared the ambition for **cooperating in new and emerging technologies, including 5G and beyond**. The leaders looked forward to the early **operationalization of the Joint Task Force on Artificial Intelligence**.
- The EU side also proposed new cooperation in **High-Performance Computing in the context of COVID-19 drug discovery** and extreme weather events.
- India invited the EU Member States to participate in the **India-EU High-Level Digital Forum**, likely to be organized later this year.
- The objective of the Forum is to enhance digital cooperation between India and the EU through linking of Startups, supporting the digital economy, etc.

## 2. COVID-19, healthcare, climate and environmental issues

- India requested the EU's support for its joint proposal with South Africa for a TRIPS waiver on vaccine production-related patents.
- On Climate Change, India invited EU to support India's ambitious plans of deployment of large-scale renewable energy. India also welcomed the decision of **EU to join Coalition for Disaster Resilient Infrastructure (CDRI)**.

## 3. On Foreign Policy and Security issues

- Both sides welcomed the growing convergences between India and the EU on regional and global developments.
- The leaders underlined their commitment to a free, open, inclusive and rules-based Indo-Pacific and discussed the new avenues of cooperation in the region.

### India-EU Connectivity Partnership

- India and the EU agreed to build a sustainable and comprehensive Connectivity Partnership. Under this partnership both sides will jointly implement connectivity that conforms with international norms, rule of law, and is based on mutually agreed principles of sustainable connectivity.
- The Partnership will explore initiatives to improve connectivity between India and the EU as well as ensure developmental cooperation with partner countries.
- The Connectivity Partnership will endeavour to support the **twin green and digital transitions, sustainable and inclusive economic recovery and growth, quality jobs and resilient value chains**.
- Cooperation under the Connectivity Partnership would take place through existing dialogues with overall monitoring through the India-EU Strategic Partnership Review Meeting. Its implementation will be aligned with that of the India-EU 2025 Roadmap.
- Areas covered under this partnership includes:
  - I. **Digital connectivity** - Enhancing collaboration in digital connectivity, for example via submarine cables and satellite networks; Promote fast and effective roll-out of 5G on the basis of global standards; Holding of Digital Investment Forum to address common challenges etc.
  - II. **Energy connectivity** - Contribute to the implementation of the India-EU Clean Energy and Climate Partnership; Promote regional inter-connections to increase the hosting capacity of the electricity system for large-scale renewable energy production;
    - Promote investments in energy efficiency improvements and the deployment of renewables, including offshore (and coastal) wind energy;
    - Help in developing a regulatory framework to support **India's target of 5GW offshore wind generation capacity** spanning sites in the Indian Ocean and the Bay of Bengal; Advance cooperation in newer areas floating solar, offshore wind, hydrogen and energy storage.
  - III. **Transport connectivity** - Support and promote better planning of regulatory frameworks, interconnection of transport corridors and security of transport.
    - This includes continued India-EU exchanges in railways, to deepen regulatory and practical technical cooperation.
    - Engage in dialogue on smart and sustainable mobility in line with the **EU Smart and Sustainable Mobility Strategy, and green recovery objectives**.

- Build on the portfolio of EIB urban mobility investments in India (Bangalore, Lucknow, Pune, Bhopal and Kanpur).
- Expand cooperation in the aviation sector, including by holding the India-EU Aviation Summit.
- Pursue engagement at the International Maritime Organisation to deliver on its Emissions Reduction Strategy.
- Identify joint investments in the port sector, with emphasis on alternative fuels, including the provision of on-shore power supply for vessels at berth.
- Develop an efficient and climate-friendly cold-chain for the distribution of agricultural produce and pharmaceuticals (including vaccines).

#### **IV. People to people connectivity**

- Advance cooperation in the field of scientific research and innovation, technology and skills, as stated in the **Agreement for Scientific and Technological Cooperation between India and the EU** (S&T Agreement).
- Support connecting the European and Indian innovation ecosystem, by targeting SMEs and start-ups, to co-create and co-develop in view of finding innovative and technology-driven solutions to connectivity challenges.
- Ensure two-way mobility and reciprocity for People-to-People initiatives and promote student and faculty mobility between EU and Indian Higher Education Institutions (HEIs), including through **enhanced Erasmus+ opportunities** for scholarships and collaborative projects in education and youth, and through cultural cooperation.
- **Seek opportunities for cooperation under India's New Education Policy** particularly in higher education, and explore options for linkages between universities and enhanced cooperation under the **ongoing Global Initiative for Academic Network (GIAN)** and the **Scheme for Promotion of Academic Research and Collaboration (SPARC)**.

#### **V. Joint support for sustainable connectivity in third countries and regions**

- Seek synergies and complementarities between their cooperation on connectivity with third countries and regions, including Africa, Central Asia and the Indo-Pacific.
- Recognise the importance of India as a sustainable development partner, and develop and facilitate India-EU collaboration in pilot third countries.
- Support regional connectivity, in particular, working together to support the BIMSTEC.

#### **VI. The role of the private sector and engagement to incentivise private financing**

- Support engagement in the International Platform on Sustainable Finance
- Utilise projects to **promote joint ventures between EU and Indian businesses**. Leverage opportunities provided by India's **National Infrastructure Pipeline for promoting private investment**.
- Build on EIB partnerships with the **Indian Renewable Energy Development Agency** and the **State Bank of India** to expand financing for green investments.
- Utilise **Invest India** and **European networks** such as the European Business Organizations World Wide Network and the Enterprise Europe Network, and industrial clusters as well as relevant clusters of SMEs.
- Build on existing projects such as Business Support to the **EU-India Policy Dialogues**.

**Analysis of Connectivity Partnership**

- The Partnership outlines a shared desire to promote a transparent, viable, inclusive, sustainable, comprehensive, and rules-based connectivity.
- It will enable private and public investments in connectivity projects as well as leverage public funds to spur private investments in sustainable projects.
- Recently, **European Investment Bank** and **SBI**, have agreed to invest 100 million Euros in **Neev Fund II on climate action** and sustainability business financing for Indian SMEs.
- A **finance contract of 150 million Euros** was also signed for **Pune Metro Project** between DEA and European Investment Bank.
- The partnership also reflects the ambition of both sides to build on their synergies and pursue sustainable joint projects in third countries, most notably in the Africa, Central Asia and Indo-Pacific region. This will open up new avenues of cooperation for both sides.
- The development gains significance as it is **India's first such connectivity initiative** with any foreign partner **covering three geographical zones**.
- Moreover, **being seen as the alternative to China's Belt and Road Initiative (BRI)**, it comes at a time when China's BRI has pushed several nations into debt traps.
- It should be noted that before this, the **EU has signed such a partnership only with Japan**.

**3<sup>rd</sup> Arctic Science Ministerial (ASM3)**

- India participated in the **3<sup>rd</sup> Arctic Science Ministerial (ASM3)**. Arctic Science Ministerial is the global platform for **discussing research and cooperation in the Arctic region**.
- ASM3 was jointly organised by **Iceland and Japan**. It is the **first Ministerial meeting being held in Asia**. The first two meetings—ASM1 and ASM2—were held in the USA in 2016 and Germany in 2018, respectively.
- **Theme** for this year's Meeting - '**Knowledge for a Sustainable Arctic**'.

**India's Stand During The Meeting**

- Shared its plans to contribute observing systems in the Arctic, both in-situ and by remote sensing
- India would deploy open **ocean mooring in the Arctic** for long-term monitoring of upper ocean variables and marine meteorological parameters.
- The launch of **NISER (NASA-ISRO Synthetic Aperture Radar)** satellite mission, in collaboration with the USA, is underway.
- NISER aims to conduct global measurements of the cause and consequences of land surface changes using advanced radar imaging.
- India's contributions to the **Sustained Arctic Observational Network (SAON)** would continue.

