Factly Weekly

Compilation

2024

For UPSC CSE Prelims Exam

INDEX

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UPSC Syllabus: Science and technology

PC Emulator

Why in the news?

Recently, Apple approved a PC emulator for iOS for the first time, enabling users to run classic software, mainly games, on iOS, iPadOS, and visionOS. Earlier this year, Apple updated its App Store guidelines to permit retro game console emulators, mini-games, and HTML5 mini apps on iPhones.

About PC Emulator

1. A PC emulator is software that allows a computer device to emulate another software, enabling it to run and use software designed for previously incompatible devices.

2. Emulators allow software designed for one operating system, such as Windows, to run on another, like macOS, by emulating the design architecture of the original system.

3. They are commonly used to run applications across different operating systems, play video games from older consoles, and test software on various platforms.
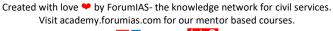
Legality of PC Emulators

1. Emulators are generally legal as long as they do not use proprietary codes, and their primary function is to enable the use of software designed for different platforms.

2. Sharing copyrighted ROMs online is illegal, even though the emulator itself might be legal.

3. Using an emulator is legal if the user owns the software they are emulating, but running pirated copies of software or distributing ROMs without ownership is illegal.

Risks Associated with Emulators

1. Using emulators from unofficial sources can be risky as they may contain malware that compromises system security.

2. Legal risks include violating licensing agreements or copyright laws, which can result in penalties and refusal of maintenance or technical support from the original software manufacturer.

3. Emulators can be resource-intensive, potentially leading to decreased CPU performance, overheating, and battery damage.

4. Poorly designed emulators may cause data corruption, crashes, or compatibility issues with the ROMs or software being used.

Legal Status of Emulators:

1. Emulators are typically not banned due to their utility in software testing and development, but their legal status depends on specific laws in each country and how they are used.

2. In India, emulators are legal, but their use must comply with copyright and intellectual property laws.

3. Using emulators to run software without proper licenses or ownership can lead to legal trouble, while distributing ROMs without ownership is problematic.

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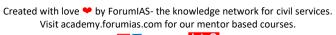| Aspects	Description
About	Rogue waves are exceptionally large and unexpected ocean waves that are significantly taller than the average waves surrounding them.
Features	i) Rogue waves are often at least twice the height of the typical waves in their vicinity. ii) These waves can form suddenly and without warning, making them extremely dangerous for ships, coastal structures, and offshore platforms.
Causes	i) They may occur when swells, which are long-wavelength waves generated by distant weather systems, converge and combine to create a much larger wave. ii) Rogue waves can also form when ocean currents interact with waves, compressing them into larger and more powerful waves.
Threats	i) Rogue waves pose a significant threat to maritime activities. They can damage or capsize ships, destroy coastal structures, and endanger human lives. ii) Between 2011 and 2018, rogue waves were responsible for the deaths of at least 386 people and the sinking of 24 ships.
Challenges	Predicting rogue waves has been difficult due to their sudden and unpredictable nature.

Rogue Waves

Why in the news?

University of Maryland mathematicians Thomas Breunung and Balakumar Balachandran have used data from 172 ocean buoys to train an AI program that can predict rogue waves up to five minutes in advance.

About Rogue Waves

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	them into larger and more powerful waves.
Threats	i) Rogue waves pose a significant threat to maritime activities. They can damage or capsize ships, destroy coastal structures, and endanger human lives. ii) Between 2011 and 2018, rogue waves were responsible for the deaths of at least 386 people and the sinking of 24 ships.
Challenges	Predicting rogue waves has been difficult due to their sudden and unpredictable nature.

Note: The sea state refers to the general condition of the ocean's surface at a particular time and location, often described by the height, period, and power of waves. Rogue waves deviate greatly from the average sea state, standing out due to their large size and sudden appearance.

Role of AI in Predicting Rogue Waves

1. Mathematicians Thomas Breunung and Balakumar Balachandran from the University of Maryland conducted the study.

2. They utilized data from 172 ocean buoys to gather information on wave patterns.

3. AI Training and Prediction: The AI was trained to identify patterns in waves that precede rogue waves. The AI can predict rogue waves up to five minutes in advance with an accuracy of 73-75%.

4. Future Improvements: Incorporating more data such as water depths, wind speeds, and buoy locations can enhance the accuracy of predictions. Using more powerful AI systems could potentially lead to near-perfect predictions.

Pralay Missile

Why in the news?

Armenia's reported interest in acquiring India's Pralay missile represents a significant opportunity for India.

About Pralay Missile:

Aspects	Description
About	1. 'Pralay' is a short-range, quasi-ballistic surface-to-surface missile with a range of 350-500 km. 2. It has a payload capacity of 500-1,000 kg and is powered by solid fuel.
Developed by	The missile has been developed by the Defence Research and Development Organisation (DRDO) to meet the country's defence requirements along the Line of Actual Control (LAC) and Line of Control (LoC).

