



**UPSC
Mentorship**
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DAILY CURRENT AFFAIRS

09 July 2024



SOURCES



Table of Contents

1. Discovery of the World's Oldest Figurative Cave Painting.....	2
2. What are new provisions for police officers?.....	3
3. Share of women in unincorporated sector highest in the south.....	5
4. Double health budget, reduce out-of-pocket spends.....	6
5. In an electric vehicle, what is regenerative braking?.....	7
6. Central Consumer Protection Authority directs 'Yatra' an online Travel Platform to refund booking amount to consumers affected due to Covid-19 lockdown.....	7
7. Indigenous HPV vaccine, the rhetoric and the reality.....	9
8. Powai Lake.....	10
9. What are white goods?.....	10
Daily Quiz.....	11
Solutions.....	13



GS I

1. Discovery of the World's Oldest Figurative Cave Painting

Source:The Hindu, Page 7

Context: Researchers have recently unveiled a groundbreaking discovery in the field of archaeology: the world's oldest known figurative cave painting, dating back an astonishing 51,200 years.

About the new discovery:

- Discovery and Age of the Painting
- The world's oldest known figurative cave painting, located in Leang Karampuang cave in Sulawesi, Indonesia, has been dated to 51,200 years ago.
- This discovery surpasses the previously oldest known cave art, a pig painting from Leang Tedongnge, Indonesia, by over 5,000 years.
- Description of the Painting The painting depicts a red-pigmented scene featuring a wild pig with its mouth open.
- Surrounding the pig are three figures that are part-human and part animal (therianthropes).
- The figures are depicted in dynamic poses, suggesting action and storytelling.

Significance of the Painting:

- The painting suggests a deeper origin of figurative art among modern humans (*Homo sapiens*) than previously recognized.
- It highlights a culture of storytelling through visual art in the Late Pleistocene era, much earlier than similar scenes found in Europe.

Methodology:

- New Dating Technique
- The dating was performed using uranium series (U-series) analysis of calcite deposits overlying the rock art in limestone caves.
- Laser beams were used to analyse the ratio of uranium to thorium isotopes, allowing precise dating of the paintings.
- This technique provided more accurate dating compared to previous methods, revealing the painting's true age.
- Implications and Further Research The discovery challenges previous notions about the timeline and sophistication of early human art.
- It underscores the importance of scientific methods in archaeological research, providing insights into ancient human cultures and their artistic expressions.
- Further exploration and dating of similar sites could provide additional understanding of early human creativity and cultural development.
- Prehistoric paintings In India Discovery of Prehistoric Cave Paintings in India Prehistoric cave paintings dating back to the Upper Palaeolithic era have been discovered worldwide.



- In India, the earliest reported paintings date to the Upper Palaeolithic times, predating the discovery of Altamira in Spain.
- **Early Explorations and Archaeologists** In 1867-68, Archaeologist Archibold Carlleyle discovered the first prehistoric rock paintings in India.
- Renowned archaeologists such as Cockburn, Anderson, Mitra, and Ghosh further unearthed numerous sites across regions like Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Karnataka, Bihar, and Uttarakhand.

Characteristics of the Paintings:

- The paintings feature stick-like human figures, animals such as long snouted creatures, foxes, and multi-legged lizards. Geometric patterns in white, black, and red ochre are also commonly depicted. **Notable Sites and Examples** Lakhudiyar, near Almora, hosts rock shelters along the River Suyal adorned with these prehistoric paintings.
- Scenes include hand-linked dancing human figures, showcasing early artistic expression and social activities.
- Superimposed paintings reveal layers of black, red ochre, and white, indicating successive periods of artistic activity.
- **Other Forms of Artistic Expression** Engravings on slabs were discovered in Kashmir, offering additional insights into prehistoric artistic practices.
- Granite rocks in Karnataka and Andhra Pradesh feature paintings in white, red ochre, or combinations thereof at sites like Kuggallu, Piklihal, and Tekkalkota.

Significance and Cultural Insights:

- These discoveries provide a glimpse into the lives, beliefs, and artistic capabilities of prehistoric humans in India.
- They underscore the universality of early human creativity and the development of symbolic communication through art.



GS II

2. What are new provisions for police officers?

Source: The Hindu, Page 10

Context: The new criminal laws have become effective from July 1. SOPs have been issued by the Bureau of Police Research and Development (BPRD) to guide police officers in implementing the new provisions.

What are the rules for registering FIRs?

