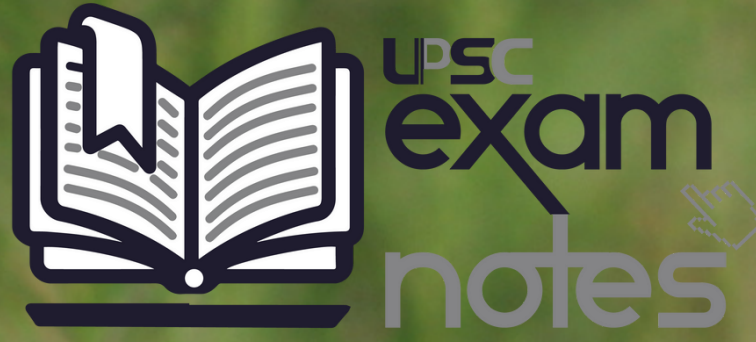




4TH WEEK CURRENT AFFAIRS

(19th - 26th March 2023)



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General Studies I : Indian Heritage & Culture

TRIBENI KUMBO MAHOTSAV

1. About Kumb Mela

Kumbh Mela is considered a major pilgrimage and festival in Hinduism. Prominent Kumbha Melas are organised in Haridwar, Prayagraj, Nashik, and Ujjain. Now a suburban town in West Bengal Tribeni is gearing up to organise its Kumbh Mela

Located in Hooghly, Triveni Sangam has a rich history of reverence in Hinduism as the place is the confluence of three mythological rivers

One will find multiple Ganga ghats, Shiva temples and ancient buildings with architectural terracotta in Tribeni



2. History of the Festival

- Kumbh Mela in Tribeni has a 700-year old history. The mela had to be discontinued after an invasion
- Kumbh Mela is just the beginning as the local administration led by Neogi is planning for the revival of lost glory of Tribeni which still holds immense significance in Hinduism
- People from all over West Bengal and even Bengali diaspora living abroad visit Tribeni for a number of religious rituals
- Tribeni in Bengal is a holy place for the Hindus, the sanctity of which has been recognized for many centuries and had been mentioned in Dhoyi's Pavanadutam, a Sanskrit piece of the last quarter of the 12th century



- The Muslims took it over during early phases of their conquest of Bengal, also referred to as Turkish conquest in the thirteenth century
- The place retains its holiness for multiple centuries, primarily due to the rivers it hosted, corroborated by records of the bathers at different timelines, who thronged during the festival of Makar to Magh Sankranti
- Tribeni was also marked in history as an important business place like Tamralipta port

General Studies I : Important Personality

BHAGAT SINGH

1. Context

Bhagat Singh was hanged on March 23, 1931, which is now observed as **Shaheed Diwas**. Today, his **revolutionary philosophy** is often juxtaposed with Congress's non-violence

However, while Congress did choose the path of non-violence in its struggle for freedom, there were many younger leaders in Congress who not only sympathised with the idealism of Bhagat Singh's convictions, but also his use of revolutionary violence



2.About Bhagat Singh

- Bhagat Singh was an Indian revolutionary freedom fighter who was hanged to death by British colonisers at the age of 23 years.
- Fondly known as 'Shaheed (martyr) Bhagat Singh', he is considered a national hero of India's freedom struggle against colonial rule
- As a teenager, Bhagat Singh popularised the slogan of 'Inquilab Zindabad' which eventually became the catchphrase of the Indian independence movement
- 'Shaheed Diwas' is commemorated every year on March 23 to remember the unparalleled sacrifice made by the revolutionary leaders Bhagat Singh, Shivaram Hari Rajguru and Sukhdev Thapar who were hanged at the Lahore Central Jail in Lahore in 1931 today

- Among the three, Bhagat Singh is remembered as a charismatic freedom fighter. He joined the independence movement at an early age and was only 23, when he was executed by the British
- In December 28, Singh, Sukhdev and Rajguru plotted to kill superintendent of police James Scott in Lahore in a bid to avenge the death of the nationalist leader Lala Lajpat Rai
- He was arrested after his another attempt at uprooting the British authority when he along with Batukeshwar Dutt hurled bombs in Delhi's Central Assembly Hall, and raised the slogan of "Inquilab Zindabad!" On March 23, 1931, the three folk heroes of the independence movement, Singh, Rajguru and Sukhdev were hanged to death

3. Reasons for hanging Bhagat Singh

- On March 23, 1931, revolutionaries Bhagat Singh, Sukhdev Thapar and S Rajguru were hanged at 7.30 pm in the premises of the Lahore Jail
- The trio had been convicted in what came to be known as the 'Lahore Conspiracy Case', for the murder of British police officer John Saunders in 1928
- The trial that convicted Bhagat Singh, Sukhdev and Rajguru was contentious
- To speed the process, Viceroy Lord Irwin passed an ordinance to set up a special tribunal comprising three high court judges
- This is seen by legal historians as an injustice as it abruptly, and for no legitimate reason, upended the due process of law to swiftly arrive at a judgement
- Crucially, the only appeal after the tribunal was to the Privy Council, the British Empire's highest court, located in England
- Despite petitions challenging Irwin's ordinance as illegal, the trial went on
- On October 7, 1930, the tribunal delivered a 300-page judgement and concluded that based on available evidence, Bhagat Singh, Sukhdev and Rajguru participated in Saunders' murder
- They were sentenced to death by hanging, despite themselves requesting a shooting squad instead

- In one of his last letters, Singh wrote, **“I have been arrested while waging a war. For me there can be no gallows. Put me into the mouth of a cannon and blow me off.”**

4. Reactions of Our Leaders

- Jawaharlal Nehru angrily denounced the tribunal’s judgement, British academic Satvinder Singh Juss wrote in his book **The Trial of Bhagat Singh**
- In a speech in Allahabad on October 12, 1930, he criticised not just the tribunal, but also the Viceroy and the British regime on a whole
- In his speech, Nehru did not only justify violence used by the revolutionaries by pretty much using the same arguments they themselves made, he openly stated his disagreement with friend and mentor, Mahatma Gandhi
- Nehru always sympathised with Indian revolutionaries even though he himself did not believe in or preach violence
- While Gandhi often outrightly condemned revolutionary activities, Nehru saw revolutionaries fighting their own struggle and appreciated them for it

General Studies I: Modern Indian History

DEINDUSTRIALISATION OF INDIA

1. Context

Oxford Union, a prominent debating society at Oxford University, is celebrating its second centenary this year.

2. Key Points

- Public figures ranging from scientists to heads of state have spoken at the forum over time, on topics that have real-world relevance.
- The quote is from one of the most viral speeches ever delivered in the Union's history.

- Debating the motion "This house believes Britain owes reparations to her former colonies", Indian MP Shashi Tharoor presented a damning criticism of British Colonialism in 2015 that struck a chord in India and other formerly colonised nations across the world.
- Linked with this quote are the topics like colonial expansion, imperialism, the industrial revolution, deindustrialisation, the economic policy of British rule, India's contribution to the World Wars, etc.
- One must not miss understanding why this quote is relevant today.

3. The Quote

- During his speech, Tharoor says: Britain's Industrial Revolution was premised upon the deindustrialisation of India.
Notably, Tharoor speaks about India's famous handloom weavers.
- Britain came right in, smashed their thumbs, broke their looms, imposed tariffs and duties on their cloth and products and started, of course, taking raw materials from India and shipping back manufactured cloth, flooding the world's markets with what became the products of the dark and satanic mills of Victorian England.
- That meant that the weavers in India became beggars and India went from being a world-famous exporter of finished cloth to an importer.
- It went from having 27 per cent of world trade to less than 2 per cent.
- The above quote and example illustrate that there was a direct link between the rise of Britain as a global superpower in the aftermath of the Industrial Revolution and the depredation of India, the effects of which are felt to date.

4. The Industrial Revolution

- The Industrial Revolution refers to a series of transformations in the methods and relations of production that exponentially increased outputs and put the West on its path towards prosperity and power.
1. These transformations included going from hand production methods to machines
 2. New chemical manufacturing and iron production processes

3. The Increasing use of water power and steam power
 4. The development of machine tools and
 5. The rise of the mechanised factory system
- While the precise date when the Industrial Revolution began in England is debated the general historical consensus puts it in the latter half of the 18th century.
 - In his classic, "The Industrial Revolution (1760-1830)", historian TA Ashton argues that industrialisation roughly started around 1760 in Britain.
 - On the other hand, Eric Hobsbawm in "The Age of Revolution: Europe 1789-1848", argues that while the Industrial Revolution began in the 1780s, its effects were not felt till the 1830s and the 1840s in Britain.
 - The debate as to why Britain industrialised when it did is still ongoing.
 - Depending on what one prioritises, one can focus on social and political changes in Britain, geographical factors unique to the island nation, new belief systems brought by the Protestant Reformation or important technological innovations such as the invention of the steam engine or advances in bookkeeping.
 - Another factor integral to the British Industrial Revolution was colonialism.

5. Colonial Expansion and British industry

- British colonial conquest was primarily an economic enterprise.
- The British East India Company was a trading company which began maintaining its territories to protect its economic interests.
- As British control expanded over the Indian subcontinent, India became one of Britain's most important assets supplying men, materials and markets for its colonial overlord.
- As Tharoor would say in his speech, "By the end of the 19th century, India was Britain's biggest cash cow".
- The reason why this was integral to British industrialisation was that in the absence of Indian markets as well as, to an extent, raw materials, British industry would neither see the demand nor the supply to help it thrive.

- Furthermore, as the Industrial Revolution improved living standards, the technological capabilities and economic might of Britain and its ability to colonise became even greater.
- In effect, this formed cycle of colonialism that supported British industrial growth, which in turn fuelled further colonial expansion and repression.

6. Indian deindustrialisation

- Deindustrialisation as a term is the misleading industry as we know it today, with factories and advanced production methods that did not exist in human history before the Industrial Revolution.
- But what Tharoor is referring to is the systemic destruction of the Indian domestic economy that was crucial to Britain's industrial revolution.
- While there may not have been modern industries, there were thriving economies across the subcontinent.
- As the British colonised the subcontinent, they controlled and changed the traditional economies to benefit Britain.
- The story of the handloom workers, whose fingers and looms were not only broken but who were driven to the streets because of competition from the cheap mill-produced cloth from Britain, is among the most famous.
- Perhaps one of the first to write about this was economist Dadabhai Naoroji.
- In his 1867 book "Poverty and Un-British Rule in India", he proposed the "Drain of Wealth" theory, in which he articulated how British rule had brought losses to the tune of hundreds of millions of rupees in the Indian economy.
- Among other things, this was caused by India becoming a source of cheap raw materials rather than expensive finished goods, as well as Britain's harsh taxation system.
- The capital to finance the Industrial Revolution in India instead went into financing the Industrial Revolution in Britain, "Wrote Marxist historian RP Dutt in his classic, India Today'.

7. Relevance

- While Colonialism, as it existed in the previous centuries, is a thing of the past, its impacts are being felt to date.
- Numerous historians have traced global inequalities between nations to colonialism and consequently, western industrialisation.
- However, especially among the population and ruling classes of former colonial countries, the sheer impact of colonialism in shaping current-day inequalities is not fully understood.
- Every empire, however, tells itself and the world that it is unlike all other empires, that its mission is not to plunder and control but to educate and liberate", wrote Edward Said, considered the father of postcolonial theory, in "**Culture and Resistance**".
- Speeches like Tharoor's at the Oxford Union debate are an essential reminder to all about the depravity and long-term consequences of colonialism for both the coloniser and the colonised.

General Studies I: Important Personality

HOMI J BABHA

1. Context

The SonyLiv series 'Rocket Boys', which focuses on the lives of Indian scientists Homi J Bhabha and Vikram Sarabhai and their roles in creating landmark scientific programmes and institutions in a newly-independent India, premiered its second season on March 16

2. Early Life and Education

- Homi Jehangir Bhabha was born on October 30, 1909, to a wealthy Parsi family from Mumbai, His grandfather was the Inspector General of Education in the State of Mysore
- Bhabha's father Jehangir Hormusji Bhabha was educated at Oxford and later qualified as a lawyer

- His mother Meherbai was the granddaughter of Sir Dinshaw Maneckji Petit, a textile factory owner in Bombay who was known for his philanthropic efforts
- Bhabha attended schools in Mumbai, joining Elphinstone College and then the Royal Institute of Science in the city
- In 1927, Bhabha attended the Gonville and Caius College in Cambridge
- Both his uncle Sir Dorab J. Tata – the son of Tata group’s founder Jamsetji Tata – and his father wanted Bhabha to become an engineer and work at the Tata Iron and Steel Company at Jamshedpur.
- At Cambridge, he was taught by Paul Adrien Maurice Dirac, a Mathematics professor who was awarded the Nobel Prize in Physics in 1933 with Erwin Schrodinger for their work in quantum theory
- Bhabha went on to receive various scholarships. His work centred around cosmic rays and he earned a PhD in nuclear physics in 1934

3. Homi J baba's work in India

- Bhabha came to India in 1939 for some time, but his plans to return to England for his academic work were halted because of the Second World War’s onset
- In 1940, he joined the Indian Institute of Science at Bangalore, where a Readership in Theoretical Physics was specially created for him
- Future Nobel laureate CV Raman was then the Director of the Institute, He was made a Professor in 1944
- Vikram Sarabhai also spent a short period at the Institute when Bhabha was there
- When Bhabha was working at the IISc, higher-level facilities for research on Physics were limited in India
- When Bhabha was working at the IISc, higher-level facilities for research on Physics were limited in India. In March 1944, he wrote to the Sir Dorab J. Tata Trust for establishing “a vigorous school of research in fundamental physics”
- The trustees accepted Bhabha’s proposal the Institute began work in April 1944.