***For Arctic Council and India in Arctic, Please Refer The Recitals- January 2021***

**Militarisation of the Arctic**

- Recently, the US had expressed concerns about increased military activities in the Arctic.
- As per US, increased military activities in the Arctic increase the dangers or prospects of accidents and undermines the shared goal of a peaceful and sustainable future for the region.

- This statement came after Russia defended its military activities in the strategic region.
- President Putin has in recent years made **Russia's Arctic region a strategic priority** and **ordered investment in military infrastructure** and mineral extraction, exacerbating tensions with Arctic Council members.
- On the other hand, Russia warned the **West against making territorial claims in the area.**

### **New IT Rules Come into Force**

India's new IT rules come into force on May 26. Titled as **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021**, it seeks to regulate social media platforms, OTT players & digital media.

#### **Key Highlights**

##### **A. Removal of Content from Social Media**

- The new guidelines will make it mandatory for platforms such as WhatsApp to **aid in identifying the "originator" of "unlawful" messages.**
- The rules lay down **10 categories of content** that the social media platform should not host.
- The rules stipulate that upon receipt of information about the platform hosting prohibited content from a **court or the appropriate government agency**, it should remove the said content within 36 hours.

##### **B. Categorisation of Social Media**

- The rules also made a distinction between a **significant social media intermediary** and a **regular social media intermediary.**
- However, it is yet to be defined the user size to determine who will constitute a significant social media intermediary, though the officials indicated players with more than 50 lakh users will be considered.

##### **C. Related to Safe Harbour Mechanism**

- **Section 79 of the Information Technology Act** provides a "**safe harbour**" to intermediaries that host user-generated content, and exempts them from liability for the actions of users if they adhere to government-prescribed guidelines.
- The new guidelines prescribe **an element of due diligence** to be followed by the intermediary, failing which the **safe harbour provisions would cease** to apply to these platforms.

##### **D. A Grievance Redressal Mechanism**

- The guidelines mandates that the intermediaries, including social media platforms, should establish a mechanism for receiving and resolving complaints from users.
- These platforms will **need to appoint a grievance officer** to deal with such complaints, who must acknowledge the complaint within 24 hours, and resolve it within 15 days of receipt.

##### **E. Ensuring Compliance**

- The social media platforms will be required to **appoint a chief compliance officer** resident in India, who will be responsible for ensuring compliance with the rules.
- They will be required also to appoint a **nodal contact person for 24x7 coordination** with law enforcement agencies.
- The platforms will need to publish a monthly compliance report mentioning the details of complaints received and action taken on the complaints, as well as details of contents removed proactively by the significant social media intermediary.

**F. Penalties for Companies Violating these Guidelines**

- In case an intermediary fails to observe the rules, it would **lose the safe harbour**, and will be **liable for punishment** “under any law for the time being in force including the provisions of the IT Act and the Indian Penal Code”.

**G. Rules for OTT Services**

- It has called for a **grievance redressal system for OTT platforms**. The government is also asking OTT platforms to self-regulate.
- While films have a censor board, OTT platforms such as YouTube, Netflix, etc. will require to self-classify their movies and content based on age.
- For this, the government has prescribed **self-classification of content into five categories** based on age suitability. These categories include U, “U/A 7+”, “U/A 13+”, “U/A 16+” and “A”.
- Also, there has to be a **mechanism of parental lock** and ensuring compliance with the same. Platforms like Netflix already have an option for a parental lock.

**H. Rules for Digital News Portals**

- For publishers of news on digital media, they will be “required to observe Norms of Journalistic Conduct of the Press Council of India and the Programme Code under the Cable Television Networks Regulation Act thereby providing a level playing field between the offline (Print, TV) and digital media.
- It also wants a three-level grievance redressal mechanism. This will include self-regulation by the publishers; self-regulation by the self-regulating bodies of the publishers and oversight mechanism.
- The rule also wants digital media to **appoint a Grievance Redressal Officer** based in India who shall be responsible for the redressal of grievances received by it. The officer shall take decision on every grievance received by it within 15 days.
- There maybe **one or more self-regulatory bodies of publishers**. According to the rules, this body “shall be headed by a retired judge of the Supreme Court, a High Court or independent eminent person and have not more than six members.”

**Analysis:**

- Many experts believe that India’s new social media rules **could be emulated by other countries** such as the US, the UK and Australia.
- These countries have been **pressing social networks to take responsibility for content** on their platforms besides wanting tighter data-handling practices. India’s **demand for traceability** had also found resonance in these countries.
- The new mandates social media companies with over 5 million users in India to **not just enable traceability** of end-to-end encrypted messages, but also **establish local offices with senior officials** to deal with law enforcement and user grievances.
- They also have to alter their interface to clearly distinguish verified users from others, apart from setting up automated tools for content filtration and informing users if their accounts have been blocked with explanations.
- The new rules are part of a **global shift following the mass shooting in New Zealand that was live-streamed by the gunman on Facebook**.

**Criticism:**

- Some experts said the rules violate freedom of speech and expression and privacy. The open internet is fundamentally based on the principles of interoperability and common standards, **which may begin to fragment under these rules.**
- Now these rules will compel social media intermediaries to depart from their global practices to cater to Indian laws, thereby implicitly creating a rift between their global platform and the platform accessible in India.
- Some provisions, such as those enabling traceability of encrypted content and automated filtering, are fundamentally incompatible with end-to-end encryption and will weaken protections.

**Reaction Of Social Media Giants on New Rule**

- WhatsApp has **approached Delhi High Court** against the new IT rules that require **instant messaging platforms to aid in identifying the ‘originator’ of messages.**
- It has challenged the constitutionality of new IT rule on the ground that it violates privacy.
- Right to privacy is a fundamental right as pronounced in the landmark judgment of the Supreme Court in the **K.S. Puttaswamy case.**
- On the other hand, Facebook said it **aimed to comply with the provisions** of India’s new IT rules of intermediaries. At the same time, it wants to discuss the issues related to the new guidelines with the government.

**Govt vs WhatsApp on Privacy Policy**

- The Ministry of Electronics and Information Technology has warned WhatsApp once again to **roll back its latest update in privacy policy.**
- This time, the Ministry has also warned of legal action if it does not get a satisfactory reply.

**Background:**

- WhatsApp’s new policy changes came into force from May 15. Privacy policy update of 2021 asks users to sign up to its **data-sharing policy with Facebook group companies.**
- The Centre is opposing the policy update on grounds including “violation of informational privacy”.
- WhatsApp on the other hand had said that the latest update will enable it to use some of the “business conversations” hosted with Facebook for advertising.

**What is the stand of the Government?**

- The Centre has argued that **WhatsApp is indulging in anti-user practices by obtaining “trick-consent.**
- The Government further alleged that its entire **existing user base is being made to accept** the terms and conditions **before the pending Personal Data Protection Bill becomes law.**
- The Centre has cited the **“discriminatory treatment” of Indian users** compared with European users, **given that the new policy was not applicable in Europe.** WhatsApp’s decision to not implement the new privacy policy in Europe was driven by the EU’s **General Data Protection Regulation.**

### **Emergency Financial Powers to Armed Forces**

- Emergency financial powers have been granted to the armed forces to **empower them and speed up their efforts to tide over the prevailing Covid situation** in the country.
- These powers will help Formation Commanders to establish and operate quarantine facilities/hospitals and undertake procurement/repair of equipment/items etc.
- Under these powers,
  - Vice chiefs of armed forces, including Chief of Integrated Defence Staff to the Chairman Chiefs Of Staff Committee and General Officer Commanding-in-Chiefs and equivalents of all three services have been given full powers,
  - Corps Commanders/Area Commanders have been delegated powers up to Rs 50 lakh per case and
  - Division Commanders/Sub Area Commanders and equivalents have been delegated powers up to Rs 20 lakh per case.
- These powers have been devolved initially for a period of three months from May 1 to July 31, 2021.
- Earlier, in April 2021, emergency buying powers were granted to senior military doctors as part of the ministry's overall plan to fight the outbreak.

