



**UPSC
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DAILY CURRENT AFFAIRS

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SOURCES



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GS I

1. Why has H.P. raised the marriageable age for women?

Source: The Hindu

Context: The Himachal Pradesh Assembly passed a Bill to raise the minimum marriage age for women from 18 to 21 years.

Himachal Pradesh's Prohibition of Child Marriage (Amendment) Bill, 2024

Key Provisions of the Bill

- **Minimum Marriageable Age:**
 - **Current Act:** Defines a "child" as a female under 18 years and a male under 21 years.
 - **Bill:** Redefines a "child" as anyone under 21 years, regardless of gender.
- **Petition for Annulment:**
 - **Current Act:** Allows annulment petitions within two years of attaining majority (before turning 20 for women and 23 for men).
 - **Bill:** Extends the petition period to five years, allowing petitions before turning 23 for both genders.
- **Supersession Clause:**
 - The Bill includes a provision stating that its provisions will take precedence over existing laws.

Implications

- **Gender Equality:** The Bill aims to promote gender equality by raising the minimum marriage age for women.
- **Legal and Social Impact:** The Bill could affect legal frameworks and social practices related to marriage and child protection.

Hindu Marriage Act, 1955 (HMA Act)

- The **Hindu Marriage Act, 1955**, governs marriage laws for Hindus in India, covering aspects such as ceremonies, registration, and divorce.

Key Features

- **Applicability:** Applies to Hindus by birth or conversion, and also includes Buddhists, Jains, and Sikhs.
- **Marriageable Age:**
 - **Groom:** Minimum 21 years.
 - **Bride:** Minimum 18 years.
 - Marriage of minors is punishable with imprisonment up to 3 years and/or a fine up to ₹1 lakh.
- **Ceremonial Requirements:**
 - Emphasises the importance of customary practices and rituals, such as Saptapadi (seven steps before the holy fire).
 - Marriage ceremonies are respected but subject to customs.
- **Bigamy:**
 - Prohibits bigamy (having more than one spouse) and polyandry.



- Section 5 makes it illegal to have more than one spouse while the previous spouse is alive.
- Offences are punishable under Sections 494 and 495 of the Indian Penal Code, 1860.
- **Mental Fitness:**
 - Marriage is deemed null and void if either party is mentally unfit.
 - Legal consent is required if mental fitness is in question.
- **Registration:**
 - Registration requirements vary by state but lack of an official certificate does not invalidate a marriage.
- **Divorce:**
 - Allows for divorce by mutual consent, though parties cannot file for divorce within 1 year of marriage.
 - Special circumstances may allow for divorce before 1 year if exceptional hardship is proven.
 - Provides grounds for divorce, including specific grounds for wives to seek divorce.
- **Restitution of Conjugal Rights:**
 - Unique provision allows a spouse to seek a court order to restore marital relations if the other spouse leaves without a reasonable excuse.
- **Legal Procedures:**
 - Matters related to Hindu marriages and divorce are handled in family courts.
 - Jurisdiction includes the place where the marriage was celebrated, where one party resides, or where the couple last lived together.

2.PM Modi extends greetings on occasion of Teachers Day

Source: PIB

Context: The Prime Minister also paid tribute to former President Sarvepalli Radhakrishnan on his birth anniversary.

Sarvepalli Radhakrishnan:

- Born into a Telugu family in Tiruttani, Tamil Nadu.
- Inspired by Vedanta's Ethics and Metaphysical Presuppositions.

Metaphysics

- **Reality is Brahman:** spiritual, transcendent, and absolute.
- **Spiritual:** Not material.
- **Transcendental:** Beyond the world.
- **Absolute:** Pure consciousness and freedom with infinite possibilities.

Epistemology

- **Sense Experience:** Knowledge of external world characteristics.
- **Intellectual Cognition:** Analysis and synthesis of perception; indirect and symbolic knowledge.
- **Intuitive Apprehension:** Higher knowing by becoming one with the known (e.g., feeling anger to understand it).

Intuition

- Expresses in action and social relations.
- Represents the ultimate form of experience and realisation of Brahman.



- Merges thought and reality creatively.

Universality of Outlook

- Belief in the basic oneness of humanity; all are identical with Brahman.

Religion

- Personal, intuitive experience revealing the nature of reality.
- Spiritual life as a culmination of intellectual, moral, and aesthetic activity.
- Religion is universal, linked to justice and charity.