- Mumbai was chosen as the location as the Government of Bombay showed interest in becoming a joint founder of the proposed institute. The institute, named Tata Institute of Fundamental Research (TIFR), was inaugurated in 1945
- The present building of the Institute was inaugurated by then Prime Minister Jawaharlal Nehru in January 1962. Nehru, with whom Bhabha also had a personal friendship, earlier laid its foundation stone in 1954
- The Institute received financial support from the Government of India from its second year, through the Council of Scientific and Industrial Research (CSIR) and the Ministry of Natural Research and Scientific Research



4. Growth of institutions and Nuclear energy

- Bhabha was instrumental in picking the people associated with the institute and giving them opportunities to grow
- This was also seen in his passion for the development of nuclear energy in India as a field of study
- On April 26, 1948, he sent a note on a new 'Organisation of Atomic Research in India' to Nehru, writing: "The development of atomic energy should be entrusted to a very small and high-powered body composed of

say, three people with executive power, and answerable directly to the Prime Minister without any intervening link.”

- He also detailed the structure of such a body and its functioning
- The Government of India accepted Bhabha’s proposal within a few months after its submission and with the promulgation of the Indian Atomic Energy Act 1948, the Atomic Energy Commission was formed in August 1948
- Later in 1954, he led efforts to establish the Atomic Energy Establishment (AEET) in Trombay, Maharashtra, for a multidisciplinary research program
- Throughout his life, Bhabha noted the importance of developing opportunities for science to flourish in India
- In an address to the Assembly of the Council of Scientific Unions in 1966, Bhabha said, “It is interesting to note that practically all the ancient civilizations of the world, Persia, Egypt, India, and China, were in countries which are today underdeveloped... The developed countries and the underdeveloped countries lack modern science and an economy based on modern technology.”
- Homi Bhabha died in a plane crash on the way to Geneva on January 24, 1966, and to date, **theories surround its circumstances**
- AEET was later renamed the Bhabha Atomic Research Centre (BARC) to mark his role in spearheading the institution’s growth. Bhabha had also served as the head of India’s nuclear program until his death.

General Studies II: International reports, Prize

ABEL PRIZE

1. Context

Luis Caffarelli, 74, has won the 2023 Abel Prize for his seminal contributions to regularity theory for nonlinear partial differential equations including free-boundary problems and the Monge-Ampère equation”.



2. What is Abel Prize?

- The prize was established by the Norwegian Parliament (Stortinget) in 2002, marking the 200th anniversary of Niels Henrik Abel's birth.
- Notably, the prize was first proposed in 1899, when Norwegian mathematician Sophus Lie proposed establishing a prize named after Abel when he learned that Alfred Nobel's plans for annual prizes would not include a prize in mathematics. This plan never materialized.
- In 2001, as Abel's 200th birth anniversary drew close, a working group was formed to develop a proposal for such a prize.
- This group presented a proposal to the Norwegian prime minister, who soon announced the creation of the Abel prize.
- The Abel Prize is awarded and administered by the Norwegian Academy of Science and Letters on behalf of the Norwegian government.
- It is financed by the Norwegian government which also does not tax the prize money.
- The recipients are chosen by the Abel Committee, which comprises expert mathematicians, all appointed by the Norwegian Academy of Science and Letters, under the advice of the International Mathematical Union (IMU) and the European Mathematical Society (EMS).

3. History of Abel Prize

- First awarded in 2003, the Abel prize recognizes pioneering scientific achievements in mathematics.
- It is named after Norwegian mathematician Niels Henrik Abel (1802-29), who in his short life made pioneering contributions in a multitude of fields.
- It is often considered to be an equivalent of the Nobel prize which does not have a category for mathematics and has been modelled as such.
- The prize includes a monetary award of 7.5 million kroner (roughly \$ 720,000) and a glass plaque designed by Norwegian artist Henrik Haugan.
- It is awarded by The Norwegian Academy of Science and Letters, on behalf of the Ministry of Education.

4. About Niels Henrik Abel

- Niels Henrik Abel (1802-1829) was a Norwegian mathematician who left a big impact on a number of fields in his rather short life.
- His most famous single result is the first complete proof demonstrating the impossibility of solving the general quintic equation in radicals.
- This question was one of the outstanding open problems of his day and had been unresolved for over 250 years.
He was also an innovator in the field of elliptic functions, and discoverer of what would later be known as Abelian functions.
- He made all his discoveries while living in crippling poverty. He died of tuberculosis at the age of 26.

5. Who is Luis Caffarelli and why did he win the Abel prize?

- Caffarelli was born and raised in Buenos Aires, Argentina, making him the first Abel laureate from South America.
- Currently, he is a professor at the University of Texas, Austin.
- He is married to fellow Argentinian mathematician Irene Martínez Gamba, who teaches at UT, Austin as well.
- Caffarelli has been one of the leading figures in the study of partial differential equations for over five decades.
- According to Abel's citation, "Partial differential equations arise naturally as laws of nature, whether to describe the flow of water or the growth of populations.
- These equations have been a constant source of intense study since the days of Newton and Leibniz."
- The Abel citation states that Caffarelli has made "groundbreaking contributions" that have "radically changed our understanding of classes of nonlinear partial differential equations with wide applications.
- The results are technically virtuous, covering many different areas of mathematics and its applications.
- Notably, he has been recognized for "combining brilliant geometric insight with ingenious analytical tools and methods" in this field of mathematics.

General Studies II: International relations

FRANCE'S NEW PENSION SYSTEM

1. Context

On March 17, protesters in France clashed with the police at the Place de la Concorde in Paris amid growing unrest over the government's decision to change the state pension age from 62 to 64.

2. What is this New Pension System

- The scheme aims to provide up to a maximum of 50% of the retiree's income during their 25 highest earning years up to the Plafond de la sécurité sociale (€41,136 annually in 2022). The state scheme is financed by a payroll tax known as "social security contributions".
- In France, all retirees get a state pension. Mandatory payroll taxes paid by those currently working fund the pension of retirees, meaning generations have been able to retire with assured, state-backed pensions
- The government now argues that as life expectancy in France increases, so does its ageing population which means more retirees than new entrants in the workforce
- This would cause the current pension system to fall short in the coming decades
- According to the administration's projections, while there were 2.1 workers putting money into the system for every one retiree in 2000, this figure dropped to 1.7 workers per retiree in 2020, and is expected to further slide to 1.2 by 2070
- The government says the measure to gradually raise the legal retirement age by three months every year, till it reaches 64 by 2030, is "indispensable" in order to balance the pension system and keep it financially viable

- However, there are some exceptions. Those starting work between the ages of 14 to 19 will be able to seek early retirement, as will public workers engaged in physically or mentally arduous jobs
- But the minimum retirement age only applies to those who have worked enough years to qualify
- In Present system, many women who pause their careers to raise children and people who study for longer and start their careers late, must work till the age of 67 to retire with full pension benefits
- The government highlighted the potential outcomes of the pension reform, stating that new retirees will get a guaranteed minimum pension of not less than 85% of the total minimum wage about 1,200 euros per month at current levels
- The government also plans to index the pensions to inflation levels for those who receive minimum incomes, a year after retirement
- It says that the pensions of the poorest 30% of retirees will increase by 2-5%

3. Reasons for the Protests

- France currently has one of the lowest qualifying ages for a state pension among big European economies
- The French cherish the retirement system, as well as national healthcare, as it is seen as hard-earned, having been introduced by the National Resistance Council after the Second World War, when the country was reeling from the aftermath of the war
- Generations of workers have accepted high mandatory taxes to fund the pension system because it creates interdependence and guarantees state-backed pension earnings
- The new system means current workers will have to work longer to sustain pensions for the ballooning aged population
- Observers also worry that the reform will negatively affect blue-collar workers who often start working young, have shorter life expectancies, or have less optimum working conditions compared to white-collar workers
- Opponents of the reform argue that instead of altering the pension age, the government could have balanced the system through other measures like

increasing payroll taxes paid by workers, taxing the wealthy more, or not tying pensions to inflation

4. Way Forward

After Ms. Borne used special powers to pass the Pension Bill in the Assembly without a vote, two Opposition Groups filed no-confidence motions against the Macron government

However, these motions have not succeeded. Meanwhile, protests continued to intensify, turning violent in some places, with the police banning demonstrations in parts of Central Paris

HUMAN DEVELOPMENT INDEX (HDI)

1. Context

India is now one of the fastest-growing economies globally. However, this growth has not resulted in a corresponding increase in its Human Development Index (HDI)

According to the Human Development Report of 2021-22, India ranks 132 out of 191 countries, behind Bangladesh (129) and Sri Lanka (73)

2. About Human Development Index

- The HDI is a composite statistical measure created by the United Nations Development Programme to evaluate and compare the level of human development in different regions around the world
- It was introduced in 1990 as an alternative to conventional economic measures such as Gross Domestic Product (GDP), which do not consider the broader aspects of human development
- The HDI assesses a country's average accomplishment in three aspects: a long and healthy life, knowledge, and a decent standard of living
- Given India's size and large population, it is critical to address the subnational or State-wise disparities in human development



- Doing so will help India realise its demographic dividend. For this purpose, I have developed a new index using the methodology suggested by the UNDP and the National Statistical Office (NSO) which measures human development on a subnational level for 2019-20

3. Calculating HDI

- The HDI is calculated using four indicators: life expectancy at birth, mean years of schooling, expected years of schooling, and Gross National Income (GNI) per capita
- Life expectancy estimates are taken from the Sample Registration System, and mean and expected years of schooling are extracted from National Family Health Survey-5
- Since estimates for GNI per capita are unavailable at the subnational level, gross state domestic product (GSDP) per capita is used as a proxy indicator to measure the standard of living
- GSDP (PPP at constant prices 2011-12) is gathered from the Reserve Bank of India's Handbook of Statistics on Indian States
- GSDP per capita is estimated using the population projection provided by the Registrar General of India's office
- The methodology involves calculating the geometric mean of the normalised indices for the three dimensions of human development while applying the maximum and minimum values recommended by the UNDP and NSO
- HDI scores range from 0 to 1, with higher values indicating higher levels of human development

4. India's Statistics

- The subnational HDI shows that while some States have made considerable progress, others continue to struggle. Delhi occupies the top spot and Bihar occupies the bottom spot
- Nonetheless, it is worth noting that Bihar, unlike the previous HDI reports, is no longer considered a low human development State
- The five States with the highest HDI scores are Delhi, Goa, Kerala, Sikkim, and Chandigarh. Delhi and Goa have HDI scores above 0.799, which makes

them equivalent to countries in Eastern Europe with a very high level of human development

- **Nineteen States, including Kerala, Maharashtra, Tamil Nadu, Haryana, Punjab, Telangana, Gujarat, and Andhra Pradesh, have scores ranging between 0.7 and 0.799 and are classified as high human development States**
- **The bottom five States are Bihar, Uttar Pradesh, Madhya Pradesh, Jharkhand, and Assam, with medium levels of human development**
- This category also includes States such as Odisha, Rajasthan, and West Bengal, which have HDI scores below the national average
- Despite having the highest SGDP per capita among larger States, Gujarat and Haryana have failed to translate this advantage into human development and rank 21 and 10, respectively
- Conversely, Kerala stands out with consistently high HDI values over the years, which can be attributed to its high literacy rates, robust healthcare infrastructure, and relatively high income levels
- Bihar, however, has consistently held the lowest HDI value among the States, with high poverty levels, low literacy rates, and poor healthcare infrastructure being the contributing factors
- It is worth noting that the impact of COVID-19 on subnational HDI is not captured here. The full impact of COVID-19 on human development will be known when post-pandemic estimates are available

5.Reasons for Decrepancies

- One of the main reasons for this discrepancy is that economic growth has been unevenly distributed
- This has resulted in significant disparities in access to basic amenities, healthcare, and education
- Another reason is that while India has made significant progress in reducing poverty and increasing access to healthcare and education, the quality of such services remains a concern
- Governments must prioritise human development alongside economic growth to ensure that the benefits of growth are more evenly distributed

This requires a multi-faceted approach that addresses income inequality and gender inequality; improves access to quality social services; addresses environmental challenges; and provides for greater investment in social infrastructure such as healthcare, education, and basic household amenities including access to clean water, improved sanitation facility, clean fuel, electricity and Internet in underdeveloped States. India must prioritise investments in human development and job creation, particularly for its youth

INTERNATIONAL CRIMINAL COURT

1. Context

The International Criminal Court (ICC) issued an arrest warrant against Russian President Vladimir Putin on March 17, 2023, for the alleged war crime of unlawfully deporting and transferring children from occupied areas of Ukraine to the Russian Federation.