### **Facebook's Oversight Board**

- **Facebook's Oversight Board** had **upheld the social media network's decision** on January 7 to **block the then-US President Donald Trump from its platform**.
- Facebook had decided to indefinitely block Trump for using the platform to **incite violent insurrection against a democratically elected government**.

#### **Background:**

- On January 6, with just two weeks to go for Mr. Biden's inauguration, Mr. Trump's supporters gathered around Capitol Hill and **in the violence that ensued, five lives were lost**.
- Twice during the protests of January 6, Mr. Trump's posts, asserting that the 2020 election was stolen, were removed for violating Facebook's community standards.
- Those assertions couldn't be proved in the court of law. After the second post, he was blocked for 24 hours from the platform.
- The next day Facebook extended the block indefinitely. And on January 21, it referred the case to its Oversight Board.

#### **What is the Oversight Board?**

- The Board has been set up as an **independent body** that will help Facebook figure out what content can be allowed on the platform and what ought to be removed.
- Social media platforms often face **conflicting goals** of maintaining Facebook as a platform for free speech and effectively filtering out problematic speech. This board has been created in order to strike a balance between the two.

### **Goa Maritime Symposium (GMS) – 2021**

- Towards **fostering friendly relations with its maritime neighbours**, Indian Navy hosted 'GMS-21' in **virtual mode** under the aegis of Naval War College, Goa.

- **Theme** – “*Maritime Security and Emerging Non-Traditional Threats: A Case for Proactive Role for IOR Navies*”
- Naval representatives from 13 Indian Ocean Littoral countries participated in the event.
- This included India, Bangladesh, Comoros, Indonesia, Madagascar, Malaysia, Maldives, Mauritius, Myanmar, Seychelles, Singapore, Sri Lanka and Thailand.

### **Monoclonal Antibody**

- India faces shortages of the two monoclonal antibody therapies — **Itolizumab and Tocilizumab**.
- Monoclonal antibodies are **artificially created antibodies** that aim to **aid body’s natural immune system**. They target a specific antigen — a protein from the pathogen that induces immune response.
- Monoclonal antibodies can be created in the lab by exposing white blood cells to a particular antigen. In the case of Covid-19, scientists usually work with the spike protein of the SARS-CoV-2 virus, which facilitates the entry of the virus into the host cell.
- To **increase the quantity of antibodies produced, a single white blood cell is cloned**, which in turn is used to create identical copies of the antibodies.
- **Need for Monoclonal Antibodies:**
  - In a healthy body, the immune system is able to create antibodies — tiny Y-shaped proteins in blood that recognise microbial enemies and bind to them, signalling the immune system to then launch an attack on the pathogen.
  - However, for people whose immune systems are unable to make sufficient amounts of these antibodies, scientists provide a helping hand.

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| <ul style="list-style-type: none"><li>● <b>Itolizumab targets CD6</b>, a protein found in the outer membrane of a T-cell. <b>T-cell is a type of white blood cell</b> that plays a central role in the body’s immune response.</li><li>● <b>Tocilizumab inhibits IL-6 activity</b>, a molecule that causes cytokine storm-related complications in severe Covid.</li></ul> |
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### **P-8I Aircraft**

- The U.S. State Department has approved the proposed sale of **six P-8I patrol aircraft**. P-8I is a **long-range, multi-mission maritime patrol aircraft**, manufactured by Boeing and operated by US Navy. India already has a fleet of P-8I patrol aircraft, with eight ordered in 2009 and four more in 2016. It is an **Indian variant of P-8s offered by Boeing** for the Indian Navy.
- The P-8I aircraft can fly at a maximum speed of **789km/h** and can reach a maximum altitude of **12,496m**. The aircraft has a maximum range of **2,222 km** with four hours on station.
- It is designed to protect the vast coastline and territorial waters of India. It can conduct **anti-submarine warfare (ASW), anti-surface warfare (AsuW), intelligence, maritime patrol**, and surveillance and reconnaissance missions.
- These aircrafts will be fitted with encrypted systems as India has signed the **Communications Compatibility and Security Agreement (COMCASA)** foundational agreement with the U.S.

*For details on India-US Defence Ties, please refer The Recitals – March 2021*

**NASA’s Parker Solar Probe**

During a brief swing by Venus, **NASA’s Parker Solar Probe** detected a **natural radio signal** that revealed the spacecraft had flown through the planet’s upper atmosphere. This was the **first direct measurement of the Venusian atmosphere** in nearly 30 years.

**Highlights Of The Discovery**

- This discovery confirms that Venus’ upper atmosphere undergoes puzzling changes over a **solar cycle**.
- It also gives the latest clue to untangling how and why Venus and Earth are so different. **Born of similar processes**, Earth and Venus are twins: both rocky and of similar size and structure. But their paths diverged from birth. **Venus lacks a magnetic field**, and its surface broils at temperatures hot enough to melt lead.
- **Venus sports an electrically charged layer of gas** at the upper edge of its atmosphere, called the **ionosphere**. This sea of charged gases, or plasma, naturally emits radio waves.

**Parker Solar Probe**

*Please refer The Recitals- January 2021*

**Other Important Solar Probe**

- **Solar Orbiter:** It is a seven-year cooperative mission between *NASA and the European Space Agency (ESA)*.
- **Aditya L1 Mission:** It is ISRO’s mission that will **observe the Sun from a close distance** and try to obtain information about its atmosphere and magnetic field.
- **SunRISE Mission:** The **Sun Radio Interferometer Space Experiment (SunRISE)** is a new mission announced by **NASA** in 2020 to study giant solar particle storms. The aim is to look into how the Sun generates and releases the giant weather storms, known as the **solar particle storms**, into space.

**Importance of Studying Sun**

- The sun is key to understanding the astronomical universe, planetary systems, galaxies and other stars and their evolution.
- The **solar weather and environment**, which is determined by the processes taking place inside and around the sun, affects the **weather of the entire system**.
- Variations in this weather can change the orbits of satellites or shorten their lives, interfere with or damage onboard electronics, and cause power blackouts and other disturbances on Earth.
- Solar observations are needed to **learn about and track Earth-directed storms**, and to predict their impact.

**Extra Mile**

**Important Terms**

- **Solar Cycle**
  - The solar cycle is the cycle that the **Sun’s magnetic field goes through approximately every 11 years**.
  - The solar cycle affects activity on the surface of the Sun, such as sunspots which are caused by the Sun’s magnetic fields.
  - The **beginning of a solar cycle is a solar minimum**, or when the Sun has the least sunspots. The **middle of the solar cycle is the solar maximum**, or when the Sun has the most sunspots.

- **Solar Wind**

The solar wind is a soup of **charged particles that are highly concentrated at the poles** and beam through our solar system, affecting satellites and electronic devices on Earth.

- **Lagrange Point 1**

- L1 refers to Lagrangian/Lagrange Point 1, one of five points in the orbital plane of the Earth-Sun system.
- Lagrange Points, named after Italian-French mathematician **Joseph-Louis Lagrange**, are positioned in space where the **gravitational forces of a two-body system (like the Sun and the Earth) produce enhanced regions of attraction and repulsion.**
- These can be used by spacecraft to reduce the fuel consumption needed to remain in position.
- The L1 point is home to the **Solar and Heliospheric Observatory Satellite (SOHO)**, an international collaboration project of **NASA and the European Space Agency (ESA).**

- **Solar Flares**

These are a sudden explosion of energy on the sun caused by tangling, crossing or reorganizing of magnetic field lines near sunspots.