Hindu Ethics

- **Purusharthas:** Four supreme ends of human craving:
 - **Kama:** Parental and sexual instincts.
 - **Artha:** Desire for power and wealth.
 - **Dharma:** Desire for social harmony.
 - **Moksha:** Union with the unseen.
- Unity in life through cooperation of the four ends.

Freedom

- **Psychological Freedom:** Acting as one desires.
- **Moral Freedom:** Choosing with knowledge and volition, acknowledging potential errors.
- **Spiritual Freedom:** Integral liberation; inward peace, grace, and love.

Education

- Aims to develop the ethical human with fully developed capacities.
- True education involves seeing and applying the truth.

Social and Political Philosophy

- All humans have equal worth and fundamental rights.
- Support for democratic governance; minimal state intervention.

Economics

- Advocates for social and economic justice.
- Opposed to both communism and capitalism.
- Supports an international state with harmonious differences.



GS II

3. Sub-classification verdict through Ambedkar's ideals

Source: The Hindu

Context: The Supreme Court's judgement in The State of Punjab vs Davinder Singh addresses sub-classification within Scheduled Caste (SC) reservations, emphasizing the need for equitable distribution of opportunities among SCs, aligning with Dr. B.R. Ambedkar's vision of social justice.

Sub-Classification and Social Justice:

- The judgement acknowledges that not all SC communities experience equal levels of discrimination and deprivation.
- By allowing sub-classification, it aims to ensure that the most marginalised Dalit sub-groups receive proportional benefits from reservation policies, a step toward a more inclusive and just distribution of opportunities.

Ambedkar's Ideals:

- Dr. B.R. Ambedkar fought throughout his life for the upliftment of Dalits, highlighting the existence of graded inequality within the caste system.
- The Supreme Court's decision reflects Ambedkar's vision by addressing the internal divisions within SCs and promoting equitable distribution among Dalit communities.
- It aligns with his call for fraternity and mutual respect within marginalized groups.

Social Jurisprudence and Historical Context:

Historical Struggles:

- Ambedkar's movements, such as the **Mahad Satyagraha** and the **Kalaram Temple Entry movement**, showcased the ritual discrimination Dalits faced.
- His response expressed in his 1944 Scheduled Castes Conference speech, underlined the need for unity and the elimination of internal divisions.

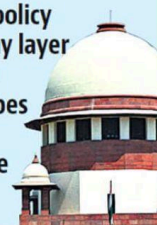
Sub-Categorization Movements:

Court on creamy layer

EXCLUSION FROM QUOTA

- Justice BR Gavai, in a judgment supported by CJI DY Chandrachud and 4 other judges, called for excluding creamy layer from SC/ST quota.
- Creamy layer currently only applies to OBCs. The concurring judgment called upon govt to extend the concept to SC/STs.

The State must evolve a policy for identifying the creamy layer even from the Scheduled Castes and Scheduled Tribes so as exclude them from the benefit of affirmative action."



LIMITING BENEFITS

Justice Pankaj Mithal held in his judgment that reservation benefits should be extended to only one generation in a category.

"Reservation should be meant for only the first generation among a category and if the second generation has come up then benefits of reservation shall not be given."



- Movements such as the **Madiga Dandora in South India** and the **Valmiki and Musahar struggles in North India** have long demanded sub-categorization within SCs.

Challenges and Criticisms:

Internal Divisions:

- Some dominant Dalit groups fear sub-classification may fragment the community and weaken unity, but proponents argue it addresses the distinct needs of SC sub-groups, reflecting existing divisions.

Creamy Layer Debate:

- The judgement sparked debate on applying the creamy layer in SC reservations. Critics oppose it, but Ambedkarite thought supports addressing privilege within marginalised groups to benefit the most deprived.



GS III

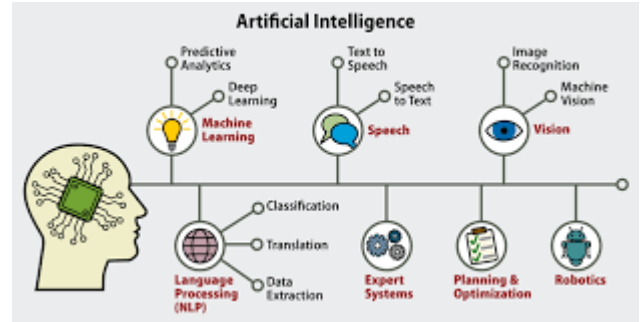
4. Latest ILO study links AI to dip in labour income

Source: The Hindu

Context: The ILO's September 2024 update reports rising inequality due to stagnant labour income and high youth unemployment and disengagement worldwide.