2. About International Criminal Court (ICC)

- The ICC, headquartered in The Hague, Netherlands, was established in 1998 under a treaty called the Rome Statute.
- It investigates and, where warranted, tries individuals charged with the gravest crimes of concern to the international community: genocide, war crimes, crimes against humanity, and the crime of aggression.
- Presently, 123 countries are party to the Rome Statute, including Britain, Japan, Afghanistan, and Germany.
- However, the USA has kept its distance, maintaining that ICC should not exercise jurisdiction over citizens of countries that are not a party to it.
- Similarly, India and China have also abstained from membership.
- The ICC was established to prosecute the most heinous offenses only when a country's own legal machinery fails to act, as was the case in former Yugoslavia and Rwanda.

- Unlike the International Court of Justice (ICJ), which deals with countries and inter-state disputes, the ICC prosecutes individuals.
- However, the ICC's jurisdiction is limited to offenses occurring after it came into effect on July 1, 2002.
- Additionally, the offences should be committed either in a country that ratified the agreement or by a national of a ratifying country.
- The ICC can also practice its jurisdiction over cases referred by the UN Security Council to it.

3. Does the ICC have the power to prosecute Russia?

- This is the first time that the ICC has issued an arrest warrant against one of the five permanent members of the UN Security Council.
- Russia found this outrageous and unacceptable because any decision of the court was null and void due to Russia not being an ICC member.
- However, this move creates a situation where Putin risks arrest every time he travels.
- According to The New York Times, this move, along with the existing sanctions in the West, will further deepen his isolation and limit his overseas movements.
- Moreover, if he travels to a state party to the ICC, then that country must arrest him according to its obligations under international law.

4. Does Ukraine recognize ICC's Jurisdiction?

- Ukraine is not a State Party to the Rome Statute, but it has twice exercised its options to accept ICC's jurisdiction over alleged crimes under the Rome Statute, occurring on its territory, under Article 12(3) of the Statute.
- Article 12(3) states that if the acceptance of a state that is not a party to the statute is required, the state may accept the jurisdiction of the court for a crime concerned, by making a declaration to the Registrar and cooperating without any delay or exception.
- The alleged crimes, including the deportation of children, were detailed in a report by the Independent International Commission of Inquiry on Ukraine,

an UN-mandated investigative body that said some acts may amount to crimes against humanity.

5. How is ICC different from ICJ?

- Unlike the International Court of Justice, the ICC is not part of the United Nations system, with the UN-ICC relationship being governed by a separate agreement.
- The ICJ, which is among the UN's 6 principal organs, mainly hears disputes between nations. It was established in 1945 and is seated in The Hague (Netherlands).

6. What is the Independent International Commission of Inquiry Report on Ukraine?

- In its report dated March 16, 2023, the commission outlined the body of evidence and how it points to Russian authorities committing a wide range of violations of international human rights law and international humanitarian law in many regions of Ukraine and the Russian Federation.
- Many of these amount to war crimes and include wilful killings, attacks on civilians, unlawful confinement, torture, rape, and forced transfers and deportations of children, the report states.
- Contending that the Russian armed forces carried out attacks with explosives in populated areas with an apparent disregard for civilian harm and suffering, the report documented the indiscriminate, disproportionate attacks and failure to take precautions, thereby violating international humanitarian law.
- The commission also found that the Russian military's waves of attacks on Ukraine's energy infrastructure from October 2022 and its use of torture could amount to crimes against humanity.
- It also recommended further investigation to hold the responsible agents comprehensively accountable, in a way that includes both criminal responsibility and the victims' right to truth, reparation, and non-repetition.



General Studies II: Polity

ALL INDIA JUDICIAL SERVICE

1. Context

Kiren Rijiju, The Union Minister for Law & Finance has given a reply regarding All India Judicial Services for the Question asked in the Lok sabha

2. Introduction

- Article 312 of the Constitution provides for the establishment of All India Judicial Service (AIJS), which shall not include any post inferior to that of a District Judge
- The constitutional provision enables creation of the AIJS at District Judge level
- In Government's view, a properly framed All India Judicial Service is important to strengthen overall justice delivery system
- This will give an opportunity for induction of suitably qualified fresh legal talent selected through a proper all-India merit selection system as well as address the issue of social inclusion by enabling suitable representation to marginalized and deprived sections of society

3. Proposal

- A comprehensive proposal was formulated for the constitution of an All India Judicial Service (AIJS) and the same was approved by the Committee of Secretaries in November, 2012
- Besides attracting some of the best talent in the country, it may also facilitate inclusion of competent persons from marginalized sections and women in the judiciary
- The proposal was included as an agenda item in the Conference of Chief Ministers and Chief Justices of the High Courts held in April, 2013 and it was decided that the issue needs further deliberation and consideration

- The views of the State Governments and High Courts were sought on the proposal
- There was divergence of opinion among the State Governments and among the High Courts on the constitution of All India Judicial Service
- While some State Governments and High Courts favoured the proposal, some were not in favour of creation of All India Judicial Service while some others wanted changes in the proposal formulated by the Central Government
- The matter regarding creation of a Judicial Service Commission to help the recruitment to the post of district judges and review of selection process of judges/ judicial officers at all level was also included in the agenda for the Chief Justices Conference, which was held on 03rd and 04th April, 2015
- The proposal for constitution of All India Judicial Service with views from the High Courts and State Governments received thereon was also included in the agenda for the Joint Conference of Chief Ministers and Chief Justices of High Courts held on 05th April, 2015

4. Way Forward

The proposal of setting up of an All India Judicial Service was again discussed on points of eligibility, age, selection criteria, qualification, reservations etc.

In a meeting chaired by Minister of Law and Justice on 16th January 2017 in the presence of Minister of State for Law and Justice, Attorney General for India, Solicitor General of India, Secretaries of Department of Justice, Department of Legal Affairs and Legislative Department

Setting up AIJS was also deliberated in a meeting of the Parliamentary Consultative Committee in March, 2017 and the Parliamentary Committee on the Welfare of SCs/STs on 22.02.2021

In view of the existing divergence of opinion amongst the major stakeholders, at present, there is no consensus on the proposal for setting up an All India Judicial Service

General Studies II: Governance

SMART CITY MISSION



1. Context

Union Housing and Urban Affairs Minister Hardeep Puri announced that 80 Integrated Command and Control Centres (ICCCs), an integral component of the Smart Cities Mission, have already been set up, while the remaining 20 would be completed by August 15, 2023

2. What is Smart City Mission?

- The Smart Cities Mission aims at developing 100 cities, which were shortlisted, into self-sustainable urban settlements.
- The mission was launched on June 25, 2015, and was projected as one aimed at transforming the process of urban development in the country.
- Among its strategic components is 'area-based development, which includes city improvement (retrofitting), city renewal (redevelopment), and city extension (greenfield development), plus a pan-city initiative in which 'smart solutions' are applied covering larger parts of the city.

3. Key Focus areas of the Smart City Mission

- Key focus areas of the scheme include the construction of walkways, pedestrian crossings, cycling tracks, efficient waste-management systems, integrated traffic management, and assessment.
- The scheme also assesses various indices to track urban development such as the Ease of Living Index, Municipal Performance Index, City GDP framework, Climate-smart Cities assessment framework, etc.

4. Integrated Command and Control Centre (ICCC)

- The Smart Cities Mission includes setting up ICCCs for each such city as a vital step.

- These ICCCs are designed to enable authorities to monitor the status of various amenities in real time.
- Initially aimed at controlling and monitoring water and power supply, sanitation, traffic movement, integrated building management, city connectivity and Internet infrastructure, these centres have since evolved to monitor various other parameters.
- The ICCCs are now also linked to the CCTNS (Crime and Criminal Tracking Networks and Systems) network under the Ministry of Home Affairs.
- The ICCC acts of a smart city acts as a “nerve centre” for operations management.
- It processes a complex and large pool of data sets at an aggregated level. For example, it is now the go-to source for integrated traffic management monitoring.
- The ICCC is the nodal point of availability of all online data and information relating to smart services included in a smart city, such as LED street lighting, CCTV surveillance cameras, air quality sensors, smart parking system, WiFi, electricity and water supply and billing, GIS, e-hospitals, property tax management, estate management, engineering systems, asset management systems, and other services.
- During the pandemic, they also served as war rooms for Covid-19 management.

5. How did the ICCCs help in the management of Covid-19?

- During the pandemic, they also served as war rooms for Covid-19 management.
- During the peak of the first wave, when countries were struggling to figure out ways of combating the virus, the government used the ICCCs as war rooms for managing the outbreak, with real-time surveillance and monitoring of districts across the country.
- Converted into war rooms, the smart cities ICCCs used the central data dashboard and provided information about the status of Covid-positive cases in various administrative zones of these cities, officials aware of the exercise said.



- The war rooms were also used for tracking people under quarantine and suspected Covid 19 cases.

6. Current Status of Smart Cities Mission

- The ambitious project, announced by Prime Minister Narendra Modi in 2015, had an initial deadline of 2021 for the first lot of 20 smart cities out of the 100 selected.
- Although the project was announced in 2015, the cities were selected over a period of two years between 2016 and 2018, each with a deadline of completion within five years from the time of their selection.
- On the recommendation of NITI Aayog, the timeline was extended last year until 2023 due to delays caused by the pandemic.
- According to current Ministry data, the SCM has so far covered over 140 public-private partnerships, 340 smart roads, 78 vibrant public places, 118 smart water projects and over 63 solar projects.

7. What's next?

- The Ministry of Housing and Urban Affairs has begun work to finalise its recommendation for providing ICCCs as a service to states and smaller cities.
- The Ministry aims to finalise an ICCC model and implement a pilot project across Six major states- Uttar Pradesh, Maharashtra, Karnataka, Madhya Pradesh, Rajasthan and Tamil Nadu.

PMAY- URBAN

1. Context

The Centre has committed Rs 2.01 lakh crore for the PMAY-U, of which Rs 1.18 lakh crore has been released and Rs 1.10 lakh crore has been spent.

2. Pradhan Mantri Awas Yojana-Urban

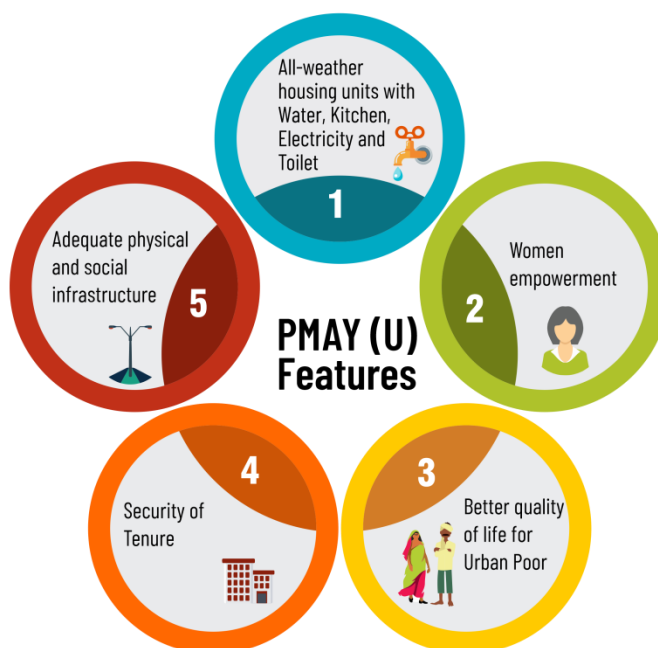
- The government had launched the Pradhan Mantri Awas Yojana (Urban) on June 25, 2015, to provide pucca houses to all eligible beneficiaries by 2022.
- Launched by the Ministry of Housing and Urban Poverty Alleviation (MoHUPA) in Mission Mode.
- The PMAY-U is one of the two schemes envisioned under the PMAY-U.
- It is focused on the urban areas, while the other one PMAY-G is for rural areas.
- The scheme has four verticals “In-situ” Slum Redevelopment (ISSR); Credit Linked Subsidy Scheme (CLSS); Affordable Housing in Partnership (AHP) and Beneficiary-led individual house construction/enhancements (BLC).

3. Target Beneficiaries

- The mission seeks to address the housing requirement of the urban poor including slum dwellers.
- A slum is defined as a compact area of at least 300 people or about 60 – 70 households of poorly built congested tenements in an unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities.
- Beneficiaries include an Economically weaker section (EWS), low-income groups (LIGs), and Middle-Income Groups (MIGs).
- The annual income cap is up to Rs 3 lakh for EWS, Rs 3-6 lakhs for LIG, and Rs 6 + -18 lakhs for MIG.
- EWS category of beneficiaries is eligible for assistance in all four verticals of the Missions whereas LIG and MIG categories are eligible under only Credit linked subsidy scheme (CLSS) component of the Mission.
- For identification as an EWS or LIG beneficiary under the scheme, an individual loan applicant will submit a self-certificate/ affidavit as proof of income.
- A beneficiary family will comprise a husband, wife, unmarried sons, and/or unmarried daughters.