### **New Approach To Drug Delivery**

- A **type of nanoparticle designed** by researchers from the University of Massachusetts, Amherst, in the U.S., embodies a new approach to treating diseases that could potentially revolutionise the field.
- This **combines concepts of biologics and antibody-drug** conjugates to produce **protein-antibody conjugates** that can be used for targeted drug delivery – in the case of pancreatic cancer cells, for example.
- The **new concept**, namely, **Protein–Antibody Conjugates or PACs**, combines **two different approaches to drug delivery.**
  - a) **Biologics**
    - Here the idea is to **target a defective protein** in the system by delivering proteins to it.
    - An example of this is the case of **insulin treatment.** If a person is short of insulin, which is a protein, they are given a shot of this protein which balances the system.
    - The reason this works is that we need a **circulation of insulin outside the cells and not inside the cells.**
  - b) **Antibody conjugates**
    - The other concept is of **using antibodies for drug delivery.** Antibodies are something the **body produces to detect a foreign substance** inside the body.
    - **Protein–antibody conjugates or PACs**, which have a protein attached to the antibody, and this conjugate can zero in on, say, pancreatic cancer cells.
    - This could have an impact on **incurable diseases.**
    - Most drugs work this way: If the **protein has a particular shape** – bent concave like a cup, for example, the drug is designed to fit into the bent portion, like a key into a lock, so that the protein's function is inhibited, and it cannot function.
    - But some of the proteins have an open structure, it is difficult to design a drug that can bind to it, because it is so wide.

- However, using a protein molecule, which is typically large, can solve this problem.

### **Congo Declared End of Latest Ebola Outbreak**

- The **Democratic Republic of Congo (DRC)** has officially declared the end of 12<sup>th</sup> Ebola outbreak.
- **Ebola virus disease (EVD)**, formerly known as **Ebola haemorrhagic fever**, is a rare but severe, often fatal illness in humans.
- The virus is **transmitted to people from wild animals** and spreads in the human population through human-to-human transmission.
- Good outbreak control relies on case management, infection prevention and control practices, surveillance and contact tracing, a good laboratory service, safe and dignified burials and social mobilisation. **Community engagement** is key to successfully controlling outbreaks.
- Early supportive care with rehydration, symptomatic treatment improves survival. There is yet **no licensed treatment proven** to neutralise the virus.

### **Ayush 64 and Kabasura Kudineer**

- The Ministry of Ayush has launched a nationwide campaign to distribute its proven polyherbal **Ayurvedic drugs AYUSH 64 and Siddha drug Kabasura Kudineer** in a concerted response to the second surge of COVID-19 infection in the country.
- AYUSH-64 is an Ayurvedic formulation developed by the **Central Council for Research in Ayurvedic Sciences (CCRAS)**, and Kabasura Kudineer is a classical Siddha formulation.
- AYUSH-64 and Kabasura Kudineer are to be used in the **management of asymptomatic, mild to moderate COVID-19**.

### **SUTRA Model**

- Scientists have raised questions on whether a government-backed model, called **SUTRA**, had an outsized role in creating the perception that a second wave was unlikely in India.
- **SUTRA (Susceptible, Undetected, Tested (positive), and Removed Approach) model** was used to **forecast the rise and ebb of the COVID-19 pandemic**.
- It first came into public attention when one of its expert members announced in October 2020 that India was “past its peak”.
- The model uses **three main parameters** to predict the course of the pandemic.
  - i) **Beta, or contact rate**, measures how many people an infected person infects per day. It is **related to the R-nought value**, which is the number of people an infected person spreads the virus to over the course of their infection.
  - ii) **Reach** is a measure of the exposure level of the population to the pandemic.
  - iii) **Epsilon** is the ratio of detected and undetected cases.
- **Problems with SUTRA Model**
  - i) The SUTRA model was problematic as it **relied on too many parameters** and recalibrated those parameters whenever its predictions broke down.
  - ii) It **omitted the importance of the behaviour of the virus**; the fact that some people were bigger transmitters of the virus than others.

- iii) It also **lacked accounting for social or geographic heterogeneity**.
- iv) **Not stratifying the population by age** as it didn't account for contacts between different age groups also undermined its validity.
- v) The model observed changes in parameter values. However, it **did not account for the reason behind the change**.

### Starship Rocket

- A prototype of the futuristic **Starship rocket, serial number 15 (SN15)**, developed by **SpaceX**, was able to launch and successfully land.
- Starship is a **full-scale, stainless steel**, bullet-shaped rocket ship built by SpaceX. It is a **spacecraft, and super-heavy booster rocket** meant to **act as a reusable transportation system** for crew and cargo to the Earth's orbit, Moon and Mars.
- It has been described as the world's most powerful launch vehicle with an **ability to carry over 100 metric tonnes to the Earth's orbit**.
- It will make **interplanetary travel accessible and affordable** and to become the first private company to do so.
- Starship can **deliver satellites further and at lower marginal costs**, and it can ferry both cargo and crew to the International Space Station (ISS).
- Once developed, Starship is also expected to help **carry large amounts of cargo to the Moon** for human spaceflight development and research.
- It is expected to **enter Mars's atmosphere at a speed of 7.5 km per second** and will be designed to withstand multiple entries.

### Uranium

- Uranium occurs naturally in **low concentrations in soil, rock and water** and is commercially extracted from uranium-bearing minerals.
- Uranium that has a **silvery grey metallic appearance is mainly used in nuclear power plants** due to its unique nuclear properties.
- Depleted uranium is also **used as a shield against radiation in medical processes** using radiation therapy and also while transporting radioactive materials.
- Though itself radioactive, **uranium's high density** makes it effective in halting radiation. Its high density also makes it useful as counterweights in aircraft and industrial machinery.
- Uranium deposits occur in the **Dharwar rocks**. Geographically, uranium ores are known to occur in several locations along the **Singhbhum Copper belt**.
- It is also found in Udaipur, Alwar and Jhunjhunu districts of **Rajasthan**, Durg district of **Chhattisgarh**, Bhandara district of **Maharashtra** and Kullu district of **Himachal Pradesh**.

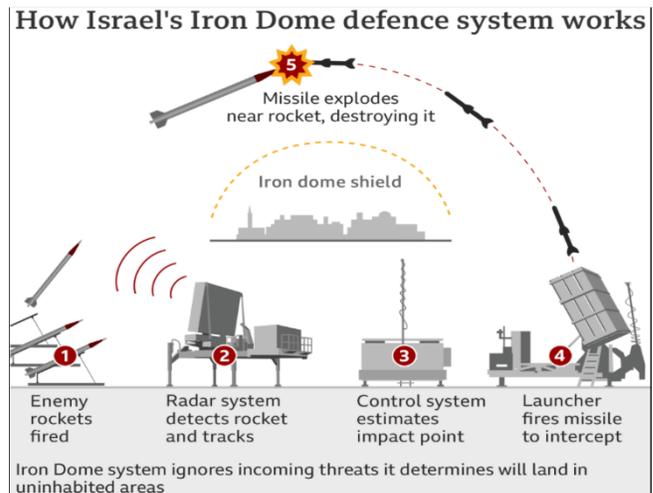
### National Technology Day

- First **observed on 11<sup>th</sup> May 1999**, India observes National Technology Day to mark the **anniversary of the Pokhran nuclear tests of 1998**.