Artificial Intelligence (AI): Overview and Key Points

- **Definition:**
 - AI involves machines performing tasks that typically require human intelligence.
 - Components include:
 - **Machine Learning (ML):** Algorithms trained on data to identify patterns.
 - **Neural Networks:** Structures mimicking the human brain's neural connections.
 - **Natural Language Processing (NLP):** Understanding and processing human language.
- **How AI Works:**
 - **Data Acquisition:** Gathering and preprocessing data.
 - **Feature Extraction:** Identifying relevant data features.
 - **Algorithm Selection and Training:** Using ML, deep learning, or rule-based approaches to learn patterns.
 - **Model Evaluation and Optimization:** Testing and refining models for accuracy.
 - **Deployment:** Using trained models to make predictions or decisions.
 - **Continuous Learning:** Improving performance through exposure to more data and feedback.
- **Applications of AI:**
 - **E-commerce:** Personal recommendations, fraud detection, chatbots.
 - **Education:** Adaptive learning, personalised plans, intelligent tutoring.
 - **Robotics:** Automation, inspection, assembly.
 - **Healthcare:** Diagnosis, drug discovery, patient monitoring.
 - **Social Media:** Content moderation, recommendation systems, sentiment analysis.
 - **Agriculture:** Precision farming, crop monitoring, yield prediction.
 - **Manufacturing:** Quality control, predictive maintenance, robotics.
 - **Finance:** Fraud detection, risk assessment, investment management.
 - **Transportation:** Self-driving cars, traffic management, route optimization.
 - **Environment:** Climate modelling, pollution monitoring, renewable energy management.
- **Examples in Daily Life:**
 - **Chatbots:** ChatGPT, Copilot.
 - **Smart Assistants:** Siri, Alexa, Cortana.
 - **Recommendation Algorithms:** Google search, Netflix.
 - **Face Recognition:** FaceID, security cameras.
 - **Navigation Apps:** Google Maps, Waze.



- **Social Media Algorithms:** Instagram, Facebook, Twitter.
- **Ridesharing Apps:** Uber, Ola.
- **Advantages of AI:**
 - **Productivity Boost:** Automation of tasks reduces human effort and time.
 - **Improved Decision-Making:** Data analysis identifies patterns and insights.
 - **Task Automation:** Handles repetitive tasks with high accuracy.
 - **Consistent Outcomes:** Follows defined rules for consistency.
 - **New Frontiers:** Enables breakthroughs in healthcare, research, and education.
- **Disadvantages of AI:**
 - **Job Loss:** Automation can lead to displacement, especially in routine tasks.
 - **Ethical Concerns:** AI can perpetuate biases from training data.
 - **Potential Misuse:** Technologies can be misused for privacy breaches or cyber-attacks.
 - **Data Dependence:** Requires large, high-quality datasets.
 - **Lack of Human Traits:** Lacks qualities like creativity and empathy.
 - **High Costs:** Development and implementation can be resource-intensive.
 - **Interpretability Challenges:** Complex models can be opaque and hard to understand.

5. How navigation satellite-based tolling, live monitoring of plazas can lower wait times

Source: The Indian Express

Context: The Ministry of Road Transport & Highways (MoRTH) is set to introduce a Global Navigation Satellite System (GNSS)-based Electronic Toll Collection (ETC) system to reduce traffic congestion at toll plazas, coupled with GIS-based real-time monitoring.

GNSS-Based Toll Collection:

- The GNSS system replaces FASTag with distance-based tolling, allowing drivers to pay for the exact distance travelled. Vehicles can pass tolls at high speeds without stopping, eliminating boom barriers.

Live Monitoring at Toll Plazas:

- A GIS-based software developed by IHMCL will provide real-time updates on vehicle congestion at toll plazas. Initially deployed at 100 plazas, it will help NHAI officials manage traffic effectively.