- The beneficiary family should not own a pucca house either in his/her name or in the name of any member of his/her family in any part of India to be eligible to receive central assistance under the mission.
- States/UTs, at their discretion, may decide a cut-off date on which beneficiaries need to be residents of that urban area for being eligible to take benefits under the scheme.

4. PMAY (U) Features



5. How many houses have been built?

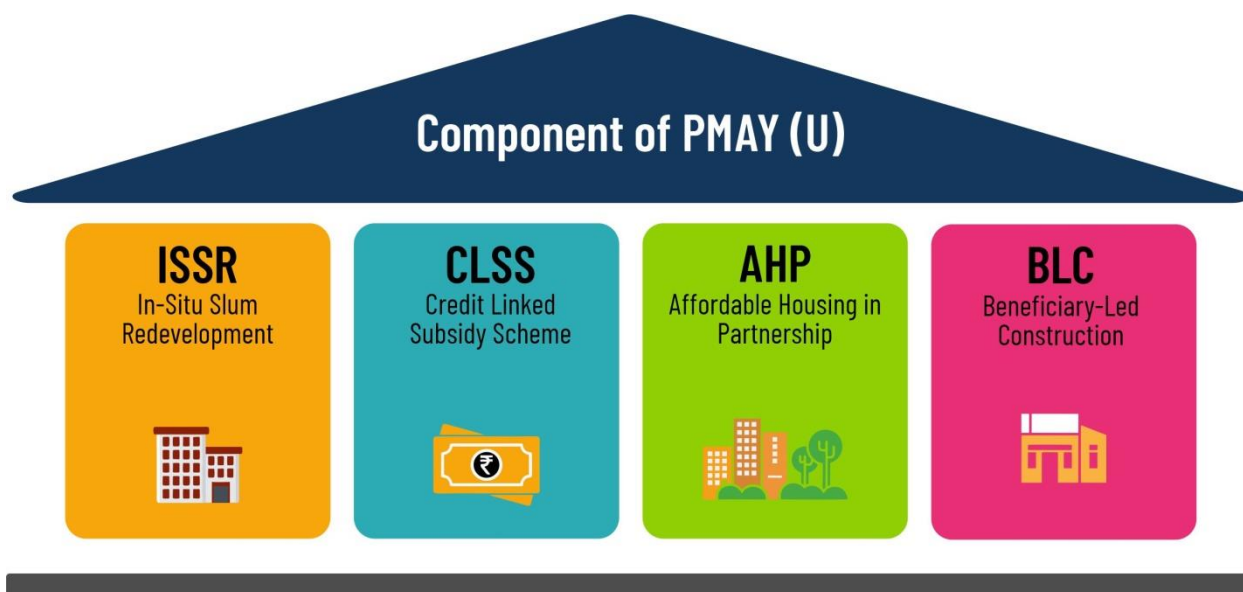
- As per information available on the PMAY-U, 1.21 crore houses have been sanctioned under the scheme till May 9, 2022, of which 58.82 lakh houses have been completed/delivered.
- A maximum number of 28.17 lakh houses have been built under the BLC vertical.

- The remaining 30.65 lakh houses have been built under the other three verticals ISSR, CLSS, and AHP.

6. How much money has been spent on the PMAY-U?

The Centre has committed Rs 2.01 lakh crore for the PMAY-U, of which Rs 1.18 lakh crore has been released and Rs 1.10 lakh crore has been spent.

7. Components of PMAY-U



8. What is the Beneficiary-led individual house construction/enhancements (BLC)?

- Under the BLC vertical, a beneficiary receives a financial assistance of Rs 2.5 lakh from the government to build his or her house. The PMAY-U guidelines define a beneficiary family as a family comprising of “husband, wife and unmarried.

- The beneficiary family should not own a pucca house (an all-weather dwelling unit) either in his/her name or in the name of any member of his/her family in any part of India,” state the scheme guidelines.
- Under the scheme guidelines, an adult earning member (irrespective of marital status) can be treated as a separate household.
- However, to avail of the scheme, he or she should not own a pucca house (an all-weather dwelling unit) in his /her name in any part of India.
- Under the PMAY-G, a beneficiary can avail of the BLC component for the enhancement of his or her existing house.
- However, only persons with a pucca house having a built-up area of less than 21 sq.m are eligible to avail this facility.

9. What is geotagging and is it mandatory under the PMAY-U?

- Geotagging is a process of adding geographical identification to various media like photography.
- Under the PMAY-U guidelines, it is mandatory for the state government to ensure that all houses built under the scheme are geotagged to the Bhuvan HFA (housing for all) application, which has been developed by the government for the monitoring of the scheme.

10. What is Bhuvan HFA?

- Bhuvan is an Indian Geo Platform developed by the Indian Space Research Organization (ISRO).
- It is a web-based application that allows users to access various map-related services. The application also provides the facility of geotagging images of houses built or being constructed under the PMAY-U.

INDIA'S POWER DEMANDS

1. Context

Surging power demand in India poses a challenge for a country where solar power is growing rapidly but generation capacity is stretched when the sun goes down.

In 2022, India's power demand grew about 8 per cent or at nearly double the pace of the Asia Pacific region something to more than 149.7 terawatt-hours (TWh) from the previous year.

And in the first two months of 2023, demand jumped 10 per cent from a year ago.

2. Factors behind the rapid growth in demand

- In absolute terms, the states with the strongest growth in demand in 2022 were the northwestern desert state of Rajasthan and the western states of Gujarat and Maharashtra, where many of the country's industries are concentrated.
- The eastern state of Chhattisgarh known for extensive mining activity, had 16.6 per cent growth in the five months since the monsoon ended in 2022, while Rajasthan's power demand grew by 15.1 per cent in the same period.
- Growth rates were also high in Punjab in the north, where agricultural demand makes up the lion's share of total power use and Madhya Pradesh, Telangana and Bihar where residential demand has historically accounted for most of the load.

3. Reasons for demand growing

- Both Prime Minister Narendra Modi and Finance Minister Nirmala Sitharaman have previously linked increasing power demand to higher economic activity.
- Industrial and commercial activity accounts for more than half of India's annual power use.
- Homes account for a fourth, while agriculture has accounted for over a sixth in recent years.
- Consumption patterns vary wildly by state and season.
- A heatwave and easing of COVID-19 curbs drove power to demand higher in the first half of 2022.
- Erratic weather and a jump in agricultural activity were among the most prominent reasons behind the high growth in the second half of last year.

- In northern Haryana and Telangana in the South, unexpected dry spells contributed to higher demand from agricultural consumers for electricity during November and December, which was based on assessments by grid operations in different states.
- Higher demand from industry in Andhra Pradesh and tech employees returning to office in India's silicon valley Bengaluru in Karnataka state also drove power use up.
- In the football-crazy southern state of Kerala, the live streaming of the World Cup matches potentially contributed to a 4.1 per cent hike in peak demand.
- In Punjab, a policy to provide free power to some consumers boosted demand, while a decision to increase the hours of power supply to agricultural consumers in Rajasthan resulted in a 22 per cent rise in November and a 15 per cent rise in power demand in December.

4. The Way forward

- Officials are scrambling to ensure India does not face power outages this summer when demand typically peaks.
- India faces high risks of nighttime blackouts this summer, following years of neglect in adding new coal and hydropower capacity, needed particularly at night when solar capacity is unavailable..

General Studies II: Polity

DEMAND FOR GRANTS

1. Context

The Odisha government has proposed to amend the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 to ease the land acquisition process for various industrial and infrastructure projects.



With the amendment to the Central legislation, the Odisha government aims to do away with the mandatory provision of social impact assessment (SIA) study before the land acquisition, which it says is a time-consuming process.

2. About Demand for Grants

- It is a well-established principle among modern democracies that no money can be withdrawn from the exchequer of the country without the authority of law.
- Put simply, this means that any withdrawal or disbursement from the Consolidated Fund of India can only be done by passing a bill in the Lok Sabha.

3. Grants in Parliament

Article 113 of the Constitution requires that any proposal or estimate seeking the withdrawal of money from the Consolidated Fund of India should be presented to the Lok Sabha in the form of a demand for grants.

4. Demand for Grants proposed by Ministry

- Therefore, every ministry prepares a demand for grants for the expenditure to be incurred in the next financial year.
- These demands are collectively presented in the Lok Sabha as part of the Union Budget.

5. Demand for Grants includes

- The demand for grants includes both charged and voted expenditures.
- Charged expenditures are considered liabilities of the government of India such as payment of interest and are not put to vote in the Lok Sabha.
- The other category of expenditure is voted expenditure which includes revenue and capital expenditure to be incurred on a government scheme in the next financial year.



- Usually, there is a demand for which for each ministry, but large ministries like Finance and Defence have more than one demand for grants.

6. Preparing Demand for Grants

Each demand for a grant is prepared in two ways:

- First, it clearly distinguishes the charged expenditure and the voted expenditure.
- It also classifies expenditure as capital expenditure and revenue expenditure
- While capital expenditure results in the creation of some kind of assets for the government, revenue expenditures are operational.

In addition to giving the break-up charged and voted expenditure and revenue and capital expenditure, a demand for grants is a gross estimate of the total expenditure to be incurred.

Demand for grants also gives the following:

- Break-up of expenditure under different heads of account and
- Lists out the recoveries to be made from the scheme
- The net amount of expenditure, after deducting the recoveries is also shown.

Note that each demand for grants also includes:

- The total provisions required for a service or scheme, basically both revenue and capital expenditure
- Any assistance to be given to states and UTs
- Loans and advances related to that service or scheme

7. Powers of Lok Sabha in Demand for Grants

- Article 113 (iii) prescribes that no demand for grants can be presented in the Lok Sabha without the President of India's prior approval.

- Under Articles 117 and 274 of the Indian Constitution, a Presidential recommendation is also required for tabling a Money Bill in the Lok Sabha.
- The Finance Bill, accompanying the annual financial statement which is called the Union Budget, also carries a certificate issued by the President.

GUILLOTINE

1. Context

Amidst the ongoing stalemate in Parliament, some MPs said the government may guillotine the demands for grants and pass the Finance Bill without any discussion.

2. About Guillotine

- A guillotine is an apparatus designed for efficiently carrying out executions by beheading.
- It consists of a large, weighted blade that is raised to the top of a tall, erect frame and released to fall on the neck of a condemned person secured at the bottom of the frame, executing them in a single, clean pass.
- The origin of the exact device as well as the term can be found in France.
- The design of the guillotine was intended to make capital punishment more reliable and less painful through new Enlightenment ideas of human rights.
- Before the use of the guillotine, France had inflicted manual beheadings and a variety of methods of execution, many of which were more gruesome and required a high level of precision and skill to carry out successfully.
- The guillotine is most widely associated with the **French Revolution**, when it became popular with the revolutionaries meting out capital punishment to members and supporters of the Ancient Regime, including King Louis XVI and Queen Marie Antoinette.
- It was a method of execution in France until the country stopped capital punishment in 1981.

3. Guillotine refers to in legislative parlance

- In legislative parlance, "guillotine" means to bunch together and fast-track the passage of financial business.
- It is a fairly common procedural exercise in Lok Sabha during the Budget Session.
- After the Budget is presented, Parliament goes into recess for about three weeks, during which time the House Standing Committees examine Demands for Grants for various Ministries and prepare reports.
- After Parliament reassembles, the **Business Advisory Committee** (BAC) draws up a schedule for discussions on the Demands for Grants.
- Given the limitation of time, the House cannot take up the expenditure demands of all Ministries; therefore, the BAC identifies some important Ministries for discussion.
- It usually lists Demands for Grants from the Ministries of Home, Defence, External Affairs, Agriculture, Rural Development and Human Resource Development.
- Members utilise the opportunity to discuss the policies and working of Ministries.
- Once the House is done with these debates, the Speaker applies the "guillotine" and all outstanding demands for grants are put to vote at once.
- This usually happens on the last day earmarked for the discussion on the Budget.
- The intention is to ensure the timely passage of the Finance Bill, marking the completion of the legislative exercise about the Budget.

4. Happening in this case

- With meetings called by presiding officers of the Lok Sabha and Rajya Sabha failing to end the stalemate between the government and the Opposition, there is uncertainty over whether the Budget Session will continue till its scheduled date of April 6.
- On Tuesday, for the seventh day in a row, proceedings in both Houses were adjourned following chaotic scenes.

- Some MPs said the government may guillotine the demands for grants and pass the Finance Bill without any discussion in the Lok Sabha on Thursday.
- The Budget Session cannot continue "With no business and complete logjam".
- But the government has to find a way to complete the passage of the Budget, which includes the passing of the Finance Bill.

5. The stalemate in Parliament

- Parliament remains stalled as the government and opposition have been unable to constructively engage with each other.
- While the opposition has been demanding a JPC (**Joint Parliamentary committee**) probe into the **Adani issue**, the government has been steadfast in demanding **Rahul Gandhi apologise** for his recent "**Anti-India**" remarks.
- At the meetings held by Speaker Om Birla for the Lok Sabha and Vice-President and Rajya Sabha Chairman Jagdeep Dhankhar for the Upper House, the BJP maintained that Congress leader Rahul Gandhi could be allowed to put forward his point of view regarding his remarks on Indian democracy in London only if he was ready to apologise over the same.
- But Congress rejected this while insisting on its demand that the government constitute a joint parliamentary committee (JPC) to probe the Adani issue.
- With no end in sight any time soon for the ongoing stalemate, the government might have to guillotine together different demands and pass them en masse.