- Pokhran nuclear tests were a **series of five explosions** conducted by India at the Indian Army's Pokhran Test Range. The five nuclear tests were codenamed **Operation Shakti**, and the whole operation is also known as **Pokhran II**.
- The Pokhran tests were India's second instance of nuclear testing after the first test, code-named "**Smiling Buddha**", in 1974.
- All the tests were led by the late **A P J Abdul Kalam**, who went on to become India's 11<sup>th</sup> president.
- On this day, Technology Development Board of the Ministry of Science & Technology honours technological innovations that have helped in the national growth.
- **Theme for 2021: Science and Technology for a Sustainable Future.**

### Iron Dome

- In the conflict between Israel and Palestine, rockets fired from Gaza were intercepted by the Israeli Iron Dome air defence system. It appeared that the rockets were hitting an invisible shield.
- The **Iron Dome is a short-range, ground-to-air, air defence system** that includes a radar and Tamir interceptor missiles that track and neutralise any rockets or missiles aimed at Israeli targets.
- The Iron Dome was **deployed in 2011** and has a success rate of over 90%. It is used for **countering rockets, artillery & mortars (C-RAM)**, as well as aircraft, helicopters and unmanned aerial vehicles.
- The Iron Dome has **three main systems** that work together to provide a shield over the area where it is deployed, handling multiple threats. It has a **detection and tracking radar** to spot any incoming threats, a **battle management and weapon control system (BMC)**, and a missile-firing unit.
- It is capable of being used in **all weather conditions**, including during the day and night.



### 2-deoxy-D-glucose Drug

- The first batch of the indigenously developed anti-Covid-19 drug, **2-deoxy-D-glucose or '2-DG'** has been released.
- 2-DG has been developed by the **Institute of Nuclear Medicine and Allied Sciences (INMAS)**, a lab of the Defence Research and Development Organisation (DRDO), in collaboration with **Dr Reddy's Laboratories (DRL)**.
- The **Drugs Controller General of India (DCGI)**, national drug regulator, had cleared the formulation for emergency use as an adjunct therapy in **moderate to severe Covid-19 patients**.
- The drug **accumulates in virus-infected cells**, and **prevents the growth of the virus by stopping viral synthesis** and energy production. Its selective accumulation in virally-infected cells make this drug unique.
- The drug is available in powder form in a sachet, and can be taken orally after dissolving in water.

**• Advantages**

- 2-DG being a generic molecule and an analogue of glucose, it can be easily produced and made available in **large quantities**.
- It helps in **faster recovery** of patients hospitalised with Covid-19, and **reduces their dependence on supplemental oxygen**.

**Rajasthan Government Declared Mucormycosis an Epidemic**

- The **Rajasthan government** has **declared mucormycosis or black fungus an epidemic** and a notifiable disease. Now, it will be mandatory for the health facilities to report every case of the disease in the State.
- Mucormycosis is **caused by a set of micro-organisms known as mucormycetes**, which are present naturally in the environment, seen mostly in soil and in decaying organic matter like leaves, compost and piles.
- **Amphotericin-B injection** is used in the treatment of mucormycosis.
- Declaration of mucormycosis as an epidemic would ensure its integrated and coordinated treatment along with the treatment for COVID-19.
- Mucormycosis appears as a **side effect among COVID-19 patients** who are put on oxygen support through liquid medical oxygen cylinders or oxygen concentrators.
- People catch mucormycosis by coming in contact with the fungal spores in the environment. It can also **develop on the skin** after the fungus enters the skin through a cut, scrape, burn, or other types of skin trauma.

**White Fungus**

- Four cases of **white fungus**, also known as '**candidiasis**', have been detected in Patna, Bihar.
- The White Fungus infection is **caused due to fungi moulds** present in the environment. The disease is **not contagious**. It can be **caused due to low immunity**, or if people come in contact with things that contain these moulds like water, etc.
- Patients of white fungus show Covid-like symptoms but test negative. The infection can be diagnosed through CT-Scan or X-ray.
- White fungus can affect not just the lungs but also other parts of the body including nails, skin, stomach, kidney, brain, private parts and mouth.
- White fungus is **curable with commonly available medicines** and does not need expensive injections unlike in the case of mucormycosis, nor is it as deadly.

**Yellow Fungus**

- Yellow fungus, also called **mucor septic**, is a fungal infection, which does not generally occur in humans but in **lizards**.
- This infection can prove to be more dangerous than black and white fungus as it starts internally.
- Yellow fungus can cause pus leakage, slow healing of wounds, and can also cause devastating symptoms such as organ failure and acute necrosis in serious cases.
- The symptoms include lack of appetite, lethargy, sunken eyes, among others.

- **Causes**

- The main reason behind the growth of the fungus is **poor hygiene**.
  - It is also caused by **overuse of steroids** and other medications.
  - **Humidity levels below 30-40 per cent** can promote the growth of fungus.
  - **Stale food** can also lead to the growth of fungus.
- **Treatment:** Till now the only known treatment for yellow fungus is **Amphotericin B injection**, which is an antifungal drug also being used to treat black fungus.

### MyLab Coviself

- **MyLab Coviself is the self-use test kit** that can be used by symptomatic individuals and immediate contacts of confirmed cases. It has been approved by the **Indian Council of Medical Research (ICMR)**.
- It was developed by **MyLab Discovery Solutions**, a Pune-based molecular company. The test is **synced with a mobile app, CoviSelf**, which will help directly feed the positive case's report on the ICMR portal.
- It **uses a rapid antigen test**, in which a nasal swab sample is tested for the virus and gives results within 15 minutes.
- Self-test kits can potentially be a game-changer in Covid-19 management in India. These can cut queues in laboratories and **provide quick results leading to prompt treatment and isolation**. The RT-PCR test, considered the gold standard for Covid-19 testing, takes 3-4 days to give results, delaying hospitalisation and treatment.
- This test is not advised for general screening in public places of hawkers, show owners, or commuters.

### Nasal Aspergillosis: Fungal Infection

- Even as concern grows over the increasing number of **mucormycosis cases**, doctors have reported cases of another **invasive fungal infection — aspergillosis** — among Covid-positive patients as well as those who have recovered from the virus.
- **Aspergillosis** is a **fungal infection**, fungal growth or allergic reaction caused due to Aspergillus fungus. The fungus is found **indoors as well as outdoors**. It lives on **decaying vegetation or dead leaves**. This fungal infection is not as deadly as black fungus but it can turn fatal too.
- There are **5 types of aspergillosis** namely, allergic bronchopulmonary aspergillosis, aspergilloma (fungus ball), allergic Aspergillus sinusitis, chronic pulmonary aspergillosis and invasive aspergillosis. But, COVID-19 patients are being diagnosed with rare sinus pulmonary aspergillosis.
- It is said that the growing cases of fungal infections to the **usage of steroids** for treating Covid patients as well as the use of non-sterile water used for hydrating the oxygen supply.

### BioHub Initiative

- The **World Health Organization (WHO)** and **Switzerland** have launched a BioHub facility that will allow rapid sharing of pathogens between laboratories and partners to facilitate a better analysis and preparedness against them.

- The facility will serve as a **centre for the safe receipt, sequencing, storage and preparation of biological materials** for distribution to other laboratories, in order to inform risk assessments, and sustain global preparedness against these pathogens.
- The move is significant in the view of the novel coronavirus disease (COVID-19) pandemic and the need to underline the **importance of sharing pathogen information** to assess risks and launch countermeasures.
- The BioHub will **enable Member States to share biological materials** with and via the BioHub under pre-agreed conditions, including biosafety, biosecurity, and other applicable regulations. This will **ensure timeliness and predictability in response activities**.
- Currently, most pathogen sharing is done bilaterally between countries and on an ad hoc basis, which can be slow, and leave some countries without access to the benefits and tools.

### **DIPCOVAN**

- The **Defence Institute of Physiology and Allied Sciences (DIPAS)**, the research laboratory of Defence Research and Development Organisation (DRDO), has developed an **antibody detection-based kit called 'DIPCOVAN'**.
- It has been developed in association with Vanguard Diagnostics Pvt Ltd and has been approved by the Indian Council of Medical Research (ICMR).
- The DIPCOVAN kit can **detect both spike as well as nucleocapsid (S&N) proteins of SARS-CoV-2 virus** with a high sensitivity of 97% and specificity of 99%. It has a shelf life of 18 months.
- It is intended for the **qualitative detection of IgG antibodies** in human serum or plasma, targeting SARS-CoV-2 related antigens. It offers a significantly faster turn-around-time as it requires just 75 minutes to conduct the test without any cross reactivity with other diseases.
- The kit will help people detect if they have previously been exposed to the COVID-19 virus and if their bodies had produced antibodies to combat it. It will be **used to conduct studies such as serosurveys**.