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Key Features	i) The Pralay missile never leaves the atmosphere and follows a flat trajectory. ii) It is powered by a solid propellant rocket motor. iii) The missile navigates to its target using inertial guidance and can be controlled throughout its flight. iv) For terminal guidance, it features a radio frequency Digital Scene-Matching Area Correlation (DSMAC) seeker. v) The missile is equipped with an indigenously developed Fused Silica Radar Dome (RADOME).
Maneuverability and Stealth	1. The Pralay missile includes a jet vane system for thrust vector control, allowing it to perform evasive maneuvers in the terminal phase of flight. 2. The missile is designed with two sets of small fins to reduce its radar signature.
Warhead Options	The Pralay missile can be equipped with different types of warheads, including pre-fragmented (PF), monolithic penetration cum blast (PCB), and submunition penetration cum blast (PCB) warheads.

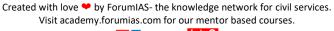## Brown Dwarfs

Why in the news?

Researchers have used the James Webb Space Telescope to conduct detailed examinations of the atmospheric conditions on pairs of brown dwarfs.

About Brown Dwarfs

i) Brown dwarfs are celestial bodies that are larger than a planet but smaller than a star. They have a size range between that of a giant planet like Jupiter and a small star.

ii) Brown dwarfs accumulate material in a manner similar to stars, not like planets.

iii) Brown dwarfs can have clouds made of precipitates in their atmospheres. Unlike Earth's water clouds, the clouds on brown dwarfs are much hotter and likely composed of hot silicate particles.

iv) Brown dwarfs retain lighter elements such as hydrogen and helium more effectively than planets, and they have a relatively low metal content.

v) Brown dwarfs do not have enough mass for their cores to burn nuclear fuel and radiate starlight, which is why they are sometimes referred to as "failed stars."

About James Webb Space Telescope

I) The James Webb Space Telescope was launched in 2021. It is a joint endeavor by the USA, European, and Canadian space agencies.

ii) It is a large infrared telescope with an approximately 6.5-meter primary mirror.

iii) Unlike the Hubble Space Telescope, it does not orbit Earth. Instead, it orbits the Sun, 5 million kilometers away from Earth, at the second Lagrange point (L2).

iv) The telescope is designed to see farther across the cosmos and further back in time than any previous astronomical tool. One of its key objectives is to find the very first stars that ignited in the nascent Universe.

Status of Garment sector in India

Why in the news?

Recently, Global Trade Research Initiative (GTRI) published its report.
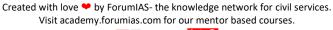**Status of Garment sector in India**

Figure 1.Source: TH

1. A report by the Global Trade Research Initiative (GTRI) highlights that India's garment export sector is struggling due to high duties, import barriers, and complex customs procedures.

2. In 2023-24, garment exports were $14.5 billion, down from $15 billion in 2013-14, while Vietnam and Bangladesh saw significant growth in their exports.
Key highlights of the report:

1. Comparative Decline: Vietnam's garment exports grew by 82% to $33.4 billion, and Bangladesh's by 70% to $43.8 billion, whereas India's exports decreased.

2. Import Restrictions: High duties and complicated import procedures for raw materials, especially synthetic fabrics, are major hurdles for Indian exporters.

3. Domestic Issues: Quality control orders for fabric imports have increased costs for exporters, forcing reliance on more expensive domestic supplies.

4. Procedural Complexity: Outdated customs and trade procedures require meticulous tracking of all imported materials, adding to exporters' burdens.

5. PLI Scheme Ineffective: The production-linked incentive (PLI) scheme for textiles, launched in 2021, has not attracted significant investment and needs revision.

6. Rising Imports: India's garment and textiles imports grew to nearly $9.2 billion in 2023, with further increases expected if export declines are not addressed.

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UPSC Syllabus: Reports and index

State of the World's Forests 2024

Why in the news?

The "State of the World's Forests 2024" report, released by the Food and Agriculture Organization (FAO). It provides a comprehensive analysis of global forest conditions and trends, revealing both positive developments and ongoing challenges.
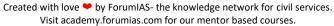**Key Highlights of the report**

1. The report highlights a decline in deforestation rates compared to previous decades. Several countries have shown significant improvements in forest conservation.

2. Forest Coverage: As of 2020, global forest coverage was approximately 4.1 billion hectares (ha), or 31 percent of the land area. Major contributors to global forest area include:

i) Russia, Brazil, Canada, the United States of America, and China are top five countries collectively accounting for 54 percent of the global forest area.

ii) Australia, the Democratic Republic of Congo, Indonesia, Peru, and India, among others, contributing to about two-thirds of the global forest area.

3. Deforestation Trends: Between 1990 and 2020, around 420 million hectares of forest were converted to other land uses. Deforestation rates decreased from 15.8 million hectares per year (1990-2002) to 10.2 million hectares per year (2015-2020).

