



G-20 (The Group of Twenty)

RBI to Launch Retail Digital Rupee

For Prelims: Reserve Bank of India (RBI), e-rupee, Central Bank Digital Currency (CBDC), virtual currency, Digital Payments.

For Mains: Significance of e-rupee & virtual currencies.

Why in News?

The Reserve Bank announces the launch of the first pilot for **retail digital Rupee (₹-R)** also called **Central Bank Digital Currency (CBDC)**.

- On 1st November 2022, the RBI launched the **digital rupee for the wholesale segment** to settle secondary market transactions in government securities.

What are the Key Points about the Pilot Project?

- The first phase of a pilot project that will cover **select locations and banks in a closed user group (CUG)** comprising participating customers and merchants.
- The pilot will initially cover the four cities of **Mumbai, New Delhi, Bengaluru, and Bhubaneswar**, where customers and merchants will be able to use the digital rupee (₹-R), or e-rupee.
- According to the central bank, **the pilot will test the robustness of the entire process of digital rupee creation, distribution and retail usage in real time.**

What is e-rupee?

- **Definition:**
 - RBI defines the **CBDC as the digital form of currency notes** issued by a central bank. It is a sovereign or entirely independent currency issued by the central bank (in this case, RBI), in accordance with the country's monetary policy.
- **Legal Tender:**
 - Once officially issued, **CBDC will be considered as a medium of payment and legal tender by all three parties - citizens, government bodies, and enterprises. Being government-recognised**, it can be freely converted to any commercial bank's money or notes.
 - RBI is not in favour of e-rupee with interest. Because people might withdraw money from banks and convert it to digital rupee - causing banks to fail.
- **Difference with Cryptocurrencies:**
 - The underlying technology of [cryptocurrency \(distributed ledger\)](#) **can underpin parts of the digital rupee system**, but the RBI has not decided on this, yet. However, cryptocurrencies like bitcoin or ethereum are 'private' in nature. Digital rupee on the other hand, will be issued and controlled by the RBI.
- **Global Scenario:**
 - As of July 2022, 105 countries were exploring CBDC. Ten countries have launched CBDC, the first of which was the Bahamian Sand Dollar in 2020 and the latest was Jamaica's JAM-DEX.

What are the Types of e-Rupee?

- Based on the **usage and the functions performed by the digital rupee and considering the different levels of accessibility**, RBI has demarcated the digital rupee into two broad categories — Retail and Wholesale.
 - **Retail e-rupee is an electronic version** of cash primarily meant for retail transactions. It will be potentially available for **use by all — private sector, non-financial consumers and businesses** — and can provide access to safe money for payment and settlement as it is a direct liability of the central bank.
 - **Wholesale CBDC is designed for restricted access to select financial institutions. It has the potential to transform the settlement systems** for financial transactions undertaken by banks in the **government securities (G-Sec) segment**, inter-bank market and capital market more efficient and secure in terms of operational costs, use of collateral and liquidity management.

How will the Retail Digital Rupee Work?

- The e₹-R would be in the **form of a digital token that represents legal tender**. It will be issued in the same denominations as paper currency and coins, and will be distributed through intermediaries, i.e., banks.
- Users will be able **to transact with e₹-R through a digital wallet** offered by the participating banks and stored on mobile phones and devices, according to the RBI.
- Transactions can be **both person to person (P2P) and person to merchant (P2M)**.
- Payments to merchants can be **made using QR codes displayed at merchant locations**.
- The e₹-R would offer **features of physical cash like trust, safety and settlement finality**.
 - As in the case of cash, it will **not earn any interest and can be converted to other forms of money**, like deposits with banks.

What are the Advantages of e-rupee?

- Reduction in operational **costs involved in physical cash management**, fostering financial inclusion, bringing resilience, efficiency and innovation in the payments system.
- Provide the public with **uses that any private virtual currencies can provide, without the associated risks**.

What are the issues related to CBDC in India?

- **Cyber Security:**
 - CBDC ecosystems may be at a similar risk of cyber-attacks that the current payment systems are exposed to.
- **Privacy issue:**
 - The CBDC is expected to generate huge sets of data in real time. Privacy of the Data, concerns related to its anonymity and its effective use will be a challenge.
- **Digital divide and financial illiteracy:**
 - The [NFHS-5](#) also provides data segregation based on the rural-urban divide. Only 48.7% of rural males and 24.6% of the rural females have ever used the internet. So, CBDC may wide gender-based hurdle in financial inclusion along with digital divide.