### **Offshore Patrol Vessel Sajag**

- National Security Advisor commissioned **Indian Coast Guard (ICG) Offshore Patrol Vessel (OPV) Sajag** through digital means and dedicated it to the nation for safeguarding the maritime interests.
- Offshore patrol vessels are **smallest ship** in Navy.
- Sajag has been constructed by **Goa Shipyard Limited**.

### **Indian Coast Guard (ICG)**

- The concept of **forming ICG came into being post 1971 war**, when it was assessed that maritime borders are equally vital as land borders.
- The blueprint for a multi-dimension Coast Guard was conceived by the visionary **Rustamji Committee** even as the **United Nations Convention of the Laws of the Sea (UNCLOS)** was being negotiated and India's assets off Mumbai high were growing.
- The ICG was created through an **Act of Parliament in 1978**.

**NGC 691**

- The **NASA Hubble Space Telescope** has captured an absolutely beautiful photo of a **spiral galaxy called NGC 691**, located in the constellation Aries.
- It is located at a distance of **circa 120 million light years** from Earth, which, given its apparent dimensions, means that **NGC 691** is about 130,000 light years across. It was **discovered by William Herschel** on November 13, 1786.
- Also referred to as **LEDA 6793, UGC 1305 and TC 448** in various astronomical catalogues, NGC 691 has a diameter of 130,000 light-years.
- NGC 691 is the foremost member of the **NGC 691 group**, a collection of nine galaxies of varied shapes and colors. Other members of the group include **IC 163, NGC 678, NGC 680, NGC 694, IC 167, and NGC 697.**

**New General Catalogue of Nebulae and Clusters of Stars (abbreviated NGC)**

- NGC is an **astronomical catalogue** of **deep-sky** objects compiled by John Louis Emil Dreyer in 1888.
- The NGC contains **7,840 objects**, including **galaxies**, star clusters, emission nebulae and absorption nebulae.

**Hubble Space Telescope**

- Often referred to as **HST or Hubble** is a space telescope that was launched into **low Earth orbit in 1990** and remains in operation.
- It was **not the first** space telescope, but it is **one of the largest and most versatile.**
- The Hubble telescope is named after astronomer **Edwin Hubble** and is one of **NASA's Great Observatories**, along with the **Compton Gamma Ray Observatory (1991-2000)**, the **Chandra X-ray Observatory**, and the **Spitzer Space Telescope (2003-2020).**

**National Mobile Monitoring Software (NMMS) App**

- The **Ministry of Rural Development** has launched the **National Mobile Monitoring Software (NMMS) app** and the **Area officer monitoring App.**
- The NMMS App permits taking **real time attendance of workers at Mahatma Gandhi NREGS worksites** along with geotagged photographs. This will increase citizen oversight of the programme besides potentially enabling processing payments faster.
- **Area Officer Monitoring App** facilitates them to **record their findings online** along with time stamped and go-coordinate tagged photographs for all the schemes of Department of Rural Development- Mahatma Gandhi NREGS, PMAYG, PMGSY.
- This would also enable not only **better record keeping of inspections by field** and supervisory officials but also **facilitate analysis of the findings** for better programme implementation.
- It will also **increase transparency and accountability.** Successful implementation of Geo-MGNREGA, a provision for geo-tagging of assets, will help in **refuting the charge of ghost assets being financed** through the scheme.

### News Showcase

- Google has announced the launch of its global product called **News Showcase** in India. News Showcase is a global vehicle to **pay news publishers for their content online**.
- Google has sealed agreements with 30 Indian publishers including national, regional and local news organisations to offer access to some of their content on News Showcase.
- The News Showcase **allows partnering publishers to curate content** which is displayed as story panels on Google's News and Discover platforms.
- The technology firm also pays the publishers to license their content, **providing limited access to pay-walled content for readers**.

### Sun Halo or Kaleidoscope Effect

- The people in Bengaluru recently witnessed a **bright rainbow ring around the sun** for a few minutes.
- It is a rare optical and atmospheric phenomenon known as **Kaleidoscopic Effect** which is also known as “**22-degree circular halo**”
- The halo is called the ‘**22 degrees halo** because the circular rainbow has a radius of **approximately 22 degrees around the sun**.
- This phenomenon circular halo of the **Sun** or occasionally the **Moon** (also called a **moon ring or winter halo**) or around any **light source too**, occurs when the sun's or moon's **rays get deflected/ refracted** through the hexagonal ice crystals present in cirrus clouds.



### Kaleidoscope

- A kaleidoscope is **an optical instrument** consisting of two or more **reflecting surfaces**. These surfaces are **tilted towards each other** at a certain angle to obtain symmetrical patterns when viewed from the other end.
- In this, the **sunlight is bounced by the glass**, and coloured beads present inside and are reflected in the mirrors to create magnificent picturesque patterns.
- Kaleidoscope was invented by **David Brewster in 1817**.

### Climate Change Causing A Shift In Earth's Axis

A study published in Geophysical Research Letters of the American Geophysical Union (AGU) says that due to the **significant melting of glaciers** because of global temperature rise, our **planet's axis of rotation has been moving more than usual** since the 1990s. It can change the **length of the day** by a few milliseconds.

### How The Earth's Axis Shifts

- The earth's axis of rotation is the **line along which it spins around itself** as it revolves around the Sun. The points on which the axis intersects the planet's surface are the geographical north and south poles.

- As the **axis moves** due to changes in how the **earth's mass is distributed** around the planet, the poles also move, and the movement is called "**polar motion**". Thus, the **location of poles is not fixed**.
- According to NASA, data from the 20th century shows that the spin axis drifted about **10 centimetres per year**. Meaning over a century, polar motion exceeds 10 metres.
- Generally, polar motion is caused by changes in the hydrosphere, atmosphere, oceans, or solid Earth. But now, climate change is adding to the degree with which the poles wander.

### **Findings Of The New Study**

- As per the study, the north pole has shifted in a new eastward direction since the 1990s, because of changes in the hydrosphere (meaning the way in which water is stored on Earth).
- From 1995 to 2020, the average speed of drift was 17 times faster than from 1981 to 1995. Also, in the last four decades, the poles moved by about 4 metres in distance.
- The calculations were based on satellite data from **NASA's Gravity Recovery and Climate Experiment (GRACE) mission** as well as estimates of glacier loss and groundwater pumping going back to the 1980s.
- GRACE mission flew twin spacecraft in tandem around Earth to study key changes in the planet's waters, ice sheets and the solid Earth. GRACE **measured changes in the local pull of gravity** as water shifts around Earth due to changing seasons, weather and climate processes.
- The **faster ice melting under global warming** was the most likely cause of the directional change of the polar drift in the 1990s. The **other possible causes** are (terrestrial water storage) change in non-glacial regions due to climate change and unsustainable consumption of groundwater for irrigation and other anthropogenic activities.
- While ice melting is the major factor behind increased polar motion, groundwater depletion also adds to the phenomenon. As millions of tonnes of underground water is pumped out every year for drinking, industries or agriculture, most of it eventually joins the sea, thus **redistributing the planet's mass**.