4. Regional Deforestation Rates:

i) Africa: 4.41 million hectares

ii) South America: 2.95 million hectares

iii) Asia: 2.24 million hectares

5. Forest Area Gains: In 2020, ten countries recorded annual gains in forest area, including China, Australia, India, Chile, Viet Nam, Turkey, the United States of America, France, Italy, and Romania.

6. India ranked third globally in forest area gains, with an annual increase of 266,000 hectares from 2010-2020.

7. Mangrove Forests:

i) The global mangrove area was recorded at 14.8 million hectares, with South and Southeast Asia contributing almost 44 percent of the total.

ii) The rate of gross global mangrove loss decreased by 23 percent between 2000-2010 and 2010-2020, though the rate of gain in mangrove area also decreased slightly.

iii) Asia was a major contributor to both mangrove loss and gains.

8. Impact of Fires:

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i) An estimated 340-370 million hectares of the earth's land area are impacted by annual fires.

ii) Satellite data revealed that total fires in 2023 emitted 6,687 megatons of carbon dioxide globally, more than double the emissions from the European Union's fossil fuel consumption.

UPSC Syllabus: Indian Economy

Indexation

Why in the news?

The withdrawal of the indexation benefit in the long-term capital gains (LTCG) tax regime is one of the most contentious decisions announced.

About Indexation:

1. Indexation is the process of adjusting the original purchase price of an asset or investment to account for inflation.

2. Purpose: It helps to neutralize the impact of inflation, ensuring that the value of money remains consistent over time.

3. How Indexation Works:

i) Over time, inflation reduces the purchasing power of money. When an asset is sold or an investment is redeemed, inflation can affect the returns.

ii) Indexation calculates the cost of acquisition by factoring in inflation over the holding period. This adjusted cost is called the indexed cost of acquisition.

iii) Returns calculated using the indexed cost of acquisition are considered more realistic compared to absolute gains based on the original purchase price.

4. Benefits of Indexation:

i) Indexation helps in preventing the erosion of investment returns by reducing the amount of taxes paid on long-term investments.

ii) It is applicable to long-term investments, such as debt funds and other asset classes, ensuring the purchase price of investments is adjusted for inflation.

UPSC Syllabus: Indian Economy

Economic Survey 2023-24 highlights on Railway Safety and Signalling

Why in the news?

The economic Survey 2023-24 highlighted limited progress on Railway Safety Initiatives.

Key Points from Economic Survey 2023-24 on Railway Safety and Signalling:

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1. The Economic Survey 2023-24 emphasis on the slow deployment of the automatic train protection system, Kavach, and the upgrade of signaling systems.

2. Deployment of Kavach: Kavach is an automatic train protection (ATP) system which is deployed on 1,465 route km in the South-Central Railway. This accounts for only 2.14% of India's total railway network (68,426 route km) and 7,349 railway stations.

3. Mechanical to Electronic Signalling: Out of 17 operational railway zones in India, eight zones have transitioned from mechanical to electronic signalling.

4. By FY23, 2,981 stations (40% of 7,325 stations) had switched to electronic interlocking systems. In FY24, an additional 443 stations made the switch, increasing the total to 46% of stations with electronic interlocking.

5. Electronic Interlocking (EI) Systems: EI systems were introduced in India 12 years ago and have been implemented at 3,424 stations by March 31, 2024.

6. Automatic Block Signaling (ABS): ABS is a low-cost signaling solution that has been provided on 582 route km during FY24. As of March 31, 2024, ABS covers 4,431 route km, comprising 6.47% of the Indian Railways network.

7. Capital Expenditure (Capex) Deployment: Capex deployment in railways has increased by 77% over the past five years, amounting to ₹2.62 lakh crore in FY24. Significant investments were made in the construction of new lines, gauge conversion, and doubling of tracks.

Establishment of e-commerce export hubs

Why in the news?

Finance Minister Nirmala Sitharaman announced the establishment of e-commerce export hubs across the country in public-private partnership (PPP) mode during the Union Budget presentation.

These hubs will be modeled after successful Southeast Asian countries benefiting from e-commerce export growth.
Current Export Challenges

i) Indian goods exports are facing disruptions due to external shocks such as the Russia-Ukraine war, the Red Sea crisis, and container shortages stemming from US-China trade tensions.

ii) Indian goods exports declined by 5% last financial year.