MP's DISQUALIFICATION

1. Context

Congress leader Rahul Gandhi was on Thursday held guilty and sentenced to two years in jail by a Surat court in a 2019 defamation case.

The Conviction came over his remarks about the "**Modi**" surname.

Significantly, the conviction triggers the process of his disqualification as a lawmaker.

Chief Judicial Magistrate HH Verma convicted Gandhi in a 2019 defamation case, for saying "why do all thieves have the name Modi", and sentenced him to two years in prison.

The remarks were made during a rally in Kolar, Karnataka, in the run-up to the 2019 Lok Sabha Elections.

Section 500 of the Indian Penal Code (IPC) prescribes for defamation a simple imprisonment for a "**term which may extend to two years, or with fine, or with both**".

The Court also approved Gandhi's bail on a surety of Rs 15, 000 and suspended the sentence for 30 days to allow him to appeal.

2. Reasons for disqualification of Gandhi's face

- The disqualification of a lawmaker is prescribed in three situations.
- **First** is through **Articles 102 (1) and 191 (1)** for disqualification of a member of Parliament and a member of the Legislative Assembly respectively.
- The grounds here include holding an office of profit, being of unsound mind or insolvent or not having valid citizenship.
- **The second** prescription of disqualification is in the Tenth Schedule of the Constitution, which provides for the disqualification of the members on grounds of **defection**.
- **The third** prescription is under the **Representation of the People Act (RPA), 1951**.
- This law provides for disqualification for conviction in criminal cases.

3. Representation of People Act

- Several provisions deal with disqualification under the RPA.
- **Section 9** deals with disqualification for **dismissal for corruption or disloyalty** and for entering into government contracts while being a lawmaker.

- **Section 10** deals with disqualification for **failure to lodge an account of election expenses**.
- A key provision, **Section 11**, deals with disqualification for **corrupt practices**.
- **Section 8** of the RPA deals with disqualification for **conviction of offences**.
- The provision is aimed at "preventing the criminalisation of politics" and keeping 'tainted' lawmakers from contesting elections.
- First, disqualification is triggered for conviction under certain offences listed in **Section 8(1)** of the Representation of the People Act.
- This includes specific offences such as promoting enmity between two groups, bribery and undue influence or personation at an election.
- Senior Samajwadi Party leader Azam Khan lost his Uttar Pradesh Assembly membership in October 2022 after he was convicted in a hate speech case. Defamation does not fall on this list.
- **Section 8 (2)** also lists offences that deal with hoarding or profiteering, adulteration of food or drugs and for conviction and sentence of at least six months for an offence under any provisions of the **Dowry Prohibition Act**.

Section 8 (3) states: "A person convicted of any offence and sentenced to imprisonment for not less than two years shall be disqualified from the date of such conviction and shall continue to be disqualified for a further period of six years since release".

4. Operation of disqualification

- The disqualification can be reversed if a higher court grants a stay on the conviction or decides the appeal in favour of the convicted lawmaker.
- In a 2018 decision in "**Lok Prahari v Union of India**", the Supreme Court clarified that the disqualification "will not operate from the date of the stay of conviction by the appellate court".
- Significantly, the stay cannot merely be a suspension of sentence under **Section 389** of the Code of Criminal Procedure (**CrPC**), but a stay of conviction.

- Under **Section 389** of the CrPC, an Appellate Court can suspend the sentence of a convict while the appeal is pending. This is asking to release the appellant on bail.
- This means that Gandhi's first appeal would be before the Surat Sessions Court and then before the Gujarat High Court.

5. Changes in the law

- Under the RPA, **Section 8 (4)** stated that the disqualification takes effect only "**after three months have elapsed**" from the date of conviction.
- Within that period, lawmakers could file an appeal against the sentence before the High Court.
- However, in the landmark 2013 ruling in "**Lily Thomas v Union of India**", the Supreme Court struck down Section 8 (4) of the RPA as Unconstitutional.

DOCTRINE OF DOUBLE JEOPARDY

1.Context

A Delhi court on Saturday sentenced two former Delhi Jal Board (DJB) officials to three years of rigorous imprisonment and a fine of Rs. 5,000 each, in a money laundering case registered by the Enforcement Directorate (ED) in 2009, against which it filed a complaint after a delay of 11 years, in 2021

If the two offences are distinct then the ban under Section 300 CrPC cannot be invoked, the court stated, while distinguishing between the 2012 CBI case involving “cheating, misappropriation and the criminal misconduct of the public servant while discharging official duty” from the ED’s 2021 money laundering case

2. About Double Jeopardy

- “Double jeopardy” comes from the Latin maxim “Nemo bis punitur pro eodem delicto”, which means that no one can be tried for the same offence twice

- It has existed since the days of the Greeks and Romans, even finding a mention in the Justinian code, Canon law, Common Law, and the Fifth Amendment
- In India, this doctrine existed even before the Constitution came into being
- A case in point would be the now-repealed General Clauses Act, of 1897 and Section 300 of the Criminal Procedure Code of 1973, which says that a person once convicted or acquitted cannot be tried for the same offence
- In its 2022 ruling in ‘T.P. Gopalakrishnan vs. State of Kerala,’ the Supreme Court went so far as to say that Section 300 bars the trial of a person not just for the same offence but also for any other offence on the same facts
- The doctrine of double jeopardy is enshrined in the Indian Constitution under Article 20 (2), which says, “No person shall be prosecuted and punished for the same offence more than once.”
- It guarantees immunity from double punishment and bars a second prosecution only where the accused has been both prosecuted and punished for the same offence previously, as held by the Supreme Court in its 1954 ruling in ‘Venkataraman SA vs. Union of India’
- However, in its 1996 ruling in ‘AA Mulla vs State of Maharashtra’, the apex court held that Article 20(2) does not bar subsequent trials if the ingredients of the offences in the previous and subsequent trials are distinct
- Moreover, there are certain conditions for the application of Article 20 (2)

3. Conditions for the Application of Article 20 (2)

- There must have been previous proceedings before a court of law or a judicial tribunal of competent jurisdiction
- The person must have been prosecuted in the previous proceedings
- The conviction or acquittal in the previous proceeding must be in force at the time of the second trial
- The “offence” must be an offence as defined in Section 3(38) of the General Clauses Act which defines it as any act or omission made punishable by any law for the time being in force, The prosecution must also be valid and not null, void, or abortive.
- The “offence” must be an offence as defined in Section 3(38) of the General Clauses Act which defines it as any act or omission made punishable by any

law for the time being in force. The prosecution must also be valid and not null, void, or abortive

- The subsequent proceeding must be a fresh proceeding where an accused is being prosecuted for the same offence twice. Hence, this clause does not apply when the later proceedings are a continuation of the previous proceedings, nor does it bar a retrial on appeal with a direction to frame charges, provided the retrial is for the same offence or offence as the original trial

4. Way Forward

The Prevention of Money Laundering Act does not provide for a limitation period for money laundering

This indicates that the law laid down in Section 468 of the CrPC, which states that there is no limitation period for offences punishable with three years imprisonment or more, will apply

FOREIGN LAW FIRMS IN INDIA

1. Context

Five years after the Supreme Court allowed foreign law firms and foreign lawyers to visit India for a temporary period for giving legal advice to their clients, the Bar Council of India (BCI), a statutory body governing legal practice in India, has framed Rules that allowed them to open offices in India.

2. Supreme Court ruling

- On March 13, 2018, a division bench of Justices A. K. Goel and U.U. Lalit had ruled that foreign law firms or foreign lawyers cannot practise law in the country either on the litigation or nonlitigation side.
- However, the court said that there was no bar on foreign law firms or foreign lawyers visiting India for a temporary period for giving legal advice to their clients.

- The court had also asked the BCI to make appropriate rules in this regard.

3. Rules

- On March 10, the BCI notified the Rules for Registration and Regulation of Foreign Lawyers and Foreign Law Firms in India, 2022.
- This will enable foreign lawyers and law firms to practise foreign law, international law, international arbitration, joint ventures, mergers and acquisitions, joint ventures, mergers and acquisitions, intellectual property matters etc on a reciprocal basis.
- The Rules mention, This would also help to address the concerns expressed about the flow of Foreign Direct Investment into the country and would help make India a hub for international commercial arbitration.
- Foreign lawyers and firms have to submit an undertaking that they shall not practise Indian law in any form or before any court of law, tribunal, board or any other authority legally entitled to record evidence on oath.
- The legal fraternity in India is not likely to suffer any disadvantage in case law practice in India is opened up to foreign lawyers in a restricted and regulated manner.
- This is mainly because the principle of reciprocity in the Rules ensures that it would be mutually beneficial for lawyers from India and abroad.

4. Bar Council of India powers

- For Foreign lawyers and firms to practise in India, a primary qualification is required in the form of a certificate by a competent authority of their country which states that they are entitled to practise law in that country.
- Their registration in India with the BCI is mandatory and must be renewed every five years.
- Moreover, the BCI has the right to refuse to register any foreign lawyer or law firm if it is likely to become disproportionate to the number of Indian lawyers or law firms registered or allowed to practise law in the corresponding foreign country.

5. Implications

- Some clarity is required around what "Reciprocity" means before we see foreign law firms registering in India.
- If foreign law firms to set up, it would be huge for the corporate legal practice in India as competition can only lead to improvement in legal services.
- Foreign law firms will now be allowed to hire Indian lawyers and advocates registered as foreign lawyers, expanding the legal job market.
- This move will bring artificial Intelligence based technology into legal service delivery, pushing Indian law firms to adopt it.
- This is going to add to the "**Corporatisation**" of law practice. Already students are burdened with the high fees of private colleges and are turning away from litigation and joining corporate firms.
- More Indian lawyers going abroad and deserting the real need in India to defend and fight for the rights of the poor.

General Studies III: Science & Technology

WORLD TB DAY

1. Context

With India setting the target of eliminating tuberculosis by 2025, five years ahead of the global target, scientists are rushing to test newer vaccines and shorter courses of treatment, the government is focusing on active case finding, entrepreneurs have helped increase testing capacity, and the community at large has come forward to provide nutritional support to patients. On world TB day, Prime Minister Narendra Modi will address the One World TB Summit. He is likely to announce initiatives to help the country meet the 2025 target.

2. About Tuberculosis

- Tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis.
- It commonly affects the lungs, but can also affect other parts of the body.
- It is a treatable and curable disease.
- TB is spread from person to person through the air. When people with lung TB cough, sneeze, or spit, they propel the TB germs into the air.
- Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness weight loss, fever, and night sweats.
- Bacille Calmette-Guerin (BCG) is a vaccine for TB disease.

3. How many TB cases are detected each year?

- Although India continues to be the largest contributor to global TB cases, there has been a decline in the number of cases in 2021.
- Reporting of TB cases also improved in 2021 although it didn't reach the pre-pandemic levels, it bounced back from the lows seen during the first year of the pandemic, according to the Global TB Report 2022.
- The incidence of TB new cases detected throughout the year was reduced by 18% in 2021 over the 2015 baseline, dropping to 210 cases per lakh population as compared to 256 cases per lakh population.
- The incidence of drug-resistant TB also went down by 20% during the period from 1.49 lakh cases in 2015 to 1.19 lakh cases in 2021. India accounts for 28% of all TB cases in the world, according to the Global TB Report 2022.

4. What is India's elimination target?

- Although the elimination of Tuberculosis is one of the sustainable development targets to be achieved by 2030 by the world, India has set a target of 2025.
- The national strategic plan 2017-2025 sets the target of India reporting no more than 44 new TB cases or 65 total cases per lakh population by 2025.

- The estimated TB incidence for the year 2021 stood at 210 per lakh population.
- Achieving this target is a big task as the plan had envisaged an incidence of only 77 cases per lakh population by 2023.
- The programme also aims to reduce the mortality to 3 deaths per lakh population by 2025. The estimated TB mortality for the year 2020 stood at 37 per lakh population.
- The plan also aims to reduce catastrophic costs for the affected family to zero.
- However, the report states that 7 to 32 percent of those with drug-sensitive TB, and 68 percent with drug-resistant TB experienced catastrophic costs.
- The goals are in line with the World Health Organisation's End TB strategy which calls for an 80% reduction in the number of new cases, a 90% reduction in mortality, and zero catastrophic cost by 2030.

5. What is being done to try to achieve this target?

- To achieve the TB elimination target of 2025, the government has taken several steps including looking for cases actively among vulnerable and co-morbid populations, screening for it at health and wellness centers, and calling on the private sector to notify all TB cases.
- An online Ni-kshay portal has been set up to track the notified TB cases.
- The pandemic has led to improved access to more accurate molecular diagnostic tests like CB-NAAT and TureNat which were also used to test for Covid-19.
- At present, there are 4,760 molecular diagnostic machines available, covering all districts of the country.
- In addition, 79 line probe assay laboratories and 96 liquid culture testing laboratories have been set up for the diagnosis of multi and extremely drug-resistant TB.
- The government has also implemented a universal drug susceptibility test, meaning that antibiotic susceptibility of the mycobacterium is determined for all newly diagnosed cases.
- Earlier, the patients were started on first-line treatment and were tested for drug resistance only if the therapy did not work. Conducting a drug

susceptibility test at the outset ensures that the patients are given antibiotics that will work for them from the get-go.