KEY FEATURES OF NEW SYSTEM

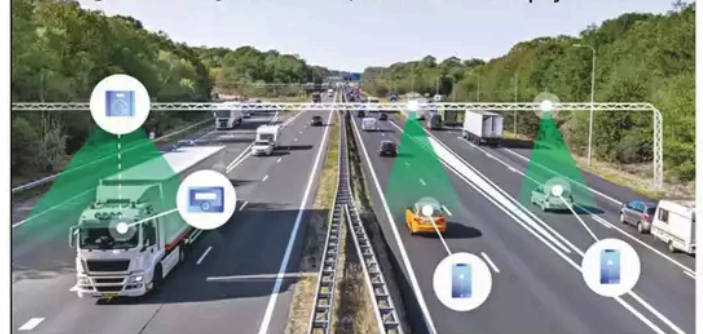
➤ The **GPS**, fitted in all types of vehicles, will help count **appropriate number of kilometres a vehicle** covers on highways

➤ The **GPS** will be fitted in such a way that it can **neither be removed nor dismantled or tampered with**

➤ A **high shutter speed**

camera will be installed on highways to **monitor the movement of vehicles** so that the driver cannot skip the payment mode

➤ The **banks**, which have tie-ups with the system, will **debit the amount automatically**. The drivers do not have to stop the vehicles for the payment



How it Works:

- **Real-Time Alerts and Recommendations:**
 - The GIS software will identify the location of toll plazas and provide alerts if congestion exceeds the prescribed limits. NHA officials will receive lane-wise recommendations to streamline traffic flow.
- **Hybrid Model Implementation:**
 - The GNSS system will operate alongside the existing FASTag mechanism in a hybrid model, eventually transitioning to a full GNSS-based tolling system with dedicated GNSS lanes.

Benefits of GNSS Tolling:

- **Faster Processing and Reduced Congestion:**
 - Unlike the current FASTag system, which often experiences delays due to the barcode scanning and boom barrier operation, GNSS tolling will allow seamless, high-speed passage without the need for stopping.
- **Distance-Based Tolling:**
 - Drivers will be charged based on the actual distance traveled on national highways, ensuring a fairer and more efficient tolling process.

Current System and Future Roadmap:

- **FASTag Limitations:**
 - Launched in 2015, the RFID-based FASTag system became mandatory in 2021. Despite its success in automating toll collection, delays and congestion persist, particularly during peak hours.
- **Phased Implementation:**
 - Initially rolled out at 100 toll plazas, GNSS tolling will eventually cover more plazas across the country, reducing traffic pile-ups and enhancing the overall driving experience on national highways.

6. Genome mapping of Chandipura virus: what researchers found

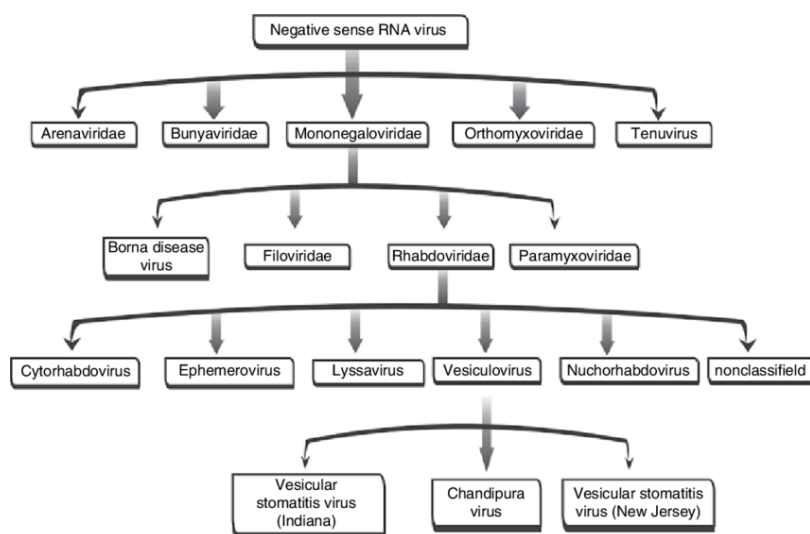
Source: The Indian Express

Context: The Gujarat Biotechnology Research Centre (GBRC) has completed the genome mapping of the Chandipura Vesiculovirus (CHPV), linked to a recent outbreak of Acute Encephalitis Syndrome (AES) in Gujarat, July-August 2024.

Chandipura Virus :

Cause: Chandipura Vesiculovirus (CHPV), spread by sandflies, ticks, and mosquitoes.

Impact: Causes Acute Encephalitis Syndrome (AES) with symptoms like fever, brain swelling, convulsions, and multi-organ failure. Primarily affects



children, with high mortality rates (up to 75%).