MSMEs and Artisan Support:

i) The initiative aims to enable Micro, Small, and Medium Enterprises (MSMEs) and traditional artisans to sell their products in international markets.

ii) The hubs will offer a seamless regulatory and logistic framework to facilitate trade and export-related services under one roof.
Comparison with Other Countries

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i) While MSMEs and artisans in China, South Korea, Japan, and Vietnam have seen significant export growth through e-commerce, India's e-commerce exports stand at $5 billion, a small fraction of its total goods exports of $450 billion.

ii) In contrast, China's e-commerce exports have surpassed $300 billion.
Policy Enhancements

i) The Commerce and Industry Ministry's Foreign Trade Policy (FTP) increased the consignment-wise cap on e-commerce exports through courier from ₹5 lakh to ₹10 lakh.

ii) The ministry projects e-commerce export potential of $200 to $300 billion by 2030.
Industry Potential

i) India's e-commerce industry is dominated by small businesses exporting items valued between $25 and $1,000, including handicrafts, art, books, ready-made garments, gems, and jewellery.

ii) According to the Global Trade Research Initiative (GTRI), this segment has the potential to grow faster than IT exports did in the early 2000s.
Need for Separate E-Commerce Export Policy

i) Current e-commerce export provisions in India are a patchwork of rules designed for regular B2B exporters, creating compliance burdens for small firms.

ii) The GTRI report recommends a separate e-commerce export policy to address these issues comprehensively.
Southeast Asia's E-Commerce Growth

i) McKinsey & Company reported that Southeast Asia's e-commerce market has accelerated since the mid-2010s, further propelled by the COVID-19 pandemic.

ii) From 2016 to 2021, the total value of e-commerce sales in Southeast Asia grew fivefold, or 40% annually, with e-commerce's share of all retail sales surging from 5% to 20%.
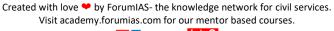
Angel Tax

Why in the news?

Recently, the Union Minister for Finance proposed to abolish the 'angel tax' for all classes of investors while presenting the Union Budget 2024-25 in Parliament.
About Angel Tax

1. Angel tax was levied on the capital raised via the issue of shares by unlisted companies from an Indian investor if the share price of issued shares exceeded the fair market value of the company.

2. The excess funds raised at prices above fair value were treated as income, on which tax was levied.

3. The tax derives its genesis from section 56(2) (viib) of the Income Tax Act, 1961. It was first introduced in 2012 to prevent black money laundering through share sales.

4. It was levied at a rate of 30.9% on net investments in excess of the fair market value.

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5. Exemptions for Startups (Announced in 2019)

i) Eligible Startups: Startups should be recognized by the Department for Promotion of Industry and Internal Trade (DPIIT) as eligible startups.

ii) Capital Limit: The aggregate amount of paid-up share capital and share premium of the startup cannot be more than ₹25 crores. This amount does not include money raised from Non-Resident Indians (NRIs), Venture Capital Firms, and specified companies.

6. Angel Investors: For angel investors, the amount of investment that exceeds the fair market value could be claimed for a 100% tax exemption. The investor must have a net worth of ₹2 crores or an income of more than ₹25 lakh in the past 3 fiscal years.

Climate Finance Taxonomy
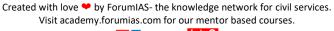
Why in the news?

The Union Budget for 2024-25 included an announcement by the finance minister about developing a 'climate finance taxonomy' in India.

About Climate Finance Taxonomy:

1. About: It is a system that classifies which parts of the economy can be marketed as sustainable investments.

2. Purpose: To guides investors and banks in channeling funds toward impactful investments to combat climate change.

3. Uses: To sets standards for climate-related financial instruments (like green bonds) and serves in climate risk management, net-zero transition planning, and climate disclosure.

4. Global Examples: Countries like South Africa, Colombia, South Korea, Thailand, Singapore, Canada, Mexico, and the European Union have developed their own taxonomies.

5. Significance:

i) Net-Zero Economy: It helps countries transition to a net-zero economy, balancing the production and removal of greenhouse gases (GHG).

ii) Alignment with Science: It ensures economic activities align with credible, science-based transition pathways.

iii) Climate Capital Deployment: It encourages the flow of funds toward climate adaptation and mitigation.

iv) Greenwashing Prevention: It reduces the risk of misleading claims about environmental benefits (greenwashing).

v) Capital Availability: It increases capital for climate initiatives, aiding India in meeting its climate commitments and green transition goals.

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UPSC Syllabus: Environment

Saffron Crop

Why in the news?

Due to erratic weather, many farmers in Kashmir are shifting from growing saffron to cultivating apple orchards or mustard crops.

About Saffron

Source: Healthybenifitstimes

Aspects	Description
Description	1. Saffron is a highly valuable spice known as "Red Gold" or "Golden Condiment." 2. The part used commercially is the stigma, which is the female part of the flower, also called saffron filament, thread, or stigmata. 3. Saffron plants grow from underground bulbs called corms. They regenerate through vegetative multiplication.
Key Compounds	It contains crocin, picrocrocin, and saffranal, which are important for medicinal and aesthetic uses.
Distribution	1. Saffron originally comes from Greece and Asia Minor. 2. It is now grown in Europe (Italy, France, Spain), China, and India. 3. Around 90% of India's saffron is produced in Kashmir, where it has been

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	grown for centuries.
Required Climatic Conditions	1. It grows best at elevations of 1,500-2,000 meters above sea level. 2. It requires temperatures between 35°C to 40°C in summer and 15°C to -20°C in winter. 3. It is suitable for dry, moderate, and continental climates.
Soil Requirements	It thrives in loamy, sandy, and calcareous soils and prefers acidic soil with a pH between 5.5 and 8.5.