### **Climate Risk Management In The Financial Sector**

- The **Reserve Bank of India (RBI)** has joined the **Network for Greening the Financial System**.
- It is a *voluntary group* of consisting of 62 central banks and aims to help members design policies that **incorporate environment and climate risk resilience in the financial sector**.
- The RBI has joined to share best practices and contribute to the development of environment and climate risk management in the financial sector to mobilise mainstream finance to support the transition towards a sustainable economy.
- A lack of clarity about true exposures to specific climate risks for physical and financial assets, coupled with uncertainty about the size and timing of these risks, creates major vulnerabilities.
- Recently **New Zealand** became the first country to announce a law that will require **financial firms to disclose climate-related risks** and opportunities.
- The **World Economic Forum's (WEF) Global Risks Report 2021** noted climate action failure and infectious diseases as the highest risks (risks with greatest impact and likelihood).
- The report notes that "both the pandemic and climate change impacts are likely to play out disproportionately across countries, exacerbated by long-existing inequalities".

### **Current Climate Finance System For Developing Countries**

- The WEF projected that by 2020, about **\$5 trillion will be needed to be invested annually in green infrastructure**, far exceeding the current floor commitment of \$100 billion annually. The \$100 billion per year by 2020 commitment, to be provided as **development assistance in the form of public funding** from developed countries, is seen as the 'bedrock' of entire international climate finance system.
- The report underscores the urgency of fulfilling \$100 billion commitment from public contributors of climate finance including bi-lateral, multilateral climate funds, multilateral development banks and development finance institutions but also to leverage far greater private finance.
- The **lacunae in the current efforts to disburse finance** from developed countries includes low levels and declining share of grant finance; underfunding of adaptation; lack of adequate finance for least developed countries and small island developing states; and obstacles to expeditious access by developing countries to climate finance.

### **Recommendations**

- **Fully integrate climate-aligned structural change** with economic recovery needing a fundamental shift in entire finance system with a massive increase in private finance to get from "billions to trillions".
- **Every financial decision should take climate risk into account** and climate finance is integral to the transformation process.
- **Make private sector account for and mitigate systemic risks.** Conventional economic models account only for linear risks (such a price volatility, business risks, legal risks, etc) which are critically insufficient while considering the imperative of low-carbon growth pathways.
- Climate action in the private sector will need to focus on and developing **three key areas progressively**:
  - Building reporting and disclosure frameworks that assess **whether companies' actions that cause negative externalities are mitigated.**
  - Increasing alignment of private sector with **United Nations sustainable development goals** to create positive impact.
  - Increasing alignment with **decarbonisation pathways** according the 21st Conference of Parties agreement to recognise the pace of change required.
- Substantial amount of finance will also be needed to mitigate transition risks of private companies. In this scenario, valuations of companies with negative environmental externalities will be affected and jobs will need to shift towards a climate-neutral and clean technology dominated economy.
- India's promoting local innovations scheme for solar and energy storage is a good example of creating industries that are eligible to receive climate-aligned finance & becoming a manufacturing hub.

### **Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions**

A report titled Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions has been released by the **Climate and Clean Air Coalition** and the **United Nations Environment Programme (UNEP)**.

#### **Highlights Of The Report**

- Human-caused methane emissions **must be cut by 45 %** to avoid the worst effects of climate change. Such a cut would prevent a rise in global warming by up to 0.3 degrees Celsius by 2045. It would also

prevent 260,000 premature deaths, 775,000 asthma-related hospital visits annually, as well as 25 million tonnes of crop losses.

- Human-caused methane emissions are increasing faster currently than at any other time since record keeping began in the 1980s. Carbon dioxide levels have dropped during the novel coronavirus disease (COVID-19) pandemic. However, methane in the atmosphere reached record levels last year.
- This was a cause of concern as **methane was an extremely powerful greenhouse gas, responsible for about 30 per cent of warming** since pre-industrial times.
- Governments worldwide were aspiring to reduce methane. For instance, the European Commission had adopted the *European Union Methane Strategy* in October 2020. It outlined measures to cut methane emissions in Europe and internationally.

### **Methane Emissions**

- Most human-caused methane emissions came from three sectors: ***Fossil fuels, waste and agriculture.***
- Oil and gas extraction, processing and distribution accounted for 23 per cent of methane emissions in the fossil fuel sector. Coal mining accounted for 12 per cent of emissions.
- Landfills and wastewater made up about 20 per cent of emissions in the waste sector.
- In the agricultural sector, livestock emissions from manure and enteric fermentation constituted for roughly 32 per cent and rice cultivation eight per cent of emissions.

### **Emission Mitigation - Steps To Be Taken**

- The assessment found that the mitigation potential varied between countries and regions. Europe had the greatest potential to curb methane emissions from farming, fossil fuel operations and waste management.
- **India** had the greatest potential to reduce **methane emissions in the waste sector**. China's mitigation potential was best in coal production and livestock, while Africa's was in livestock, followed by oil and gas.
- **Fossil fuel industry** had the greatest potential for low-cost methane cuts. Up to 80 % of measures in the oil and gas industry could be implemented at negative or low cost. About 60 % of methane cuts in this sector could make money as reducing leaks would make more gas available for sale.
- The **waste sector** could cut its methane emissions by improving the disposal of sewage around the world.
- **Three behavioural changes** — reducing food waste and loss, improving livestock management and adopting healthy diets (vegetarian or with a lower meat and dairy content) — could reduce methane emissions by 65–80 million tonnes per year over the next few decades.

### **Xylophis Deepaki**

- Xylophis deepaki- **A wood snake is named in honour of Indian herpetologist Deepak Veerappan** for his contribution in erecting a new subfamily Xylophiinae to accommodate wood snakes.
- It is a **tiny snake of just 20 cm length** and first stumbled upon in a coconut plantation in Kanyakumari.



- This new species is found in the **drier regions and in lower altitudes around Agasthyamalai hills**. The other Xylophis were reported from cold higher altitudes, of 1,700 m and above, in the Nilgiris and the Anaimalai.
- **Wood snakes:** Wood snakes are harmless, sub-fossorial and often found while digging soil in farms and under the logs in the Western Ghat forests. They feed on earthworms and possibly other invertebrates. Interestingly, their close relatives are found in northeast India and Southeast Asia and are known to be arboreal.

### **Red-Eared Slider Turtle**

A 'cute' American turtle popular as a pet is *threatening to invade the natural water bodies* across the Northeast. Preventing this invasive species from overtaking the Brahmaputra and other river ecosystems in the Northeast is crucial because the Northeast is home to more than 72% of the turtle and tortoise species in the country, all of them very rare.

#### **About Red-Eared Slider Turtle**

- **Native to the U.S. and northern Mexico**, this turtle is an **extremely popular pet** due to its small size, easy maintenance, and relatively low cost. The small turtle can even be kept in a match box.
- But on the flip side, they grow fast and virtually leaves nothing for the native species to eat. Adult turtles require lots of aquatic plants.
- The red-eared slider derives its name from red stripes around the part where its ears would be and from its ability to slide quickly off any surface into the water.
- They are also **omnivores**. Once finding it difficult to keep them as they grow bigger, people sometimes release them into waterbodies. This turtle is considered as **one of the world's worst invasive species**.



### **The Climate Breakthroughs Summit**

- The Climate Breakthroughs Summit took place virtually on May 27, 2021.
- It is a collaboration between the **World Economic Forum, Mission Possible Partnership, the United Nations Climate Champions, and the United Kingdom Climate Change Conference (COP26) Presidency**.
- The event came in the backdrop of a **Nature report**, according to which, natural climate solutions have the potential to provide a third of the climate mitigation to reach a 1.5- or 2-degree pathway by 2030.

#### **Key Highlights**

- The United Nations made a call for coordinated action to **secure global net-zero emissions** and fulfill its goal of limiting global warming to 1.5 degrees Celsius compared to pre-industrial levels by 2050.
- Climate leaders discussed progress in critical sectors of the global economy, including steel, shipping, green hydrogen as well as nature. One of its key campaigns is '**Race to Zero**' campaign that mobilises support of 708 cities, 24 regions, 2,360 businesses etc. to move towards zero-carbon recovery for a sustainable future.