Key Findings from Genome Mapping by GBRC:

- **Minimal Evolution Since 2003:**
 - **Stable Genetic Makeup:** The virus has shown only minor mutations in its glycoprotein gene since the 2003-04 outbreak.
 - **Implication:** No significant mutation pressure, meaning the virus has not evolved to escape immunity, unlike rapidly mutating viruses like COVID-19.
- **Low Viral Load, High Impact:**
 - **High Ct Value in Tests:** Despite low viral load, the virus caused severe symptoms. The disease progressed rapidly, leading to death within 72 hours in severe cases.
 - **Implication:** Highlights the virulence of the virus despite low concentrations, making early detection difficult.
- **Indigenous Virus:**
 - **No Import from Abroad:** Genome analysis confirmed the virus originates from India, related to previous outbreaks in Gujarat and Andhra Pradesh.
 - **Implication:** Reinforces the need for local surveillance and containment measures to control its spread.

7. Exemption of export-led green hydrogen projects from solar shortlist to cut costs

Source: The Indian Express

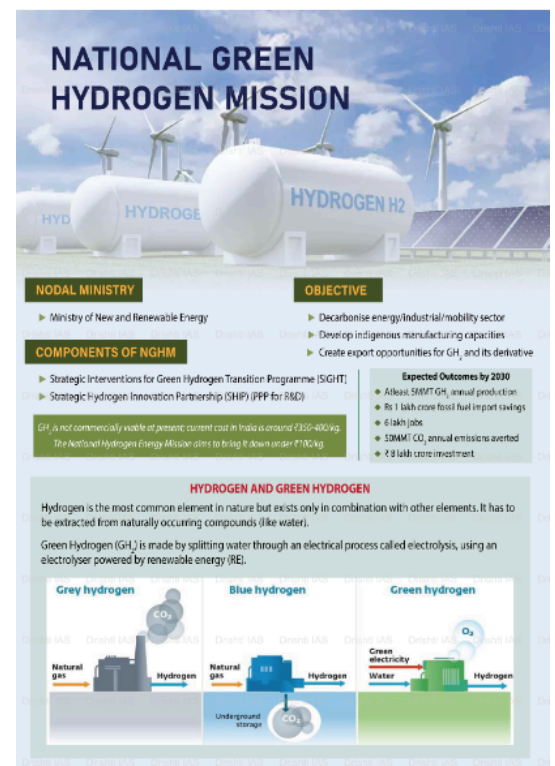
Context: To lower production costs and boost exports, MNRE has exempted export-oriented green hydrogen projects from using ALMM-listed domestic solar modules, enhancing competitiveness with grey hydrogen.

Policy Exemption:

- Export-led green hydrogen projects established in Economic Zones or Export-Oriented Units (EOUs) by 2030 are exempt from sourcing solar modules from MNRE's ALMM.
- This exemption allows the use of imported solar modules, which are cheaper than domestic ones, reducing the production cost of green hydrogen.

Cost Competitiveness:

- Green hydrogen is more expensive than grey hydrogen, which is derived from natural gas. By allowing the use of imported solar modules, the MNRE aims to bring down the cost of green hydrogen to levels competitive with grey hydrogen.
- Imported modules cost around 10 cents per watt, whereas domestic modules are priced at 18 cents per watt, nearly double.



India's Green Hydrogen Ambitions:

- India is on track to produce 5 million metric tons (MMT) of green hydrogen annually by 2030, with announced projects totaling 7.5 MMT.
- The focus is on exports, but domestic demand is also growing, especially in hard-to-decarbonize sectors like manufacturing and refining.

Incentives and Support Measures:

- **Green hydrogen projects benefit from:**
 - Waiver of transmission charges for 25 years.
 - Exemption from environmental clearance.
 - Financial support under the SIGHT Program, with Rs 17,000 crore allocated to promote electrolyser manufacturing and renewable energy capacities.
- Over 400 proposals for green hydrogen projects have been received, with funding decisions expected soon.

Development of Standards:

- MNRE, along with regulatory bodies like the Bureau of Indian Standards (BIS), has notified 73 standards for green hydrogen production and its applications.



Editorial, Ideas and Opinions

8. Gap between allocations for health, outcomes in States

Source: The Hindu

Context: Union Budget allocations for health rely heavily on State-level factors, including fiscal capacity and implementation of Centrally Sponsored Schemes (CSS).