National Mission for Cultural Mapping

Why in the news?

The Government of India under the Ministry of Culture has initiated the National Mission on Cultural Mapping (NMCM).

About National Mission for Cultural Mapping

Aspects	Description
About	i) The National Mission for Cultural Mapping was launched in 2017. ii) It was initiated by the Union Ministry of Culture.
Aim	The mission aims to develop a comprehensive database of art forms, artists, and other cultural resources across India.
Village Documentation and Categories	i) The government has identified and documented distinctive features of over one lakh villages across the country. ii) Villages are broadly divided into seven to eight categories based on mythological, ecological, developmental, and scholastic importance.
Budget	In 2017, the Culture Ministry approved a budget of ₹469 crores for the mission, intended to be used over a period of three years.
Field Surveys	Detailed field surveys were conducted by joint teams from the Culture Ministry and the Common Services Centres (CSC), which operate under the Ministry of Electronics and Information Technology.

UPSC Syllabus: Art & Culture

Vishnupad and Mahabodhi Temple

Why in the news?

Recently, the finance minister announced during her Union Budget speech that corridor projects will be built for the Vishnupad Temple in Gaya and the Mahabodhi Temple in Bodh Gaya, both located in Bihar.

About Vishnupad Temple

1. **Location:** The Vishnupad Temple is situated in Bihar, on the banks of the Falgu River. It is dedicated to Lord Vishnu.

2. The temple was built in 1787 on the orders of Queen Ahilyabai Holkar of Ahmadnagar.

3. Architecturally, the temple is around 100 feet tall and has 44 pillars.

4. **Cultural Significance:** Devotees visit the temple during Pitra Paksh, a period in the Hindu calendar when people take part in rituals to remember their ancestors.
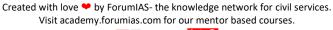
About Mahabodhi Temple

1. Location: The Mahabodhi Temple is located in Bodh Gaya, central Bihar, on the banks of the Niranjana River.
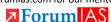
2. Historical Background:

i) The temple stands to the east of the Mahabodhi Tree, where Gautam Buddha is believed to have attained nirvana.

ii) The Mahabodhi Temple Complex was first built by Emperor Asoka in the 3rd century B.C. The present temple dates back to the 5th–6th centuries.

3. Architecture:

i) The temple has a unique shape and a height of 170 feet.

ii) It is one of the earliest Buddhist temples built entirely in brick from the late Gupta period.

iii) This temple is considered to have had significant influence on the development of brick architecture over the centuries.

4. The Mahabodhi Temple was recognized as a UNESCO World Heritage Site in 2002.

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UPSC Syllabus: Art and architecture

Sangameswara Temple

Why in the news?

The Sangameswara Temple has recently submerged in the backwaters of the Srisailam project in Nandyal district following heavy inflow from the Krishna River.

About Sangameswara Temple

1. Location: It is situated in Nandyal district, Andhra Pradesh. It is positioned on the banks of the Krishna River.

2. Historical Significance:

i) It is dedicated to Lord Shiva. It was originally built in 740 AD by Chalukya ruler Pulakesi II.

ii) Initially located at the confluence of the Tungabhadra and Krishna Rivers, 10 km from its current site.

iii)The temple was dismantled and reassembled rock-by-rock at its present location in 1979 due to submergence caused by the Srisailam Dam construction.

3. Features:

i) Architectural Style: It is built in the Nagara style. It has elevated platform with a fortified wall surrounding the temple.

ii) Structure: It has a large hall supported by 12 pillars leading to the sanctum. It has also a circumambulatory path around the sanctum for performing pradakshinas (ritual circumambulation). The ceiling features a large relief of Nagaraja, characteristic of Chalukya temples.

iii) Pillars in the hall are adorned with intricate engravings of Lord Vishnu, Brahma, Kumaraswamy, and celestial couples. Each corner of the temple features carvings of crocodiles.

UPSC Syllabus: Art and culture

National Mission for Manuscripts

Why in the news?

The National Mission for Manuscripts aims to document, conserve, digitize, and disseminate India's manuscript heritage.

About National Mission for Manuscripts

1. The National Mission for Manuscripts (NMM) is an autonomous body under the Culture Ministry.

2. It was launched in 2003.

3. NMM's mandate includes identifying, documenting, conserving, and making accessible India's manuscript heritage.

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4. The manuscripts encompass a variety of themes, textures, aesthetics, scripts, languages, calligraphies, illuminations, and illustrations.

5. NMM's motto is 'conserving the past for the future'.

6. Approximately 75% of existing manuscripts are in Sanskrit, while 25% are in regional languages.

7. NMM has digitised 3.3 lakh manuscripts, containing about 3.1 crore folios. Over 1.18 lakh manuscripts have been uploaded, but only about 70,000 are available online for public access.