Way Forward

- Technical clarity must be ensured to decide on the underlying technologies that can be trusted to be safe and stable.
- To make CBDC a successful initiative and movement, RBI must address the demand side infrastructure and knowledge gap to increase its acceptance in rural areas for wide base.
- The RBI must proceed cautiously, remaining mindful of the various issues, the design considerations and the implications surrounding the introduction of the digital currency.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following pairs: (2018)

	Terms sometimes	Context/Topic seen in news
1.	Belle II experiment	Artificial Intelligence
2.	Blockchain technology	Digital/ Cryptocurrency
3.	CRISPR - Cas9	Particle Physics

Which of the pairs given above is/are correctly matched?

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

Ans: (b)

Mains

Q. What is Cryptocurrency? How does it affect global society? Has it been affecting Indian society also? (2021)

Source: IE

Women in Judiciary

For Prelims: Chief Justice of India, Supreme Court

For Mains: Reasons for Low Women Representatives, Significance of High Women Representation and way ahead, Issues Related to Women

Why in News?

Recently, the [Supreme Court](#) has recently appointed a female all-woman bench for the third time in its history.

- The first time the Supreme Court had an all-woman bench was in 2013, and the second occasion came in 2018.

What is the State of Women in Judiciary?

- During the last 70 years, **no significant attempt has been made to provide adequate representation for women** in the High Courts or Supreme Court.
- There have been only **11 women judges on the Supreme Court** since its inception, and no women [Chief Justices](#).
- Just 83 of the 680 judges in the high courts are women.
- Only 30% of subordinate judges are female.

What are the Reasons for Low Women Representatives?

- **Patriarchy in Society:** The primary reason for underrepresentation of women in judiciary is deeply ingrained patriarchy in society.
 - Women often have to face hostile atmospheres within courtrooms. Harassment, lack of respect from members of the bar and bench, the silencing of their opinions, are some of the other traumatic experiences often recounted by many women lawyers.
- **Opaque Collegium System Functioning:** More women tend to enter the lower judiciary at the entry level because of the method of recruitment through an entrance examination.
 - However, the higher judiciary has a collegium system, which has tended to be more opaque and, therefore, more likely to reflect bias.
- **No Women Reservation:** Many states have a reservation policy for women in the lower judiciary, which is missing in the High Courts and Supreme Court.
 - States such as Assam, Andhra Pradesh, Telangana, Odisha and Rajasthan have benefited from such reservation as they now have 40-50% women judicial officers.
- **Familial Responsibilities:** Factors of age and family responsibilities also affect the elevation of women judges from the subordinate judicial services to the higher courts.
- **Not Enough Women in Litigation:** Since lawyers elevated from the bar to the bench form a significant proportion of judges in the high courts and Supreme Court, it is worth noting that the number of women advocates is still low, reducing the pool from which women judges can be selected.
- **Judicial Infrastructure:** Judicial infrastructure, or the lack of it, is another barrier to women in the profession.
 - Small courtrooms which are crowded and cramped, absence of restrooms, and childcare facilities are all barriers.

Why is High Women's Representation Important?

- The presence of women as judges and lawyers, **will substantially improve the justice delivery system.**
- Women **bring to the law a different perspective**, one that is built upon their experience.
- They also have a **more nuanced understanding of the differing impacts** that certain laws may have on men and women.

- Women judges enhance the legitimacy of courts, sending a powerful signal that they are open and accessible to those who seek recourse to justice.
- The judiciary must be better represented by women in order to take a balanced and empathic approach to cases surrounding sexual violence.

Way Forward

- There is a **need to maintain and promote Gender Diversity in Higher Judiciary** with a fixed percentage of its members as women judges that will lead to the evolution of a gender-neutral judicial system of India.
- There is a **need to bring about institutional, social and behavioral change** among India's populace by sensitising and giving emphasis on inclusivity.
- The legal profession, as a gatekeeper of equality and as an institution committed to the preservation of rights, should be emblematic of gender equality.
- **Changing the long-established demographics of a court can make the institution more amenable** to consider itself in a new light, and potentially lead to further modernization and reform.