Utilisation and Challenges of Union Budget Allocations for Health Sector

- **Budget Allocations:** Focused on Centrally Sponsored Schemes (CSS) for health sector enhancement.
- **Key Initiatives:**
 - Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)
 - Human Resources for Health and Medical Education (HRHME)

Key Initiatives

- **Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)**
 - **Goals:**
 - Establish Health and Wellness Centres (AB-HWCs)
 - Develop Block-Level Public Health Units (BPHUs)
 - Set up Integrated District Public Health Laboratories (IDPHLs)
 - Build Critical Care Hospital Blocks (CCHBs) in districts
 - **Objective:** Improve preparedness for future health emergencies like pandemics.
- **Human Resources for Health and Medical Education (HRHME)**
 - **Goals:**
 - Establish new medical, nursing, and paramedical colleges
 - Increase seats in existing colleges
 - Strengthen and upgrade district hospitals
 - Attach district hospitals to new medical colleges

Fund Utilisation

- **Low Utilisation Rates:**
 - **PM-ABHIM:**
 - 29% utilisation in 2022-23
 - Expected lower actuals for 2023-24
 - **HRHME:**
 - Utilisation around 25% of budget estimates for 2022-23 and 2023-24
 - **Reason for Allocation Cuts:** Low fund absorption rates.

Factors Contributing to Low Utilisation

- **Complex Execution Structure:**



- Challenges with health grants and integration of public health laboratories.
- **Construction Delays:**
 - Rigid procedures and overlapping funding sources affecting project timelines.

Faculty Shortage

- **Teaching Faculty:**
 - 40% shortage in new All India Institutes of Medical Sciences.
 - Significant vacancies in State government medical colleges.
- **Impact:**
 - Challenges in setting up new medical colleges and upgrading district hospitals.
 - Shortages affecting rural and urban Community Health Centres (CHCs).

Fiscal Space and Sustainability

- **Recurring Costs:**
 - State governments responsible for maintaining infrastructure and bearing recurring expenses post-scheme period (till 2025-26).
- **Financial Planning:**
 - States need to create fiscal space to support ongoing costs and other health initiatives.

Key Considerations for Effective Utilisation

- **State Fiscal Capacity:** Ability to manage additional recurring expenditures.
- **Human Resource Management:** Addressing shortages and improving staffing.
- **Public Financial Management:** Enhancing processes for scheme execution and grant utilisation.

9. What do we know about ANIIDCO?

Source: The Hindu

Context: ANIIDCO has been designated as the lead agency for the NITI Aayog-backed ₹72,000 crore Great Nicobar project, involving infrastructure development.

ANIIDCO's Role and Activities:

- Incorporated in 1988, Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) is primarily involved in trading petroleum products, Indian-made foreign liquor, milk, and managing tourism resorts.
- Its annual turnover averages ₹370 crore, with a ₹35 crore profit over the past three years. Despite this, the corporation's role as the lead agency for a project of this scale raises concerns about its capabilities and preparedness.

Lack of Environmental Expertise:

- When ANIIDCO was appointed in 2020, it did not have an environment policy or the required human resources to oversee or implement such a high-stakes project.
- It only began recruiting experts in urban planning, environmental management, and legal and financial areas in late 2022, two years after being assigned the project. The corporation



acknowledged this gap when questioned by the Expert Appraisal Committee (EAC) in 2021, but still received environmental clearance by 2022.

Concerns:

Environmental Governance Issues:

- The EAC questioned ANIIDCO on its corporate environment policy, administrative systems for compliance, and standard operating procedures for handling environmental violations.
- ANIIDCO admitted it lacked an environment policy at the time but was still granted clearance a year later, raising concerns about the project's long-term environmental sustainability.

Criticism and Administrative Views:

Concerns About ANIIDCO's Capacity:

- Former administrators, including Lt. Gen. A.K. Singh, have expressed doubts about ANIIDCO's ability to handle the ₹72,000 crore project without substantial external support. Others, like Sanat Kaul, a former Chief Secretary, have critiqued ANIIDCO's tourism operations and questioned its ability to manage a project of this magnitude without a significant upgrade in its staffing and operations.



In Brief

10. Bengaluru city police file chargesheet against actor Darshan, Pavithra Gowda and 15 others in Renukaswamy murder case

Source: The Hindu

Context: The charge sheet spans seven volumes and 3,991 pages, including eight forensic reports from labs in Bengaluru and Hyderabad.