8. The mission has documented approximately 5.2 million manuscripts across India. The mission has conserved 90 million folios of manuscripts. The mission has digitized 3.5 lakh manuscripts, amounting to 3.5 crore pages.

9. The mission has uploaded 1.4 lakh manuscripts on its web portal, out of which 75,000 manuscripts are available online for free access to researchers and the public. The mission has conducted over 100 conservation workshops.

10. The mission has published more than 100 books since its inception, with the list of these publications available in Annexure-I. The mission has established over 100 Manuscripts Resource Centres and Manuscripts Conservation Centres across India.

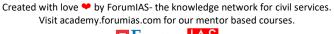# SC decision on Bail

Why in the news?

The Supreme Court has emphasized that the seriousness of charges alone is not a sufficient ground to deny bail to undertrials. Courts must avoid imposing arbitrary and unreasonable bail conditions.
Key Judgments:

i) Personal Liberty vs. Serious Charges: The court upheld the importance of an individual's personal liberty over the state's argument against easy bail for serious crimes.

ii) Balance of Factors: The seriousness of charges must be balanced with other factors such as the period of custody and the expected duration for trial completion.

iii) Right to Speedy Trial: The undertrial's fundamental right to a speedy trial must be respected.

iv) Prosecution Responsibility: The prosecution must ensure that trials for serious offenses are concluded expeditiously.

Related Judgments: On July 3, the same Bench ruled that the state should not oppose bail if it cannot ensure a speedy trial. This ruling was in response to an appeal by Javed Gulam Nabi Shaikh, who was denied bail in a UAPA case by the Bombay High Court.

Constitutional Rights: The Bench reinforced that Article 21 of the Constitution, which ensures the right to personal liberty, applies regardless of the nature of the crime.

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UPSC Syllabus: Polity and nation

Money bill and Finance bill

Why in the news?

The Chief Justice of India (CJI) has agreed to list petitions before Constitution Benches that challenge the use of the money Bill route by the Centre to pass certain laws and amendments.

About Money Bills:

1) It is defined by Article 110(1)(a) to (f) of the Constitution.

2) It deals exclusively with financial matters like taxation, government borrowing, and the Consolidated Fund. It includes bills like the Finance Act and the Appropriation Act.

3) It can only be introduced in the Lok Sabha. It is certified as money Bills by the Speaker of the Lok Sabha.

4) What Exactly is a Money Bill? A bill that deals 'only' with matters related to:
i. Taxation
ii. Government borrowing
iii. Consolidated Fund or Contingency Fund operations
iv Appropriation of funds
v. Expenditure charged on the Consolidated Fund
vi. Receipts or audit of accounts of the Union or States
Note: Incidental matters related to these six topics can also classify a bill as a money Bill.
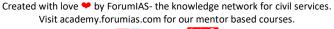
5) Procedure for a Money Bill:

i) Money bill is introduced only in the Lok Sabha.

ii) Approval Process: After passing in the Lok Sabha, the Rajya Sabha has 14 days to make recommendations. The Lok Sabha may accept or reject these recommendations.
Issues and Controversies

i) Certification by Speaker: The Speaker's certification of a bill as a money Bill has been contested.

ii) The **Aadhaar Act (2016) and Finance Act (2017)** faced judicial scrutiny for their classification as money Bills. In the Aadhaar case, the Supreme Court upheld the classification 4:1, with the current CJI dissenting.

iii) The Finance Act amendments were struck down in Rojer Mathew vs South Indian Bank (2019) due to improper classification as a money Bill.
Way Forward

i) The need for a seven-judge Bench to give an authoritative judgment on the definition of money Bills.

ii) Speakers should strictly adhere to the definition of money Bills to uphold their spirit during certification.

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No Pollution Control Permits for 'White Category' Sectors

Why in the news?

The Ministry of Environment has issued draft notifications proposing the removal of certain pollution control permits for 'white category' industries. These industries are considered practically non-polluting and include projects like wind and solar power, air cooler assembly, and bicycle assembly.

Key Changes:

1) Consent to Establish (CTE) and Consent to Operate (CTO): These permits, previously required under the Air Act, 1981, and Water Act, 1974, are used to regulate industries discharging effluents or emitting pollutants. The Ministry proposes to eliminate the CTE permit for projects needing prior environmental clearance (EC). Conditions of CTE might be merged with the environmental clearance granted by the Ministry.

2) Impact on Industries:

i) Industries in the 'white category' are defined by a Pollution Index (PI) score of up to 20. These industries are exempt from the requirements of CTE and CTO permits.

ii) Sectors that fall under this category include wind and solar power projects, air cooler assembly, and bicycle assembly.

iii) The Ministry of Environment has issued two draft notifications under the Air Act, 1981, and Water Act, 1974. The public is invited to submit comments and objections on these notifications within 60 days of their issuance.

iv) Industries that are exempt from the CTE and CTO permits must inform the state pollution control boards about their operations through self-declarations, as stated in the draft notifications.