UPSC Civil Services Examination Previous Year Question (PYQ)

Q. Discuss the desirability of greater representation to women in the higher judiciary to ensure diversity, equity and inclusiveness. **(2021)**

[Source: IE](#)

Horticulture Cluster Development Programme

For Prelims: Horticulture, Cluster Development Programme, Related Initiatives

For Mains: Horticulture Sector of India, Cluster Development Programme & Its Significance, Government's Initiatives for Horticulture

Why in News?

Recently, a meeting was held by the Union Ministry of Agriculture and Farmers Welfare for the **Horticulture Cluster Development Programme (CDP)**.

- Overall **development of horticulture in the country** would be focused with the help of the implementation of the CDP.
- Horticulture is the branch of plant agriculture dealing with garden crops, generally fruits, vegetables, and ornamental plants.

What is the Horticulture Cluster Development Programme?

- **About:**
 - It is a [central sector programme](#) aimed at growing and developing identified horticulture clusters to make them globally competitive.

- Horticulture cluster is a **regional/geographical concentration** of targeted horticulture crops.
- **Implementation:**
 - It is implemented by the **National Horticulture Board (NHB)** of the **Ministry of Agriculture and Farmers' Welfare**.
 - The states of Arunachal Pradesh, Assam, West Bengal, Manipur, Mizoram, Jharkhand, Uttarakhand etc. will also be included in the list of 55 clusters, identified with their focus/main crops.
 - Earlier, in pilot phase, it was implemented in 12 clusters covering 11 States/UTs.
- **Objectives:**
 - The CDP aims to **improve exports of targeted crops by about 20% and create cluster-specific brands** to enhance the competitiveness of cluster crops.
 - To **address all major issues** related to the Indian horticulture sector including pre-production, production, post-harvest management, logistics, marketing and branding.
 - To **leverage geographical specialisation** and promote integrated and market-led development of horticulture clusters.
 - To **converge with other initiatives of the Government** such as the **Agriculture Infrastructure Fund**.
 - A lot of investment will also **come in the horticulture sector through CDP**.
- **Significance:**
 - Cluster Development Programme has a **great potential to transform the entire horticulture ecosystem** by creating **last-mile connectivity** with the use of **multimodal transport for efficient and timely evacuation** and transportation of horticulture produce.

What is the Status of the Horticulture Sector in India?

- **Status:**
 - India is the **second-largest producer of horticulture crops** globally.
 - India is a leader in producing fruits like Mango, Banana, Pomegranate, Sapota, Acid Lime and Aonla.
 - In 2021-22, Uttar Pradesh followed by Madhya Pradesh and West Bengal were the top states in horticulture production.
 - West Bengal, Uttar Pradesh and Madhya Pradesh were the top States in vegetable production.
 - Maharashtra followed by Andhra Pradesh and Uttar Pradesh were the top states in fruit production.
 - The area under horticulture crops increased to **27.74 million hectares in 2021-22**, and produced around 341.63 million tonnes.
- **Initiatives for Horticulture:**
 - **Mission for Integrated Development of Horticulture:**
 - **MIDH** is a **Centrally Sponsored Scheme** for the holistic growth of the horticulture sector covering fruits, vegetables and other areas.
 - Under MIDH, **Government of India contributes 60% of the total outlay** for developmental programmes in all the states (**except North Eastern and Himalayan states where GOI contributes 90%**) & 40% is contributed by State governments.
 - **It has five major schemes on horticulture:**
 - National Horticulture Mission (NHM)
 - Horticulture Mission for North East and Himalayan States (HMNEH)
 - National Horticulture Board (NHB)
 - Coconut Development Board (CDB) &
 - Central Institute of Horticulture (CIH), Nagalan

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Assess the role of National Horticulture Mission (NHM) in boosting the production, productivity and income of horticulture farms. How far has it succeeded in increasing the income of farmers? (2018)

GDP and GVA

For Prelims: Gross domestic product, Gross Value Added

For Mains: Growth and Development in the Indian Economy.

Why in News?

Recently, the Ministry of Statistics and Programme Implementation (MoSPI) released **India's economic growth data for the second quarter** of the current financial year (2022-23 or FY23).

- India's Gross Domestic Product (GDP) grew by 6.3% in Q2 and Gross Value Added (or GVA) in Q2 grew by 5.6% on a year-on-year basis.
- Notably, India remained the fastest-growing major economy as China registered an economic growth of 3.9% in July-September 2022.
- GDP and GVA are the **two main ways to ascertain the country's economic performance.**

What do GDP and GVA mean?