Charge Sheet

- **Definition:** A charge sheet is a detailed report filed by the police after investigating a case, as per Section 173 of the Code of Criminal Procedure (CrPC).
- **Contents:**
 - Records from the initiation of the investigation to the final report.
 - Names of individuals in custody, the charges against them, and the identity of the accusers.
- **Process:**
 - Once filed, it initiates prosecution proceedings in court.
- **Time Limits for Filing:**
 - 60 days from the date of arrest for cases triable in lower courts.
 - 90 days for cases triable in Sessions Courts.
 - Failure to meet these deadlines allows the accused to apply for default bail.
- **Distinction:**
 - It is different from the First Information Report (FIR).



First Information Report (FIR)

- **Definition:** A written document prepared by a police officer based on information about the commission of a cognizable offence.
- **Purpose:** Triggers the start of the investigation.
- **Who Can File:** Anyone including the victim, victim's family, friends, or any witness.
- **Applicability:** Can only be lodged for cognizable offences.

Cognizable Offence

- **Definition:** An offence where the police can arrest without a warrant.
- **Investigation:** Police can start the investigation without court orders.



Daily Quiz

Q1. Which of the following statements is correct regarding the Charge Sheet as per the Code of Criminal Procedure (CrPC)?

- It is prepared by the court after the trial begins.
- It includes the names of individuals in custody and the charges against them.
- It can be filed by anyone who witnesses a crime.
- It is the same as the First Information Report (FIR).

Q2. What are the primary objectives of the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)?

- To increase the number of medical colleges and seats in existing colleges.
- To build Health and Wellness Centres, Block-Level Public Health Units, Integrated District Public Health Laboratories, and Critical Care Hospital Blocks.
- To reduce the number of vacant teaching faculty positions in medical colleges.
- To improve fund utilisation rates for Centrally Sponsored Schemes.

Q3. Which of the following statements are true regarding the Hindu Marriage Act, 1955?

- The Act applies to Hindus, Buddhists, Jains, and Sikhs.
- The Act permits divorce by mutual consent after one year of marriage.
- The Act prohibits bigamy and polyandry, with penalties under the Indian Penal Code.

Which of the following options given is/are correct?

- 1 and 2
- 2 and 3
- 1 and 3
- 1, 2, and 3

Q4. What are the main components of Artificial Intelligence (AI)?

- Machine Learning algorithms
- Neural Networks
- Natural Language Processing
- Data Encryption

Which of the following options given is/are correct?

- 1 and 2
- 2 and 3
- 1, 2, and 3
- 1, 2, 3, and 4

Q5. Which of the following is NOT one of the sources of knowledge according to Radhakrishnan?

- Sense Experience
- Intellectual Cognition
- Intuitive Apprehension
- Sensory Deprivation

Q6. Consider the following statements regarding the Supreme Court's verdict on sub-classification within SC reservations:

- The judgement allows for sub-classification within Scheduled Castes (SC) to ensure that the most marginalised sub-groups receive proportional benefits.
- The verdict is in line with Dr. B.R. Ambedkar's ideals of promoting fraternity and addressing inequalities within Dalit communities.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q7. Which of the following statements is/are correct regarding the Global Navigation Satellite System (GNSS)-based toll collection system?



1. GNSS-based tolling charges vehicles based on the exact distance traveled on highways.
2. The system operates through real-time communication with satellites to eliminate the need for physical toll plazas.
3. It is being implemented to replace the RFID-based FASTag system immediately across all national highways in India.

Select the correct answer using the codes below:

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

Q8. Which of the following statements regarding the Chandipura Vesiculovirus (CHPV) is/are correct?

1. It primarily spreads through sandflies, ticks, and mosquitoes.
2. The virus has undergone significant mutations since its first outbreak in 2003, leading to challenges in immunity.
3. It primarily affects children and has a high mortality rate in severe cases.

Select the correct answer using the codes below:

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

Q9. What is the primary objective of exempting export-oriented green hydrogen projects from using MNRE's ALMM-listed domestic solar modules?

- A. To encourage the use of domestically produced solar modules.
- B. To increase the cost of green hydrogen to make it competitive with grey hydrogen.
- C. To reduce production costs of green hydrogen by allowing the use of cheaper imported solar modules.
- D. To limit the growth of the green hydrogen sector in India.

10. Which of the following criticisms have been made regarding ANIIDCO's ability to handle the Great Nicobar project?

1. The corporation lacks a formal environment policy and administrative systems for compliance.
2. ANIIDCO's tourism operations have been questioned in terms of their efficiency and effectiveness.
3. There is no concern regarding ANIIDCO's financial management.