- Last year, the government also launched a community engagement program where Ni-kshay Mitras can adopt TB patients and provide them with monthly nutritional support. So far 71,460 Ni-kshay Mitras have adopted about 10 lakh TB patients under the programme.

6. Improvements in Treatments Protocols

- Newer drugs such as Bedaquiline and Delamanid for the treatment of drug-resistant TB have been included in the government's basket of drugs provided for free to TB patients.
- These oral drugs can replace the injectable kanamycin that was associated with serious side effects like kidney problems and deafness.
- These new drugs have also been included in the new National List of Essential Medicines that gives the government power to regulate their market price as well.
- Researchers have also been studying shorter three- and four-month courses of antitubercular drugs, instead of the existing six-month therapy.
- Anti-tubercular drugs have to be taken for six months to over two years depending on the susceptibility of the mycobacterium.
- Long duration of treatment results in people dropping out in between, increasing their likelihood of them developing drug-resistant infections later.

7. Newer Vaccines in the Pipeline

- Nearly 100 years after the existing BCG vaccine was developed, researchers are on the lookout for newer ways of preventing tuberculosis infection.
- The BCG vaccine uses a weakened form of TB bacteria to train the immune system.
Although it can protect against severe forms of TB like the ones in the brain, the protection is not very good against the most common form of TB in the lungs.
- It offers limited protection to adults, it doesn't prevent people from getting the infection or re-activation of a latent infection.

- Trails are underway to test the effectiveness of a vaccine called Immuvac, which was initially developed to prevent leprosy, preventing TB.
- The vaccine developed using mycobacterium indicus pranii has antigens the portions of a pathogen against which antibodies are developed similar to those of leprosy and TB bacteria.
- Researchers are also testing the vaccine candidate called VPM1002, which is a recombinant form of the BCG vaccine modified to express the TB antigens better.
- This results in better training of the immune system and protection against TB.

Researchers are also studying whether the existing BCG vaccine booster shot should be given to household contacts of a person with active tuberculosis.

XBB.1.16

1. Context

Over the past three years and multiple waves of infection, the SARSCoV2 virus continues to evolve by accumulating genetic variations.

2. About Recombinants

- Coinfection of multiple lineages of a virus could result in recombinations between genomes which can give rise to chimeric genomes, otherwise called recombinants.
- While most recombinations may not give rise to viable viruses, there is a possibility that recombination could result in the creation of a new lineage of the virus with better functional capabilities than either of the parent lineages.
- Several recombinant lineages of SARSCoV2 have emerged during the COVID-19 pandemic.
- Two such recombinant lineages are currently designated as Variants Under Monitoring (VUM) by the World Health Organization XBB, a recombinant of Omicron Sublineages BA.2.10.1 and BA. 2.75 and XBF, a recombinant of BA.5.2.3 and BA 2.75.3 Omicron sublineages.

- The lineage XBB.1.5, a sublineage of the XBB, first identified in New York City in October 2022, is currently designated as a Variant of Interest (VOI) by the WHO.

3. XBB.1.16 lineage

- First detected in SARSCoV2 sequences from India, the XBB.1.16 is a recombinant virus lineage and a descendent of the XBB lineage.
- The lineage has been circulating predominantly in India.
- A significantly large number of the genomes from outside India, such as in the U.S. and Singapore, have been linked with international travel, mostly from India.
- The variant has to date been detected in at least 14 countries across the world.

The lineage XBB.1.16 has several mutations in common with the VOI XBB.1.5.

- Additional key mutations including E180V and T478R in the Spike protein and I5T in ORF9b are present in the XBB.1.16 lineage.
- In contrast, the XBB.1.15 has the mutation T478K in Spike.
- T478R is associated with immune escape or the ability of the virus to evade antibodies generated from previous infections or vaccines.
- The ORF9b I5T mutation is also found in the lineage XBB.1.9 and has been widely believed to lend a growth advantage to the virus.
- Preliminary data also suggest that XBB.1.16 has a higher growth advantage over currently circulating SARSCoV2 lineages, including the XBB.1.5 lineage.

4. Reasons for XBB.1.16 a cause of concern

- Amid the ongoing increase in the number of seasonal influenza H3N2 cases, an uptick in COVID-19 cases is also being seen in India in March, despite the low number of testing.
- The total number of active COVID-19 cases across the country has increased to over 6, 000.

- The fast-spreading XBB.1.16 lineage is believed to be responsible for the recent spike in COVID-19 cases in India.
- Although data from systematic genomic surveillance in India is limited, XBB.1.16 today accounts for more than 30 per cent of all the sequenced genomes in March 2023 and its proportion has been seen to be increasing in the past few weeks.
- The States of Telangana, Karnataka, Gujarat and Maharashtra have reported the highest number of XBB.1.16 cases.
- However, this could be biased as not all states proactively sequence their samples.
- Based on preliminary data, there is no evidence to suggest that infections with the XBB.1.16 lineage differ in clinical severity from those caused by other Omicron lineages although the higher growth advantage and immune escape could lead to a higher risk of reinfection with XBB.1.16 compared to other circulating Omicron lineages.
- Protecting the vulnerable through time-tested means could therefore significantly blunt the rise in infections.

ZOONOSSES THEORY

1. Context

In the never-ending debate about the origin of the virus that set off the COVID19 pandemic, there is now fresh grist for the mill for those who have held out for the zoonotic angle that the infection skipped from animals to humans. Undisclosed genetic data from a food market in Wuhan has been unearthed and is being used to support the zoonoses theory over the lab leak theory. These findings were presented to the Scientific Advisory Group for the Origins of Novel Pathogens, an expert body constituted by the WHO.

2. Key facts about Zoonoses

- A zoonosis is any disease or infection that is naturally transmissible from vertebrate animals to humans.
- There are over 200 known types of Zoonoses.
- Zoonoses comprise a large percentage of new and existing diseases in humans.
- Some zoonoses, such as rabies, are 100% preventable through vaccination and other methods.

3. About Zoonoses

- Zoonosis is an infectious disease that has jumped from non-human animals to humans.
- Zoonotic pathogens may be bacterial, viral, or parasitic, or may involve unconventional agents and can spread to humans through direct contact or through food, water, or the environment.
- They represent a major public health problem around the world due to our close relationship with animals in agriculture, as companions, and in the natural environment.
- Zoonoses can also cause disruptions in the production and trade of animal products for food and other uses.
- Zoonoses comprise a large percentage of all newly identified infectious diseases as well as many existing ones.
- Some diseases, such as HIV, begin as a zoonosis but later mutate into human-only strains.
- Other zoonoses can cause recurring disease outbreaks, such as the Ebola virus disease and salmonellosis.
- Still others, such as the novel coronavirus that causes COVID-19, have the potential to cause global pandemics.

4. Prevention and Control

- Prevention methods for zoonotic diseases differ for each pathogen; however, several practices are recognized as effective in reducing risk at the community and personal levels.
- Safe and appropriate guidelines for animal care in the agricultural sector help to reduce the potential for foodborne zoonotic disease outbreaks through foods such as meat, eggs, dairy, or even some vegetables.
- Standards for clean drinking water and waste removal, as well as protections for surface water in the natural environment, are also important and effective.
- Education campaigns to promote handwashing after contact with animals and other behavioral adjustments can reduce the community's spread of zoonotic diseases when they occur.
- Antimicrobial resistance is a complicating factor in the control and prevention of zoonoses.
- The use of antibiotics in animals raised for food is widespread and increases the potential for drug-resistant strains of zoonotic pathogens capable of spreading quickly in animal and human populations.

5. Who is at risk?

- Zoonotic pathogens can spread to humans through any contact point with domestic, agricultural, or wild animals.
- Markets selling the meat or by-products of wild animals are particularly high risk due to the large number of new or undocumented pathogens known to exist in some wild animal populations.
- Agricultural workers in areas with high use of antibiotics for farm animals may be at increased risk of pathogens resistant to current antimicrobial drugs.
- People living adjacent to wilderness areas or in semi-urban areas with a higher number of wild animals are at risk of disease from animals such as rats, foxes, or raccoons.
- Urbanization and the destruction of natural habitats increase the risk of zoonotic disease by increasing contact between humans and wild animals.

6. WHO Response

- WHO works with national governments, academia, non-governmental and philanthropic organizations, and regional and international partners to prevent and manage zoonotic threats and their public health, social and economic impacts.
- These efforts include fostering cross-sectoral collaboration at the human-animal-environment interface among the different relevant sectors at regional, national, and international levels.
- WHO also works to develop capacity and promote practical, evidence-based, and cost-effective tools and mechanisms for zoonoses prevention, surveillance, and detection through reporting, epidemiological and laboratory investigation, risk assessment and control, and assisting countries in their implementation.
- As part of the One Health approach, the World Health Organization collaborates with the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE) on the Global Early Warning System for Major Animal Diseases (GLEWS).
- This joint system builds on the added value of combining and coordinating alert mechanisms of the three agencies to assist in early warning, prevention, and control of animal disease threats, including zoonoses, through data sharing and risk assessment.

GENERATIVE AI

1. Context

Generative artificial intelligence has become a buzzword this year, capturing the public's fancy and sparking a rush among Microsoft and Alphabet to launch products with the technology they believe will change the nature of work.



2. What is Generative AI?

- Generative AI is a rapidly growing branch of AI that focuses on generating new content (such as images, audio, text, etc.) based on patterns and rules learned from data.
- The rise of GAI can be attributed to the development of advanced generative models, such as Generative Adversarial Networks (GANs) and Variational Autoencoders (VAEs).
- These models are trained on large amounts of data and are able to generate new outputs that are similar to the training data. For example, a GAN trained on images of faces can generate new, synthetic images of faces that look realistic.
- The most famous generative AI application is ChatGPT, a chatbot that Microsoft-backed OpenAI released last year. The AI powering it is known as a large language model because it takes in a prompt and from that writes a human-like response.

3. Applications of Generative AI

- Create realistic images and animations. Text-to-image programs such as Midjourney, DALL-E, and Stable Diffusion have the potential to change how art, animation, gaming, movies, and architecture, among others, are being rendered.
- Generative AI can be used to compose music and create art.
- Create brand logo: E.g. many startups are exploring services like DALL.E2, Bing Image Create, Stable Diffusion, and MidJourney to create their brand logo.
- Generate text messages. ChatGPT to generate news articles, poetry, and even code. AI-assisted drug discovery.
- Generative AI can be used to design and control robotic systems.
- Automate things e.g. Microsoft-owned GitHub Copilot, which is based on OpenAI's Codex model, suggests code and assists developers in autocompleting their programming tasks.
- The technology is helpful for creating a first draft of marketing copy, for instance, though it may require cleanup because it isn't perfect. One example

is from CarMax Inc, which has used a version of OpenAI's technology to summarize thousands of customer reviews and help shoppers decide what used car to buy.

4. Concerns about Generative AI

- School systems have fretted about students turning in AI-drafted essays, undermining the hard work required for them to learn.
- Cybersecurity researchers have also expressed concern that generative AI could allow bad actors, even governments, to produce far more disinformation than before.
- It will have a profound effect on jobs as automation will replace humans, especially in the creative industry.
- Large parts of the creative workforce, including commercial artists working in entertainment, video games, advertising, and publishing, could lose their jobs because of generative AI models.
- Artists are worried that the internet will be flooded with artwork that is indistinguishable from their own, simply by telling the system to reproduce the artwork in a unique style.
- One of the problems with large language models is their ability to generate false and misleading content.
- Such capabilities can be misused to generate fake news and disinformation across platforms and ecosystems.

5. Role of Google and Microsoft in Generative AI

- Those two companies are at the forefront of research and investment in large language models, as well as the biggest to put generative AI into widely used software such as Gmail and Microsoft Word. But they are not alone.
- Large companies like salesforce Inc as well as smaller ones like Adept AI Labs are either creating their own competing AI or packaging technology from others to give users new powers through software.

6. Involvement of Elon Musk

- He was one of the co-founders of OpenAI along with Sam Altman. But the billionaire left the startup's board in 2018 to avoid a conflict of interest between openAI's work and the AI research being done by the Tesla Inc-the electric vehicle maker he leads.
- Musk has expressed concerns about the future of AI and batted for a regulatory authority to ensure the development of the technology serves the public interest.

7. Indian Initiatives

- **National Strategy for Artificial Intelligence:** The Government has published the National Strategy for Artificial Intelligence with the objective of developing an ecosystem for the research and adoption of Artificial Intelligence.
- **National Mission on Interdisciplinary Cyber-Physical Systems:** Under this Mission, Technology Innovation Hubs (TIH) has been established on Artificial Intelligence and Machine Learning at the Indian Institute of Technology (IIT) Kharagpur, which aims to provide state-of-the-art training and capacity building for the creation of next-generation scientists, engineers, technicians, and technocrats in the field of Artificial Intelligence.