Note: The permissions officially known as 'consent to establish' (CTE) and 'consent to operate' (CTO) are granted to regulate industries that discharge effluents or emit pollutants into the environment.

v) The CTE permit is required before construction activities commence, and the CTO permit is required before operations begin. These permits ensure adherence to pollution norms by imposing standard or specific conditions.

UPSC Syllabus: Governance

National Culture Fund

Why in the news?

The Union Minister for Culture, Tourism, and Development recently informed the Lok Sabha that the National Culture Fund (NCF) has received ₹3.70 crore from non-government sources over the past five years.
About the National Culture Fund

1. The National Culture Fund was established by the Government of India as a Trust under the Charitable Endowment Act of 1890 and was officially set up through a Gazette Notification in 1996.

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2. It was created to provide a new funding mechanism for the arts and culture in India, distinct from traditional funding sources. This allows institutions and individuals to directly support arts and culture projects in partnership with the government.

3. The primary aim of the NCF is to mobilize additional resources through Public-Private Partnerships (PPP) to promote, protect, and preserve India's cultural heritage, both tangible (physical artifacts) and intangible (cultural practices and traditions).

4. Donations made to the National Culture Fund are eligible for tax benefits under the Income Tax Act.

5. Management and Administration:

i) The NCF is managed by a Council and an Executive Committee to implement its policies.

ii) The Council is chaired by the Union Minister of Culture and includes up to 24 members, including the Chairperson and Member Secretary.

iii) This Council has representatives from the corporate sector, public sector, private foundations, and non-profit organizations to ensure diverse input in decision-making.

iv) The Executive Committee, chaired by the Secretary of the Ministry of Culture, oversees the administration of the NCF.

UPSC Syllabus: Polity & Governance

NCERT Proposes 10 'Bagless Days' for Students

Why in the news?

The National Council of Educational Research and Training (NCERT) has introduced a new initiative for students in Classes 6 to 8.
About Bagless Days

1. Bagless days are special days when students don't carry their usual school bags.

2. Purpose: These days are meant to give students a break from regular classes and textbooks.

3. What Happens on Bagless Days?

i) Learning from Experts: Students will participate in activities led by local vocational experts. These experts will include Carpenters, Gardeners, Potters, Artists.

ii) Teachers will organize these activities to help students learn new skills and understand different jobs.

4. Why Are Bagless Days Important?

i) They provide students with a chance to experience and learn about the world outside the classroom.

ii) Students will engage in practical activities, which helps them see how theoretical knowledge applies in real life.

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iii) These days help students learn about their community and how different jobs contribute to it.

5. Curriculum Themes: The activities during bagless days are divided into three main themes:

i) Science, Environment, and Technology exploring aspects of these fields.

ii) Understanding how local businesses and public offices operate.

iii) Learning about local culture, art, and historical practices.

UPSC Syllabus: Schemes and programmes

One DAE One Subscription

Why in the news?

Recently, Department of Atomic Energy Launches 'One DAE One Subscription' (ODOS).
About One DAE One Subscription
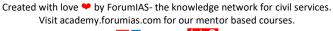
1. About: The ODOS initiative was inaugurated on July 29, 2024, at Tata Memorial Hospital in Mumbai.

2. Purpose: ODOS is designed to give the Department of Atomic Energy (DAE) and all its units (around 60) access to national and international research papers and scientific journals under one subscription.
Key Features of ODOS:

1. Unified Access: ODOS will allow DAE and its units to read and publish research papers and journals from a variety of sources.

2. Digital Resource Sharing: The initiative aims to share resources digitally and work collectively across all units.
Benefits of ODOS

1. Wiley Agreement provides access to 1,353 Wiley journals, a significant increase from the 166 journals previously accessible. It includes perpetual rights for 2024 and covers Article Processing Charges (APC) for publishing.

2. Springer Agreement offers access to 2,686 Springer Nature titles, including 553 fully open-access journals. It provides perpetual rights for 2024, access to archives from 1997 (Springer) and 2012 (Nature), and allows publication of 281 articles in Springer Hybrid journals as open access without APC.
Impact of ODOS

i) Enhanced Access: ODOS will improve access to a wide range of scientific publications and support research activities.

ii)Boosting Innovation: The initiative is expected to foster scientific research, innovation, and higher-quality academic publications.

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PARAKH 'equivalence' report

Why in the news?

In accordance with the National Education Policy (NEP) 2020, PARAKH has presented an 'equivalence' report to the Ministry of Education.

About the Report

1. PARAKH is a standard-setting body under the National Council of Educational Research and Training (NCERT), recently submitted an 'equivalence' report to the Ministry of Education.

2. **Purpose:** This report aims to achieve equivalence across the 69 school boards in India as outlined in the National Education Policy (NEP) 2020.

What is Equivalence?

1. Different school boards in India have varying curriculums, examinations, and administrative structures, leading to discrepancies in perceived quality.