- There is a 40 % chance of the **annual average global temperature temporarily reaching 1.5 degrees Celsius** in at least one of the next five years, and these odds will increase with time, according to a recent **World Meteorological Organization** report.
- As many as 40 health care institutions worldwide have committed to halving emissions by 2030 and reaching net zero by 2050. These 40 institutions represent more than 3,000 health care facilities in 18 countries.
- Only by collaborating aligned with science in wholesale systems transformation can we upgrade the sectors of our global economy to deliver a healthy, resilient, zero-carbon world.

### **International Day for Biological Diversity**

- International Day for Biological Diversity is observed every year on May 22.
- The slogan for 2021 is "**We're part of the solution**".

### **What is Convention on Biological Diversity (CBD)**

- Signed by 150 government leaders at **1992 Rio Earth Summit**, the CBD is dedicated to promoting sustainable development. It **covers biodiversity at all levels**: ecosystems, species and genetic resources. It also covers biotechnology, including through the Cartagena Protocol on Biosafety.
- The convention is **legally binding** on its signatories.
- CBD has **three main objectives** - conservation of biological diversity; sustainable use of the components of biological diversity; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
- The CBD's governing body is the **Conference of the Parties (COP)** which meets **every two years** to review progress, set priorities and commit to work plans.
- The **Secretariat** of the CBD is based in **Montreal**, Canada.
- India is also a party to the Convention. India ratified it in 1994, and the Biological Diversity Act, 2002 was enacted for giving effect to the provisions of the Convention.

### **Two Important CBD's Protocols**

#### **Cartagena Protocol on Biosafety**

- It is an international agreement which aims to ensure the safe handling, transport and use of **living modified organisms (LMOs)** resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health. It was adopted on 29 January 2000 and entered into force on 11 September 2003.
- The Protocol also establishes a **Biosafety Clearing-House** to facilitate the exchange of information on living modified organisms and to assist countries in the implementation of the Protocol.

#### **The Nagoya Protocol**

- The Nagoya Protocol on **Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS)** to the CBD is a supplementary agreement to the Convention on Biological Diversity.
- The Nagoya Protocol applies to genetic resources that are covered by the CBD, and to the benefits arising from their utilization. The Nagoya Protocol also **covers traditional knowledge (TK) associated with genetic resources** that are covered by the CBD and the benefits arising from its utilization.

- The Nagoya Protocol will create greater legal certainty and transparency for both providers and users of genetic resources.

### **Net Zero Emissions (NZE) Roadmap**

- The **International Energy Agency (IEA)** published a report outlining the essential conditions for the global energy sector to reach **net-zero CO<sub>2</sub> emissions by 2050**.
- The NZE is the IEA's first-ever detailed pathway to reaching net-zero carbon dioxide (CO<sub>2</sub>) emissions from energy and industry by 2050. It is described as "1.5C compatible".
- It also aims to minimise methane emissions from the energy sector. In recent years, the energy sector was responsible for around three-quarters of global greenhouse gas (GHG) emissions.

### **Highlights of IEA NZE Strategy**

- **Carbon Budget:** NZE would give a **50 % chance of staying below 1.5C**, with no 'overshoot' ie global warming more than 1.5C, if paired with stringent cuts to non-carbon dioxide GHG and emissions from forestry and land use.
- **Fossil Fuel Extraction**
  - In the NZE, the IEA says that **oil demand** never returns to its 2019 peak and declines by nearly 75% from 2020 to 2050. This means continued investment in existing oil fields is sufficient to meet demand. The same is true of natural gas.
  - **Coal** sees a significant decline, with no final investment decisions for new coal plants unless they are equipped with CCS.
  - **Methane leaks** are a major source of emissions from fossil fuel production and the NZE includes a 75% decline in these emissions. This requires the elimination of all technically avoidable methane emissions from fossil fuel infrastructure by 2030.
- **Electricity Supply:** Electrification is key to the NZE, with global electricity demand more than doubling over the next three decades and its share of total final energy consumption reaching 49% by 2050. This demand is expected to be met by renewables.
  - The NZE also sees **pairing of batteries with solar and wind** becoming "commonplace" in the late 2020s, to improve grid flexibility and maintain energy security.
  - Nuclear power is also important in the NZE, with its overall output doubling by 2050. After renewables, it would be the largest remaining source of electricity by 2050.
- **Hydrogen:** The share of low-carbon hydrogen and hydrogen-based fuels in total final energy use worldwide reaches 13% by 2050 in the NZE.
- **Bioenergy:** Bioenergy with carbon capture and storage (BECCS) plays a particularly important role in the NZE as it can be used to offset emissions from otherwise "hard-to-decarbonise" sectors. By 2050, around 10% of bioenergy is used in facilities with CCS, capturing around 1.3GtCO<sub>2</sub>.
- **Transport:** The NZE includes a deadline of no new passenger internal combustion engine car sales globally by 2035. There is also expected to be a role for hydrogen fuel-cells, but mainly for heavy trucks. Ammonia and hydrogen are the main low-carbon fuels for the sector, making up 60% of total energy consumption in 2050.
- **Buildings:** There would be a 2% annual rate of retrofits in emerging and developing countries and by 2050 more than 85% of buildings would be zero-carbon ready, meaning they would be energy-efficient and ready to be powered by renewables.

- **Industry:** Three industries – **steel, cement and chemicals** – emit around 70% of CO2 from this sector and are, therefore, key to the transition. NZE relies primarily on CCS and, to a lesser extent, hydrogen to decarbonise these industries.
- **Behaviour change:** Around three-quarters of emissions reductions from behavioural changes in the NZE rely on governments introducing policies and developing infrastructure, such as new high-speed railways to encourage cleaner transport options.

### Miscellaneous

- **AI-based Pest/Insect Management System:** The system, developed by the **Wadhvani Institute**, would identify the possibility of **pink bollworm and other insect/pest infestation on cotton** in advance and share the information to farmers in the areas identified for the programme so that farmers could take control measures early.
- The 'National AI Portal (<https://indiaai.gov.in>)', celebrated its **first anniversary** on May 28, 2021. It is a joint initiative by the **Ministry of Electronics and IT (MeitY)**, National **e-Governance Division (NeGD)** and **NASSCOM** and serves as a central hub for **AI-related news**, learning, articles, events and activities etc., in India and beyond.
- **Vax and Scratch** is a new *vaccination programme of New York* that will provide free lottery tickets to those individuals over the age of 18 years who get vaccinated. Lottery tickets that are otherwise sold for \$20 by retailers will be given free of cost to those above the age of 18 who choose to get vaccinated from one of the ten state-run sites.
- **SeHAT OPD portal:** The Union Defence Minister launched the *Services e-Health Assistance and Tele-consultation (SeHAT) portal*, which will provide tele-medicine services to serving military personnel, veterans and their families.
- Telangana government has selected 16 primary healthcare centres (PHCs) to test '**Medicine From The Sky' Project** - involving delivery of medicines through multiple drones. The selected PHCs are both within the Visual Line of Sight (VLOS) and Beyond Visual Line of Sight (BVLOS) range.
- **Dr Shakuntala Haraksingh Thilsted**, a global nutrition expert of Indian descent has won the prestigious **World Food Prize 2021**. She has been given this award for her ground-breaking research in developing holistic, nutrition-sensitive approaches to aquaculture and food systems. Her research on **small native fish species in Bangladesh** led to the development of **nutrition-sensitive approaches to aquatic food systems** at all levels, from the farm to food processing to final consumers.
- British diplomat **Martin Griffiths** has been appointed as the **new UN humanitarian chief**. The UN's top humanitarian post has *traditionally gone to someone from Britain*, part of an unofficial division of top UN posts among the five permanent Security Council nations -- the US, Russia, China, Britain and France.