Select the correct answer using the codes below:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 only
- D. 1 and 3 only



Solutions

1. Correct Answer is B

Explanation:

- **Statement A is incorrect** because the charge sheet is prepared by the police after the investigation, not by the court.
- **Statement B is correct.** The charge sheet includes detailed records of the investigation, including the names of individuals in custody, the charges they face, and the identity of the accusers.
- **Statement C is incorrect** because the charge sheet is not filed by witnesses; it is filed by the police after completing the investigation.
- **Statement D is incorrect** because a charge sheet and an FIR are different documents. An FIR is an initial report made to start an investigation, while a charge sheet is a comprehensive document prepared after the investigation is completed.

2. Correct Answer is B

Explanation:

- **Statement A is incorrect** because increasing the number of medical colleges and seats falls under the Human Resources for Health and Medical Education (HRHME) initiative, not PM-ABHIM.
- **Statement B is correct.** The primary objectives of PM-ABHIM are to establish Health and Wellness Centres, develop Block-Level Public Health Units, set up Integrated District Public Health Laboratories, and construct Critical Care Hospital Blocks.
- **Statement C is incorrect** because reducing vacant teaching faculty positions is related to HRHME, not PM-ABHIM.
- **Statement D is incorrect** because improving fund utilisation rates is not an

objective of PM-ABHIM but rather a financial management concern.

3. Correct Answer is D

Explanation:

- **Statement 1 is correct** because the Act applies to Hindus and also includes Buddhists, Jains, and Sikhs.
- **Statement 2 is accurate** as the Act allows divorce by mutual consent, though not within the first year of marriage unless under exceptional circumstances.
- **Statement 3 is true** because the Act bans bigamy and polyandry, with penalties outlined in the Indian Penal Code.

4. Correct Answer is C

Explanation:

The main components of Artificial Intelligence (AI) are:

- **Machine Learning Algorithms:** These are techniques that allow computers to learn from data and make predictions or decisions without being explicitly programmed.
- **Neural Networks:** These are computing systems inspired by the human brain that can recognize patterns, classify data, and make complex decisions.
- **Natural Language Processing (NLP):** This enables machines to understand, interpret, and respond to human language in a way that is both meaningful and useful.

Data Encryption is not a core component of AI but rather a method used to secure data. Therefore, the correct answer includes only Machine Learning algorithms, Neural Networks, and Natural Language Processing.



5. Correct Answer is D

Explanation: According to Radhakrishnan, the three sources of knowledge are Sense Experience, Intellectual Cognition, and Intuitive Apprehension. Sensory Deprivation, however, is not mentioned as a source of knowledge. Sensory Deprivation refers to a state in which an individual is deprived of sensory input, which contrasts with Radhakrishnan's views on how knowledge is acquired through sensory experiences, intellectual analysis, and intuitive insights.

6. Correct Answer is C

Explanation:

The Supreme Court judgement acknowledges the unequal levels of deprivation among SC communities and seeks to address this by allowing sub-classification, reflecting Dr. Ambedkar's vision of social justice and equitable distribution of resources within the Dalit community.

7. Correct Answer is B

Explanation:

- **Statement 1 is correct** as GNSS tolling charges based on distance traveled.
- **Statement 2 is correct** as the system involves satellite communication and does not require physical toll plazas for toll collection.
- **Statement 3 is incorrect** because the GNSS system will initially be implemented alongside the existing FASTag system, not immediately replacing it.

8. Correct Answer is A

Explanation:

- **Statement 1 is correct** as CHPV spreads through vectors like sandflies, ticks, and mosquitoes.

- **Statement 2 is incorrect** since genome mapping has shown that the virus has not undergone significant mutations since 2003.
- **Statement 3 is correct**, as CHPV mainly affects children and has a high mortality rate, with severe cases leading to death within 72 hours.

9. Correct Answer is C

Explanation:

The primary objective is to make green hydrogen more cost-competitive with grey hydrogen by reducing production costs through the use of cheaper imported solar modules..

10. Correct Answer is A

Explanation:

- **Statement 1 is correct;** there are criticisms regarding ANIIDCO's lack of a formal environment policy and administrative systems.
- **Statement 2 is correct;** ANIIDCO's tourism operations have faced criticism regarding their capacity.
- **Statement 3 is incorrect;** there are concerns about ANIIDCO's overall capacity and management, not just its financial management.





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