- **GDP:**
 - The GDP measures the **monetary measure of all "final" goods and services**— those that are bought by the final user— produced in a country in a given period.
 - **Four Key "Engines of GDP Growth":**
 - All the money Indians spent for their private consumption (that is, Private Final Consumption Expenditure or PFCE)
 - All the money the **government spent on its current consumption**, such as salaries [Government Final Consumption Expenditure or GFCE]
 - All the money **spent towards investments to boost the productive capacity of the economy**. This includes business firms investing in factories or the governments building roads and bridges [Gross Fixed Capital Expenditure]
 - The **net effect of exports** (what foreigners spent on our goods) and imports (what Indians spent on foreign goods) [Net Exports or NX].
 - **Calculation of GDP:**
 - $GDP = \text{private consumption} + \text{gross investment} + \text{government investment} + \text{government spending} + (\text{exports} - \text{imports})$
- **GVA:**
 - The **GVA calculates the same national income from the supply side.**
 - It does so by adding up all the value added across different sectors.
 - According to the RBI, the **GVA of a sector is defined as the value of output minus the value of its intermediary inputs**. This "value added" is shared among the primary factors of production, labour and capital.
 - By looking at the GVA growth **one can understand which sector of the economy is robust and which is struggling.**

How are the two Related?

- The GDP is **derived by looking at the GVA data.**
- The GDP and GVA are related by the following equation: $GDP = (GVA) + (\text{Taxes earned by the government}) - (\text{Subsidies provided by the government})$
- As such, **if the taxes earned by the government are more than the subsidies** it provides, the GDP will be higher than GVA.
- The GDP data is more useful when looking at annual economic growth and when one wants to compare the economic growth of a country either with its growth in the past or with another country.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q1. With reference to Indian economy, consider the following statements: (2015)

1. The rate of growth of Real Gross Domestic Product has steadily increased in the last decade.
2. The Gross Domestic Product at market prices (in rupees) has steadily increased in the last decade.

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

Ans: (b)

- Gross Domestic Product (GDP) is the monetary value of all the final goods and services produced within a country's borders in a specific time period, generally 1 year. It is a broad measurement of a nation's overall economic activity.
- Real Gross Domestic Product is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, expressed in base-year prices.
- The rate of growth of real GDP has not steadily increased in the last decade. It has fluctuated due to various international and domestic economic pressures. **Hence, statement 1 is not correct.**
- The GDP at market prices of India has steadily increased in the last decade from around 900 billion USD in 2005 to 2.1 trillion USD in 2015. As of 2020 India's GDP is 2.63 trillion USD. **Hence, statement 2 is correct. Therefore, option (b) is the correct answer.**

Q2. A decrease in tax to GDP ratio of a country indicates which of the following? (2015)

1. Slowing economic growth rate
2. Less equitable distribution of national income

Select the correct answer using the code given below:

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

Ans: (a)

- The tax-to-GDP ratio is a ratio of a nation's tax revenue relative to its Gross Domestic Product (GDP). For example, if India's tax-to-GDP ratio is 20%, it means that the government gets 20% of its GDP as tax contribution.
- The tax-to-GDP ratio is used to compare tax receipts from year to year. As taxes are related to economic activity, the ratio should stay relatively consistent. When the gross domestic product (GDP) grows, tax revenue should increase as well.
- Economic slowdown results in lower rates of growth, where unemployment usually rises, and

consumer spending decreases. As a result, **the tax-to-GDP ratio declines. Hence, statement 1 is correct.**

- The less equitable distribution of national income is not directly related to decrease in tax to GDP ratio.
- Equal distribution of national income and resource allocation generally depends upon the economic planning of a country. **Hence, statement 2 is not correct. Therefore, option (a) is the correct answer.**

Mains

Q1. Define potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP? **(2020)**

Q2. Explain the difference between computing methodology of India's Gross Domestic Product (GDP) before the year 2015 and after the year 2015. **(2021)**

Source: IE

Global Water Resources Report 2021: WMO

For Prelims: Climate Change, Water Crisis, La Nina, Drought, Floods, Cryosphere, Indo-Gengetic Plain.

For Mains: World Meteorological Organization (WMO), Global Water Resources Report 2021.

Why in News?

Recently, [WMO \(World Meteorological Organization\)](#) has released its first annual **State of Global Water Resources Report 2021**.