LATE LIFE DEPRESSION

1. Context

Latelife depression (LLD) is caused by multiple factors working together. It has three broad risk factors biological, psychological, and social.

2. What is Late-Life Depression?

Late-life depression (LLD) can be defined as depression that occurs after the age of 60 years, although the onset and definition of a cutoff may vary. There are many subtypes of depressive illness that are the same in both younger and older adults. The focus of this article is on unipolar depressive disorders.

Geriatric depression has three risk factors biological, psychological, and social.

3. Biological Risk Factors

- Scientists have yet to identify a candidate biomarker, a biological molecule in blood, body fluids, or other tissues, a sign of a disease process for LLD.
- On the other hand, studies have found some evidence of a genetic contribution to LLD.
- Scientists have also advanced several hypotheses involving the genes that code for serotonin synthesis, norepinephrine transporter, and the neurotrophic factor, but these ideas require more tests.
- A subset of LLD, called vascular depression, may be associated with cerebrovascular lesions.
- Stress that accumulates over one's life leads to a sustained secretion of cortisol, the hormone that regulates the body's stress response.
- Increased cortisol levels lead to the loss of brain cells in the hippocampus, which is implicated in memory and learning.
- Heart attacks and heart conditions often lead to LLD, as do diabetes and hip fracture.
- Depressive symptoms can also manifest if a person doesn't recover from physical illnesses optimally.

4. Psychological risk factors

- Personality attributes may color the origin and expression of depressive symptoms in older adults.
- Neuroticism is the personality disposition to experience negative emotions, anger, irritability, and emotional instability is consistently implicated in LLD.

- Depressed individuals may overreact to life events or misinterpret them. Recent adverse life events (loss of a job, bereavement, etc.) are more frequently reported among depressed elderly people than among nondepressed older adults.
- The locus of control refers to the degree to which an individual feels a sense of agency in their life.
- A person with an external locus of control will feel that external forces- such as random chance, environmental factors, or the actions of others are more responsible for the events that occur in their own life.

5. Social Risk Factors

- Lower socioeconomic status has been associated with depression across the life cycle.
- The construct of social support includes perception, the structure of the social network, and the tangible help and assistance available.
- Perceived social support is the most robust predictor of LLD symptoms.

6. Clinical assessment of depression

- Clinical assessment involves evaluating the duration of the current episode; screening for previous depressive episodes; ruling out substance misuse; looking at the course of previous episodes, if any; ascertaining the response to previous interventions, and looking at a family history of depression and/or suicide.
- Assessing the cognitive status of the individual is critical to evaluate depressed older patients. This is aided by the use of screening scales such as the Mini Mental State Examination.
- No assessment is complete without a thorough physical examination of all the other systems as well.
- Frequently, physicians order tests involving the thyroid and metabolic panel, vitamin B12, folate, vitamin D levels, and some other biochemistries.
- Physicians also often order a brain scan for LLD. This is to rule out other possible pathologies (such as stroke or tumour), which may present with a clinical picture of depression.

- The physician may also order an electrocardiogram before medication.

7. Treatment of Late Life Depression

- Experts generally take a fourpronged approach to treating geriatric depression, involving psychotherapy, medications, brain stimulation, and family therapy.
- Talking therapies, such as cognitive behavior therapy (CBT), help to identify maladaptive thought patterns, and then restructure these patterns to help the depressed individual cope and feel better.
- Maladaptive cognitions, such as “I am useless” or “It’s all going to go wrong”, are subject to empirical examination. The therapist will seek evidence in support of these ideas and alternative ways to view one’s own life.
- The individual may also be asked to keep a diary of activities, to set goals, and to try doing things that they fear.
- This is often accompanied by encouraging the individual to write down their goals and to track their progress.
- Typically, there will be six to 20 CBT sessions, with each session lasting for 3060 minutes. There is some evidence to suggest that the longterm benefits of CBT could equal that of drug therapy.
- A range of safe and effective drugs are available to treat geriatric depression when combined with talk therapy, the efficacy of either of the interventions increases.
- A common dictum in prescribing medications to older adults is to 'start low and go slow'.
- Antidepressants are often asked to be taken for six to nine months after the remission of a depressive episode. Contrary to popular belief, these drugs are not addictive, and patients can be safely weaned off them once the course is complete.
- Neurostimulation modalities such as electroconvulsive therapy (ECT) are used to treat severe forms of depression, suicidality, and psychotic depression (characterized by delusions and hallucinations).
- ECT continues to be the most effective treatment for people with severe major depressive episodes.

CAMPA

1. Context

A report released on March 20, that originates in the Synthesis Report of the Intergovernmental Panel on Climate Change (IPCC), a U.N. expert body, states that not degrading existing ecosystems in the first place will do more to lower the impact of the climate crisis than restoring ecosystems that have been destroyed a finding that speaks to an increasingly contested policy in India that has allowed forests in one part of the country to be cut down and ‘replaced’ with those elsewhere.

2. About CAMPA Funds

- Establishment in 2004, the Ministry of Environment and Forests constituted the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) to oversee and manage the Compensatory Afforestation Fund (CAF) as directed by the Supreme Court.
- CAMPA Act or Compensatory Afforestation Fund act is an Indian legislation that seeks to provide an appropriate institutional mechanism, both at the centre and in each state and Union Territory, to ensure expeditious utilisation in the efficient and transparent manner of amounts released instead of forest land diverted for the non-forest purpose which would mitigate the impact of diversion of such forest land.

3. Objectives of CAMPA

The funds are meant to promote afforestation and regenerative activities as a way of compensating for forest land diverted to non-forest uses.

National CAMPA Advisory Council has been established with the following mandate:

- Lay down broad guidelines for State CAMPA.

- Facilitate scientific, technological and other assistance that may be required by State CAMPA.
- Make recommendations to State CAMPA based on a review of their plans and programmes.
- Provide a mechanism to State CAMPA to resolve issues of an inter-state or Centre-State character.

4. Intergovernmental Panel on Climate Change

- It is the international body for assessing the science related to climate change.
- It was set up in 1988 by the World Meteorological Organisation (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.
- IPCC assessments provide a scientific basis for governments at all levels to develop climate-related policies, and they underlie negotiations at the UN Climate Conference- the United Nations Framework Convention on Climate Change (UNFCCC).

5. What is the Assessment report of the IPCC?

- The Assessment Reports, the first of which had come out in 1990, are the most comprehensive evaluation of the state of the earth's climate.
- Every few years (about 7 years), the IPCC produces assessment reports.
- Hundreds of experts go through every available piece of relevant, published scientific information to prepare a common understanding of the changing climate.
- The four subsequent assessment reports, each thousand of pages long, came out in 1995, 2001, 2007 and 2015. These have formed the basis of the global response to climate change.
- Over the years, each assessment report has built on the work of the previous ones, adding more evidence, information and data. So that most of the conclusions about climate change and its impacts have far greater clarity, certainty and wealth of new evidence now than earlier.

- It is these negotiations that have produced the Paris Agreement, and previously the Kyoto Protocol. The Paris Agreement was negotiated based on the Fifth Assessment Report.

6. Why is afforestation Contested?

- India has committed to adding “an additional (cumulative) carbon sink of 2.53 GtCO₂e through additional forest and tree cover by 2030”, as part of its climate commitments to the U.N.
- Afforestation is also codified in the Compensatory Afforestation Fund Management and Planning Authority (CAMPA), a body chaired by the Environment Minister.
- When forest land is diverted to nonforest use, such as building a dam or a mine, that land can no longer provide its historical ecosystem services nor host biodiversity.
- According to the Forest (Conservation) Act, of 1980, the project proponent that wishes to divert the land must identify land elsewhere to afforest and pay for the land value and the afforestation exercise. That land will, thereafter, be stewarded by the forest department.

7. Why does CAMPA matter?

- The money paid sits in a fund overseen by the CAMPA. As of 2019, the fund had ₹47,000 crores.
- The CAMPA has come under fire for facilitating the destruction of natural ecosystems in exchange for forests to be set up in faraway places.

8. How do ecosystems compare to renewable energy?

- The IPCC report also found that the sole option (among those evaluated) with more mitigating potential than "reducing the conversion of natural ecosystems" was solar power and that the third-highest was the wind.
- But many solar parks in India have triggered conflicts with people living nearby because they limit land use and increase local water consumption.

- A 2018 study published in Nature Ecology & Evolution also found that wind farms in the western ghats had reduced the abundance and activity of predatory birds, which consequently increased the density of lizards.
- However, the IPCC report also noted that reducing the conversion of natural ecosystems could be more expensive than wind power, yet still less expensive than ecosystem restoration, afforestation and restoration for every GtCO₂e.

KOZHIKODE PROJECT

1. Context

The Kerala government recently announced the State's first wastetoenergy project in Kozhikode. The planned facility is expected to be built in two years and generate about 6 MW of power. There are around 100 wastetoenergy projects around the country but only a handful of them are operational, thanks to various production and operational challenges.

2. What do waste-to-energy projects do?

- Waste-to-energy projects use nonrecyclable dry waste to generate electricity. The process increases the State's power generation capacity and eases the solid waste management (SWM) burden.
- Generally, solid waste in India is 55-60% biodegradable organic waste, which can be converted into organic compost or biogas; 25-30% non-biodegradable dry waste; and around 15% silt, stones, and drain waste.
- Of the nonbiodegradable dry waste, only 23% including hard plastics, metals, and e-waste is recyclable.
- The remainder consists of lowgrade plastic, rags, and cloth that can't be recycled.
- This fraction of the nonrecyclable dry waste is the most challenging portion of the present SWM system; the presence of these materials also reduces the efficiency of recycling other dry and wet waste.

- It is this portion that wastetoenergy plants use to generate power. The waste is combusted to generate heat, which is converted into electricity.

3. Waste-to-Energy Plants

- A waste-to-energy or energy-from-waste plant converts municipal and industrial solid waste into electricity and/or heat for industrial processing.
- The energy plant works by burning waste at high temperatures and using the heat to make steam. The steam then drives a turbine that creates electricity.
- Apart from producing electricity, burning waste also reduces the amount of material that would probably be buried in landfills. Burning MSW reduces the volume of waste by about 80%. Thereby offering a number of social and economic benefits that cannot easily be quantified.

4. Kozhikode Project

- Kozhikode has a population of about 6 lakhs and generates approximately 300 tonnes of waste per day (TPD). Of this, around 205 TPD is biodegradable and 95 TPD is nonbiodegradable.
- The municipality is currently using biodegradable material to generate organic compost in various composting plants.
- Of the non-biodegradable waste, only about 5 TPD out of the 95 TPD is recycled; the remaining nonrecyclable dry waste could be used to generate power at the wastetoenergy plant.

5. Why do waste-to-energy plants fail?

- While waste to energy plants seem like a simple solution, they have several challenges en route to becoming feasible.
- First is the low calorific value of solid waste in India due to improper segregation.
- The calorific value of mixed Indian waste is about 1,500 kcal/kg, which is not suitable for power generation. (Coal's calorific value is around 8,000 kcal/kg.)

- Biodegradable waste has high moisture content and cannot be used for power generation.
- Second is the high costs of energy production.
- The cost of generating power from waste is around ₹78/unit, while the cost at which the States' electricity boards buy power from coal, hydroelectric, and solar power plants is around ₹34/unit.
- The price of the power generated needs to halve.
- Another challenge is that waste to energy projects can consume only non - recyclable dry waste, which is about 25% of the waste; but often these projects are expected to manage all types of waste generated in the city which is not good.

6. Advantages

- Most wastes that are generated find their way into land and water bodies without proper treatment, causing severe water and air pollution.
- Waste to energy generates clean, reliable energy from a renewable fuel source, thus reducing dependence on fossil fuels, the combustion of which is a major contributor to Greenhouse Gas (GHG) emissions.

In addition to energy generation, waste-to-energy can fetch significant other benefits like:

- Success in municipal solid waste management could lead to opportunities in other waste such as sewage waste, industrial waste, and hazardous waste.
- Waste to Energy opportunities exists not just in India but all over the world. Thus, there could be significant international expansion possibilities for Indian companies, especially expansion into other Asian countries.

7. How can the plant tackle challenges?

- Operating waste to energy projects also depends on parameters like the Municipal collection efficiency, waste segregation, moisture content, and the operational efficiency of existing biodegradable waste processing plants.

- Setting up waste to energy projects is complex and needs the full support of the municipality, the State, and the people.
- Importantly, the municipality or the department responsible for SWM should be practical about the high cost of power generation, and include the State electricity department, perhaps as a tripartite agreement between the municipality, the plant operator, and the power distribution agency.

General; Studies III: Environment & Ecology

WILLOW OIL PROJECT

1. Context

The United States President Joe Biden's administration formally approved a controversial oil drilling project in Alaska known as Willow, drawing fierce criticism from environmentalists and climate change activists.

2. Key points

- The announcement was welcomed by Alaska's lawmakers, who believe that the project would generate thousands of jobs and millions in revenue for their state.
- Although the US Department of the Interior, in a statement, said that it has approved a scaled-down version of the project, opponents claim it would still severely impact the climate and wildlife in the region.
- Previously, the Trump administration had sanctioned the plan to drill oil in Alaska in 2020, but a federal judge vacated development permits, saying initial federal reviews failed to include measures to mitigate the impact on polar bears.