2. **Goal:** Equivalence means ensuring that all students, regardless of which board their school is affiliated with, receive a standardized level of education and facilities.

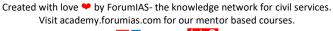**Key Recommendations from PARAKH**

1. Assessment and Evaluation:

i) The final Class 12 results will be based on a cumulative score, where Class 9 contributes 15%, Class 10 contributes 20%, Class 11 contributes 25%, and Class 12 contributes 40%.

ii) Introduce a credit-based system for assessments, including online courses and holistic evaluations such as self-assessments, teacher feedback, and peer reviews.

iii) Establish a cadre of trained teachers to ensure standardization in exam question papers.

iv) Develop a question bank for Classes 9 and 11 and create blueprints for exam papers for Classes 10 and 12.

2. Administrative Improvements

i) Update affiliation guidelines and ensure periodic reviews of affiliated schools, with affiliations valid for up to three years.

ii) Empower boards to recognize schools and take action against unrecognized institutions.

iii) Develop mechanisms to prevent cheating and handle exam papers securely.

3. Curriculum and Infrastructure

i) Integrate digital literacy, including coding and cybersecurity, into the curriculum and follow the National Curriculum Framework.

ii) Ensure all schools have essential facilities like toilets, internet access, libraries, strongrooms for exam papers, and ramps or elevators.

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Pradhan Mantri Janjatiya Unnat Gram Abhiyan

Why in the news?

The government will launch the Pradhan Mantri Janjatiya Unnat Gram Abhiyan to enhance the socio-economic conditions of tribal communities.

About Pradhan Mantri Janjatiya Unnat Gram Abhiyan

Figure 2.Source-The Indian Express

Aim- To provide saturation coverage for tribal families in tribal-majority villages and aspirational districts, covering 63,000 villages and benefiting 5 crore tribal people.

Other Important Tribal Welfare schemes of the Central Government

1) The Eklavya Model Residential Schools (EMRS), established to provide quality education to ST students in residential schools, were allocated Rs 6,399 crore, a rise of Rs 456 crore over last year's allocation.

2) The PM Janjatiya Vikas Mission (PMJVM), aimed at promoting livelihoods and entrepreneurship among ST communities, had its budget reduced by Rs 136.17 crore in this Budget.

3)The PM DAKSH scheme, focusing on skill development for SC and ST communities, saw its budget increase from Rs 92.47 crore to Rs 130 crore.

Read More-PM JANMAN

Vatsalya Scheme

Why in the news?

In the recent Union Budget 2024-25, the Finance & Corporate Affairs Minister introduced a new pension scheme named 'Vatsalya' for minors.

About Vatsalya Scheme

Description– This scheme, part of the National Pension Scheme (NPS), aims to assist parents and guardians in preparing for their children's future financial requirements.

Key Features-

A) Parents or guardians can open an account for their minor children and contribute towards their retirement savings, which will accumulate until the child reaches 18 years old.

B) Once the child reaches adulthood, the accumulated amount will be transferred to the standard NPS account.

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C) On attaining the age of majority, the plan can be converted seamlessly into a normal NPS account.

D) It operates similarly to the existing NPS, which helps individuals build a retirement corpus by making regular contributions throughout their careers.

E) NPS contributions are invested in market-linked instruments like stocks and bonds. This offers the potential for higher returns than traditional fixed-income choices.

Significance of Vatsalya Scheme

1) It sets the foundation for responsible financial management from an early age.

2) As these accounts transition into regular NPS plans when the child reaches adulthood, they ensure a smooth continuation of saving habits into adulthood.

Read More-Old Pension Scheme(OPS) vs National Pension System(NPS)

Exercise KHAAN QUEST

Why in the news?

Recently, the Indian Army contingent has departed for Exercise KHAAN QUEST.

About Exercise KHAAN QUEST

PIB

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Aspects	Description
About	1. This exercise is a multinational military exercise. 2. It will take place from 27th July to 9th August 2024 at Ulaanbaatar, Mongolia. 3. It began as a bilateral event between the USA and Mongolian Armed Forces in 2003 and expanded to become a Multinational Peacekeeping Exercise in 2006. 4. The current edition is the 21st iteration of the exercise.
Purpose	To bring together military forces worldwide to collaborate and enhance their peacekeeping capabilities.
Partcipants	It includes 40 personnel mainly from a Battalion of the MADRAS REGIMENT, along with personnel from other Arms and Services including one Woman Officer and two Women Soldiers.
Aim	1. To prepare Indian Armed Forces for peacekeeping missions in a multinational environment. 2. To increase interoperability and military readiness in peace support operations under Chapter VII of the United Nations Charter.
Activities	1. The exercise will involve practicing tactical drills such as establishing static and mobile checkpoints, and conducting cordon and search operations. 2. This exercise aims to enhance interoperability, foster camaraderie, and build strong relationships among soldiers from the participating countries.

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