What is this Report About?

- The aim of this annual report is to **support monitoring and management of global freshwater resources** in an era of growing demand and limited supplies.
- The report **focuses on three major areas:**
 - **Streamflow**, the volume of water flowing through a river channel at any given time.
 - **Terrestrial water storage (TWS)** — all water on the land surface and in the sub-surface.
 - **The cryosphere** (frozen water).

What are the Findings of the Report?

- **Overview:**
 - Between 2001 and 2018, UN-Water reported that a **staggering 74% of all natural disasters were water-related.**
 - The recent UN climate change conference, [COP27](#), in Egypt, urged governments to further **integrate water into adaptation efforts**, the first-time water has been referenced in a COP outcome document in recognition of its critical importance.
 - **3.6 billion people have inadequate access to water at least one month per year**

and this is expected to increase to more than five billion by 2050.

- Large areas of the **globe recorded drier-than-normal conditions in 2021**, which was a year in which precipitation patterns were **influenced by [climate change](#) and a [La Niña event](#)**.
- The area with below-average streamflow was **approximately two times larger than the above-average area**, in comparison to the 30-year hydrological average.
- **Region wise Streamflow:**
 - **Drought:** Areas that were unusually dry included **South America's** Rio de la Plata area, where a **persistent [drought](#) has affected the region since 2019**.
 - **Below Normal:** In Africa, major rivers such as the Niger, Volta, Nile and Congo had **below-average water flow in 2021**. The same trend was observed in **rivers in parts of Russia, West Siberia and in Central Asia**.
 - **Above Normal:** On the other hand, there **were above-normal river volumes in some North American basins**, the North Amazon and South Africa, as well as in China's Amur River basin, and northern India.
- **Terrestrial Cover:**
 - **Below Normal:** Aside from river flow variations, **overall terrestrial water storage was classified as below normal** on the west coast of the United States, in central South America and Patagonia, North Africa and Madagascar, Central Asia and the Middle East, Pakistan and North India.
 - **Above Normal:** It was **above normal in Central Africa**, northern South America – specifically the Amazon Basin – and northern China.
- **Cryosphere:**
 - Mountains are often called natural “water towers” because they are the source of **rivers and freshwater supplies for an estimated 1.9 billion people**.
 - Changes to **[cryosphere](#) water resources affect food security**, human health, ecosystem integrity and maintenance, and lead to significant impacts on economic and social development.

What is the Scenario of India?

- There is more evidence of the **worsening impact of global warming on the [Indo-Gangetic Plain \(IGP\)](#)** that straddles eastern Pakistan, northern India, southern Nepal and the whole of Bangladesh.
- The Ganga-Brahmaputra and Indus basins that form the Plain, recorded more **water flowing in the river channels due to glacial melt** even as their total water storage declined in 2021.
- This will be **extremely worrying news since the IGP supports nearly half a billion people** across the four countries.

What are the Recommendations?

- There is insufficient understanding of changes in the distribution, quantity, and quality of freshwater resources, there is a need to fill that **knowledge gap and provide a concise overview of water availability in different parts** of the world.
- There is a need for the **development of end-to-end drought and flood early warning systems**.
- The long-term projections of glacier run-off and the timing of peak water, should be key **inputs to long-term adaptation decisions**.
- There is a need to accelerate the **availability and sharing of hydrological data, including river discharge and transboundary river basin information**.

What is the World Meteorological Organization (WMO)?

- The World Meteorological Organization (WMO) is an **intergovernmental organization with a membership of 193 Member States and Territories**.
 - **India** is a member of WMO.
- It originated from the **International Meteorological Organization (IMO)**, which was established after the **1873 Vienna International Meteorological Congress**.
- Established **by the ratification of the WMO Convention on 23rd March 1950**, WMO became

the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.'

- WMO is **headquartered in Geneva, Switzerland.**

[Source: DTE](#)

World AIDS Day

For Prelims: World AIDS Day, AIDS, HIV

For Mains: Status of AIDS Globally and Nationally, AIDS, HIV, Related Initiatives

Why in News?

[World AIDS Day](#) is observed on **1st December every year** all over the world to spread awareness about the disease and remember all those who lost their lives to it.

Why is World AIDS Day Celebrated?