3. About Willow Project

- Led by oil giant ConocoPhillips, the Willow Master Development Plan is an \$8 billion proposal to drill oil and gas in Alaska's National Petroleum Reserve a 23 million-acre land owned by the federal government of the US.

- According to the New York Times, the Project would yield more than 600 million barrels of oil over 30 years, a volume nearly 1.5 times the current supply in the US Strategic Petroleum Reserve.
- ConocoPhillips claims that the plan could generate up to \$17 billion for the federal, state and local governments and create as many as 2,500 jobs.
- Alaska Republican US Senator Dan Sullivan said it could be "one of the biggest, most important resource development projects in our state's history".

4. Impact on the environment

- Instead of approving the full project, like the President Trump administration, the current dispensation has sanctioned only a part of it.
- This includes three drill sites and less surface infrastructure than originally proposed.
- Initially, ConocoPhillips wanted to construct up to five drill sites, many kilometres of long roads, seven bridges and pipelines.
- Despite a scaled-down version getting the nod, environmentalists are concerned about the health and environmental impact of the drilling plan as it would be constructed on the country's largest swath of undisturbed, undeveloped land.
- They believe it would destroy the region's natural habitat and alter the migration patterns of animals.

A report published by the NPR noted that the Bureau of Land Management, a US government agency, in February 2023 released a document in which it described the "Proposed site as '**critical**' to local wildlife, supporting '**thousands of migratory birds**' and serving as a '**primary calving area**' for local caribou".

- Moreover, the project termed a "carbon bomb", would create about 260 million tons of greenhouse gases over its lifespan, the equivalent of developing around 70 new coal-fired power plants.
- This is a huge climate threat and inconsistent with this administration's promises to take on the climate crisis.

- Environmentalists and climate change activists claim that the approval conflicts with President Biden's campaign pledge of not allowing new oil, gas and coal projects and work towards fighting climate change.

5. Reasons for the approval of the project

- Analysts suggest that the formal approval came due to a variety of reasons, including the global energy crisis aggravated by the Russia-Ukraine war, pressure from Alaskan lawmakers (both from the Republican and Democratic parties) who saw the project as an opportunity to usher in prosperity in the state, upcoming Presidential elections and legal complexities.
- While making the final decision, President Biden was "acutely aware" of his campaign promise regarding climate change and the possibility of facing a political backlash from activists and young voters in particular.
- However, his administration felt the need to reach out to the working-class voters, who care about the gasoline price spikes that occurred after Russia invaded Ukraine.
- Apart from this, President Biden wanted to avoid getting into a legal tussle with ConocoPhillips.
- The company behind the project has held leases to the prospective drilling site for more than two decades and the administration attorneys argued that refusing a permit would trigger a lawsuit that could cost the government as much as \$ billion.

CAN PLASTICS BE RECYCLED?

1.Context

With only 9% of annual plastic waste recycled, the myth that we can recycle our way out of a mounting plastic pollution crisis doesn't add up. Around 85% of plastic packaging worldwide ends up in landfills.

2.Background

- In the United States, which is by far the world's biggest plastics polluter, only around 5% of over 50 million tons of plastic waste produced by households in 2021 was recycled, according to Greenpeace
- With plastic production set to triple globally by 2060, plastics made primarily from oil or gas are a growing source of the carbon pollution fuelling climate change. Much is also ending up in oceans and severely impacting marine life
- Promises by major plastics producers like Nestle and Danone to promote recycling and include more recycled plastic in their containers have been mostly broken
- The plastics lobby, along with supermarkets in countries from Austria to Spain, sometimes avoid this responsibility by lobbying against deposit return schemes that include plastic bottles
- New universal plastic regulations are currently being negotiated as part of a global plastics treaty aiming to streamline the production, use and reuse of plastic using a circular economy model
- Circular product design also relies on the myth of recycling, which in its current guise is doing little to ease a mounting plastics crisis

3. Types of Plastics

- Most plastic packaging is produced from seven grades of plastic that are largely incompatible with each other, and are costly to sort for recycling
- Apart from PET, or Polyethylene terephthalate, the world's most common plastic labelled with a #1, and high-density Polyethylene (HDPE), which carries the #2 symbol, five other plastic types might be collected but are rarely recycled, say Greenpeace
- PET is the most recyclable plastic and there is a strong market for its byproduct used to make drink bottles, food containers or fibers for clothes
- Harder plastics numbered 3-7 have a very small market since the value of the raw material is lower than the cost of recycling.
- The post-consumer plastic resin created from recycled material is being undercut by cheaper prime material, limiting the market for recycled plastics
- Reporting by New York-based market analysts S&P Global, shows demand for raw recycled plastic slowing due, among other factors, to rising transport

costs for recycling businesses in Asia and a slowdown in the construction sector that creates plastic building materials

- Ironically, plastic bag bans in Africa and Asia have limited the amount of feed material, which, in addition to low recycling rates globally, is also raising the price of recycled material
- While the price of virgin plastic is at the whim of fluctuating oil and gas prices, these fossil fuels are often subsidized
- According to Sander Defruyt, who leads the New Plastics Economy initiative at the US-based non-profit, the Ellen MacArthur Foundation, recycled plastic would be more competitive if fossil fuel subsidies were phased out
- **4. Flexible Packaging**
- The lightweight packets that keep food and snacks like chips or chocolate bars fresh, constitute around 40% of the world's plastic packaging, according to Defruyt
- The lightweight, multi-layered single-use packets are used to wrap around 215 billion products in the UK alone
- Only around five European countries are currently attempting to recycle these packets, noted DeFruyt
- In the US, flexible packaging made up only 2% of residential recycling in 2020
- Part of the problem is their multi-layered composition that is sometimes lined with foil, making it very expensive to separate into recyclable parts
- Flexible packaging is also often "super-contaminated" with food waste, which also makes it impossible to recycle
- The packaging industry claims that flexible packaging has environmental benefits as it's lighter than more rigid plastics and causes less transport emissions while also keeping food fresher for longer
- Efforts by the flexible packaging industry to make the packets part of a circular economy are doing little to raise recycling rates

5. Is banning a Solution?

In a 2022 survey of over 23,000 people across 34 countries, nearly 80% would support banning types of plastic that cannot be easily recycled

This would include a global ban on products and materials made from hard-to-recycle plastics

The EU has made some steps in this direction, having banned 10 single-use plastics products that not only blight Europe's beaches but contravene a circular economy model via which all disposable plastics in the EU will be reusable or recyclable by 2030

RACCOON DOGS

1. Context

A new analysis of genetic data collected from the Huanan Seafood Market in Wuhan, China, has linked coronavirus to raccoon dogs, adding evidence to the belief that the pandemic might have originated from the infected animals sold at the site.

2. Key points

- World Health Organization Director-General Tedros Adhanom Ghebreyesus said, "These data do not provide a definitive answer to how the pandemic began, but every piece of data is important to moving us closer to that answer".
- The genetic data was gathered from swabs taken from in and around the market back in January 2020, shortly after the Chinese government had shut down the market because of suspicions that it was linked to the outbreak of a new virus.
- A previous analysis of the same data was published last year, showing that it contained both Covid and Human DNA.
- Moreover, Chinese researchers at the time denied that the samples consisted of any animal DNA.
- The new findings have proved them wrong and revealed that the Covidpositive samples were rich in DNA from raccoon dogs.
- However, they don't prove that these animals or any other animals were responsible for triggering the pandemic.

3. About Raccoon dogs

- Raccoon dogs are neither dogs nor raccoons. They belong to the canid family and are closely related to foxes.
- They are the only canids that hibernate during the winter. As per Slate, there are two species of raccoon dogs:
 1. *Nyctereutes procyonoides*, the common raccoon dog (the Species that was in the Wuhan market) and
 2. *Nyctereutes p. viverrinus*, the Japanese raccoon dog.
- These animals, weighing around 16 pounds on average are omnivores and relish food sources such as rodents and berries.
- Although they appear svelte in the summer, they pack on the pounds for winter, when their fur also becomes thicker. They are monogamous, often living in pairs.



Image source: Sky News

4. Where are raccoon dogs are found?

- Raccoon dogs are originally from East Asia and are commonly found in parts of China, Korea and Japan, where they are known as tanuki.
- They are also found in Europe, fur traders first brought them in the 1920s.
- Today, raccoon dogs are considered to be a threat to the local ecosystem in Europe and an EU report declared them "one of the most successful alien carnivores in Europe".
- However, in Japan, tanuki is revered. In folklore, tanuki is funloving tricksters who could shape-shift and are often associated with good financial luck.
- They are often depicted with giant scrotums that they can expand and shape into useful objects such as umbrellas and fishing nets.

5. Reasons for raccoon dogs being sold in Wuhan

- For decades, these animals have been farmed for their fur.
- Every year, according to the Humane Society of the United States, millions are killed in China, a leading producer of raccoon dog pelts and the US buys a huge share of the products.
- To meet this huge demand, sellers raise raccoon dogs in small and crowded facilities while transporting them in small cages, often stacked with those of other animals.
- This serves as a perfect breeding ground for the spread of different diseases.

6. Raccoon dogs linked to other diseases

- Raccoon dogs and related mammals sold for food at a live animal market in China in 2003 were found to carry a coronavirus similar to the virus found in humans during a SARS Coronavirus outbreak at the time.
- A 2022 study after taking samples from about 2, 000 animals of 18 different species in China found that wild animals known to be consumed by humans, including raccoon dogs, carried 102 different viruses from 13 viral families 21 of which posted a high-risk to humans.

- It also added that raccoon dogs specifically carried four canine coronaviruses that were genetically similar to those found in humans.
- But this does not mean they are the natural reservoir for coronaviruses.
- Scientists believe there is a possibility the tested raccoon dogs, including those in the Wuhan market, might have picked up the virus from bats or another species.

Prelims Corner

1. With the present state of development, Artificial Intelligence can effectively do which of the following?

- (1) Bring down electricity consumption in industrial units
- (2) Create meaningful short stories and songs
- (3) Disease diagnosis
- (4) Text-to-speech conversion
- (5) Wireless transmission of electrical energy

Select the correct answer using the code given below:

- A. 1, 2, 3 and 5 only
- B. 1, 3, and 4 only
- C. 2, 4, and 5 only
- D. 1, 2, 3, 4 and 5

Answer (D)

Artificial Intelligence can effectively do all of the above things

2. Which of the following statements is not true with reference to International Criminal Court (ICC) ?

- A. Governed by an international treaty called ‘The Rome Statute’, the ICC is the world’s first permanent international criminal court.
- B. It investigates and, where warranted, tries individuals charged with the gravest crimes of concern to the international community: genocide, war crimes, crimes against humanity and the crime of aggression.
- C. India is not a party to Rome Statute along with US and Britain.
- D. ICC headquarters at The Hague, the Netherlands.

Answer (C)

United Kingdom signed the Rome Statute on 30 November 1998. United Kingdom deposited its instrument of ratification of the Rome Statute on 4 October 2001

The US is not a state party to the Rome Statute

3. Consider the following statements:

- 1. The McMahon Line was drawn during the Simla Convention of 1914, officially described as the Convention Between Great Britain, China, and Tibet.
- 2. The McMahon Line specifically represents the boundary between Arunachal Pradesh and Tibet, from Bhutan in the west to Myanmar in the east.

Which of the above statements is/are not true?

- A. Only 1
- B. Only 2
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer (D)

Both statements regarding McMahon Line are correct

4. Recently in news, “carbon bomb” is referred to:

- A. space ignition product

- B. pollution control technology
- C. a bomb used in Ukraine Russia war
- D. an oil or gas project

Answer (D)

Defining the term in its report, *The Guardian* said that it is “an oil or gas project that will result in at least a billion tonnes of CO₂ emissions over its lifetime.”

5. Which one of the following statements best reflects the idea behind the “Fractional Orbital Bombardment System” often talked about in media?
- A. A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space.
 - B. A spacecraft lands on another planet after making several orbital motions.
 - C. A missile is put into a stable orbit around the Earth and deorbits over a target on the Earth.
 - D. A spacecraft moves along a comet with the same speed and places a probe on its surface.

Answer (C)

A Fractional Orbital Bombardment System is a warhead delivery system that uses a low earth orbit towards its target destination. Just before reaching the target, it deorbits through a retrograde engine burn. The Soviet Union first developed FOBS as a nuclear-weapons delivery system in the 1960s



Mains Corner

- 1. What are Smart Cities? Examine their relevance in the urban development of India.(250 Words)**
- 2. What is Tuberculosis and discuss the global and Indian efforts to eliminate Tuberculosis. (250 Words)**
- 3. What is defamation? Discuss the process of the disqualification of a Member of Parliament on the grounds of defamation. (250 Words)**
- 4. How does Human Development Index (HDI) is calculated? Discuss How can HDI can be a tool to Improve access to quality social Services?. (250 Words)**
- 5. What is the difference between the International Criminal Court (ICC) and the International Court of Justice (ICJ) (250 Words)**

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