- **About:**
 - It was founded in 1988 by the [World Health Organization \(WHO\)](#) and was the **first ever global health** day with a motto of raising public awareness about [Acquired ImmunoDeficiency Syndrome \(AIDS\)](#).
- **Theme for 2022:**
 - 'Equalize'.
 - It encourages people to unite globally to eliminate the disparities and inequities that create barriers to HIV testing, prevention, and access to HIV care.'
- **Significance:**
 - The very day reminds the public and government that HIV has not gone away and there is still a vital need to raise money, increase awareness, fight prejudice and improve education.
 - It is an opportunity to show solidarity with the millions of people living with HIV worldwide.

What is AIDS Disease?

- **About:**
 - **AIDS** is a chronic, potentially life-threatening health condition caused by the **human immunodeficiency virus (HIV)** that interferes with the body's ability to fight infections.
 - HIV attacks **CD4, a type of White Blood Cell (T cells)** in the body's immune system.
 - T cells are those cells that **move around the body detecting anomalies and infections** in cells.
 - After entering the body, HIV multiplies itself and destroys CD4 cells, thus severely damaging the human immune system. Once this virus enters the body, it can never be removed.
 - The CD4 count of a person infected with HIV reduces significantly. In a healthy body, CD4 count is between 500- 1600, but in an infected body, it can go as low as 200.
- **Transmission:**

- HIV can spread through **multiple sources**, by coming in direct contact with certain **body fluids** from a person infected with HIV, who has a detectable viral load. It can be blood, semen, rectal fluid, vaginal fluid or breast milk.
- **Symptoms:**
 - Once HIV converts into AIDS then it may **present in initial symptoms like unexplained fatigue, fever, sores around genitals or neck, pneumonia etc.**
- **Prevention:**
 - Make sure to use protective techniques.
 - Make sure to avoid using contaminated needles.
 - Prevent mother to child transmission.
 - If someone is aware of the infection in their body, make sure they are on the right treatment path.
 - Opt for the set of pre-marital tests before marriage which includes an HIV test and helps to ensure safety from other **Sexually Transmitted Diseases** as well.

What is the Global & National Status of AIDS?

- **Global:**
 - According to the Joint **United Nations Programme on HIV/AIDS (UNAIDS)**, as of 2021, 38.4 million people were living with HIV, out of which 1.7 million were children.
 - 54% of all people living with HIV were women and girls.
 - 85% of all people living with HIV knew their HIV status in 2021.
 - In 2021, 6,50,000 people died of AIDS-related diseases.
- **National:**
 - According to UNAIDS, an estimated 2.4 million people were living with HIV in India in 2021 (including 70,000 children).
 - **Maharashtra** had the maximum numbers followed by **Andhra Pradesh** and **Karnataka**.

What are India's Initiatives to Curb AIDS Disease?

- **[HIV and AIDS \(Prevention and Control\) Act, 2017](#):** According to this act, the central and state governments shall take measures to prevent the spread of HIV or AIDS.
- **Access to ART:**
 - India has made [Antiretroviral Therapy \(ART\)](#) affordable and accessible to over 90 per cent of people living with HIV in the world.
- **Memorandum of Understanding (MoU):**
 - The **Ministry of Health and Family Welfare** signed a MoU with the **Ministry of Social Justice and Empowerment** in 2019 for enhanced HIV/AIDS outreach and to reduce the incidence of social stigma and discrimination against victims of drug abuse and Children and People Living with HIV/AIDS.
- **Project Sunrise:**
 - [Project Sunrise](#) was launched by the Ministry of Health and Family Welfare in 2016, to tackle the rising HIV prevalence in north-eastern states in India, especially among people injecting drugs.

[Source: IE](#)

Binturong

Why in News?

The police and forest officials in **Manipur's Ukhrul town have been scanning “gambling dens”** following reports of **wild animals (dead or alive) such as Binturong being** offered as prizes for raffle draws (a lottery in which the prizes are goods rather than money).

- Different types of birds such as the grey-sided thrush and tragopans (often called horned pheasants) have also been spotted.
- Blyth’s tragopan is the **State bird of Nagaland**.

What are the Key Facts about Binturong?

▪ About:

- Binturong, (*Arctictis binturong*), also called bear cat or cat bear, catlike omnivore of the civet family (*Viverridae*), found in dense forests of Southeast Asia.
- It has long shaggy hair, tufted ears, and a long, bushy, prehensile tail. The colour generally is black with a sprinkling of whitish hairs.
- The binturong is **principally nocturnal and crepuscular** (that is, active during twilight).
- It is found most often among the trees, using its prehensile tail as an aid in climbing. It feeds mainly on fruit, such as figs, but it also takes eggs and small animals.
- In some areas binturongs are tamed and have been reported as being affectionate pets.

▪ Distribution:

- Its **range extends from Nepal, India, and Bhutan southward to the Indonesian islands of Sumatra and Java** and eastward to Borneo.

▪ Conservation:

- **IUCN Red List:** Vulnerable
- **CITES listing:** Appendix III
- **Indian Wildlife Protection Act, 1972:** Schedule I

What are the Key Facts about Blyth’s Tragopan?

- **Distribution:**
 - Bhutan, China, India, Myanma.
- **Conservation:**
 - [IUCN Red List](#): Vulnerable
 - [CITES listing](#): Appendix I
 - [Indian Wildlife Protection Act, 1972](#): Schedule I

[Source: TH](#)

India's First Private Space Vehicle Launchpad

Why in News?

Recently, Chennai-based space tech startup **Agnikul Cosmos inaugurated India's first private space vehicle launchpad** at the **Satish Dhawan Space Centre (SDSC) in Sriharikota**.

- It was executed in support of the [Indian Space Research Organisation \(ISRO\)](#) and IN-SPACe (Indian National Space Promotion and Authorization Center).

What is Agnikul's Launchpad Facility?

- **About:**
 - The facility has two parts: **the Agnikul launchpad and the Agnikul mission control centre**, which are four kilometres apart.
 - The launchpad has been designed to **accommodate and support liquid stage-controlled launches**.
 - Agnikul Cosmos is **planning to launch its Agnibaan rocket from this launchpad**.
- **Significance:**
 - The launchpad is specifically built to **address the need for ISRO's range operations team** to monitor key flight safety parameters during launches.
 - Additionally, it has the ability to share data and other critical information with ISRO's Mission Control Center.

What is Agnibaan?

- Agnibaan is a **two-stage launch vehicle that is capable of taking payloads of up to 100 kilograms to a low-earth orbit around 700 kilometres** from the surface of the Earth.
- It will be powered by the company's **3D-printed Agnilet engines**.
 - Agnilet is the **world's first single-piece 3-D printed engine** fully designed and manufactured in India and was successfully test-fired in early 2021, making Agnikul the first company in the country to test its engines at ISRO.
 - The Agnilet rocket is a **"semi-cryogenic" engine that uses a mixture of liquid kerosene and supercold liquid oxygen to propel itself**.
 - The engine is very complex and it **functions at very high temperatures**.

[Source: IE](#)

Zombie Virus

Why in News?

European researchers have raised concerns of yet another pandemic after resurrecting a **48,500-year-old 'Zombie Virus' from a frozen lake in Russia.**

- The researchers warned that Climate change-induced thawing of the [permanently frozen land \(permafrost\)](#) in the [Arctic](#) could pose a new public health threat.

What is a Zombie Virus?

▪ About:

- 13 new pathogens have been characterized, what are termed '**Zombie Viruses**', which remained **infectious despite spending many millennia trapped in the frozen ground.**
- The virus emerged due to the **thawing of permafrost as the global temperature is rising.**
- The new strain is **one of 13 viruses**, each of which possesses its own genome.
 - The oldest, **dubbed Pandoravirus yedoma** after the mythological character *Pandora*, was 48,500 years old, a record age for a frozen virus returning to a state where it has the potential to infect other organisms.
- This has broken the previous record held by a 30,000-year-old virus discovered by the same team in Siberia in 2013.

▪ Causes:

- One-quarter of the **Northern hemisphere is underlain by permanently frozen ground**, referred to as permafrost.
- Due to climate warming, **irreversibly thawing permafrost is releasing organic matter frozen for up to a million years**, most of which decomposes into carbon dioxide and methane, further enhancing the greenhouse effect.
- Part of this organic matter also consists of **revived cellular microbes (prokaryotes, unicellular eukaryotes)** as well as viruses that remained dormant since prehistoric times.

▪ Potential Impact:

- All of the "zombie viruses" have the potential to be infectious and hence pose a "**health danger**" after researching the live cultures.
- It is believed that pandemics like [Covid-19](#) **will become more common in the future** as melting permafrost releases long-dormant viruses like a microbial Captain America.

[Source: ET](#)