- The officer in-charge of a police station cannot refuse to register an FIR on the basis of lack of jurisdiction or disputed jurisdiction. He is legally bound to register (popularly known as a zero FIR) and transfer such a case to the respective police station.
- Though this practice was followed earlier too, the Bharatiya Nagarik Suraksha Sanhita (BNSS) now has a direct provision under Section 173; non-registration of FIRs may attract penal action under various sections.
- Additionally, while information can be given orally or in writing as before, it may also be given by electronic means which is to be taken on record by the officer in-charge if it is signed within three days by the person giving it.
- While no one can stop a police officer from enquiring into the information immediately if it is of a sensitive nature, the electronic mode by which information may be given must be decided by the agencies, such as the Crime and Criminal Tracking Network and Systems (CCTNS) portal, the police website or officially published email IDs.

What about videography?

- The BNSS mandates videography during a search conducted by the police under Section 185; of the scene of crime (Section 176); and of the process of conducting a search of a place or taking possession of any property (Section 105). Since these are mandatory provisions, any negligence on the part of the police may benefit the accused persons. Therefore, investigating officers (IOs) must be provided electronic devices and proper training to discharge such functions.
- A cloud-based mobile app, 'eSakshya' has been designed by the National Informatics Centre for enforcement agencies, which allows capturing multiple photos and videos.
- Since eSakshya is an initiative under the Inter-operable Criminal Justice System (ICJS), this data will be available to other agencies such as the judiciary, prosecution and cyber forensic experts.

What about provisions of arrest?

- Information about arrested persons is to be mandatorily displayed in police stations. Section 37 of the BNSS requires a police officer in every police station, not below the rank of Assistant Sub-Inspector, to be responsible for maintaining and prominently displaying information about the arrested persons. Therefore, boards (including in digital mode) containing names, addresses and the nature of the offence must be put up outside police stations and district control rooms.
- Some restrictions have been imposed on the arrest of frail or sick and elderly persons. Section 35(7) states that the permission of an officer not below the rank of DySP is mandatory for arresting a person charged with an offence punishable for imprisonment of less than three years if such person is informed or is above 60 years of age.



What about timelines?

- In case of medical examination of a victim of rape, the registered medical practitioner is mandated under Section 184 (6) of the BNSS to forward the medical report to the IO within seven days, who shall forward it to the magistrate concerned. Therefore, doctors must be sensitised about the new law.
- The investigation of POCSO cases is required to be completed within two months of recording the information of the offence. Earlier, this time limit was only for rape cases under the Indian Penal Code.
- A new provision under Section 193(3)(h) requires the IO to maintain the sequence of custody of an electronic device. Though maintaining a chain of custody is important for every seizure, emphasis is laid on electronic devices because they are sensitive pieces of evidence and more vulnerable to tampering.
- Section 113 introduced in the Bharatiya Nyaya Sanhita (BNS) defines what is a 'terrorist act' and imposes the duty on an officer, not below the rank of Superintendent of Police (SP), to decide whether to register a case under this Section or the UAPA. Since, no guidelines are given to exercise this discretion, the SP may inter-alia consider factors such as whether the terrorist organisation is notified under the UAPA, approximate time needed to complete investigation, the rank of the IO and the level of scrutiny required, and how dangerous the accused person is.



GS III

3. Share of women in unincorporated sector highest in the south

Source: The Hindu, Page 7

Context: The share of women owners and workers in unincorporated enterprises was relatively high in the southern States, according to the recently released Annual Survey of Unincorporated Sector 2022-23.

Unincorporated Sector

- The unincorporated sector includes jobs that require little to no capital and skills, such as street vending, as well as work that involves considerable investment and expertise, such as tailoring and car repair. The shop may be operated by an individual or a self-employed entrepreneur who may enlist unpaid family members or employ paid workers.
- They may work from a fixed location or in homes, small shops, and workshops. The survey divides such workers into three broad sectors: manufacturing, trade, and other services and does not include agricultural establishments. The sector excludes establishments registered under the Companies Act and covered under the Annual Survey of Industries, and public sector/government companies.
- Section 1A of the chart depicts the share of women working across all sectors of unincorporated enterprises, including all the classes of workers put together. All the southern States are positioned towards the right of the chart. This means that the share of women in the workforce was relatively high.
- Sections 1B and 1C depict the same data for the manufacturing and trade sectors separately.
- Section 5A depicts the share of women among worker-owners across sectors. Here, too, southern States stand out. This means that in the south, women not only formed a higher share of the overall workforce (including owners), but they also constituted a relatively higher share among worker-owners. West Bengal is the only other State outside south India that featured high on this list.
- There was a relatively high share of women in unincorporated enterprises in south India even when the data were sliced and diced across various other types of workers. However, in general, the share of women among unpaid family workers in unincorporated enterprises was much higher than other job-types in every State. Even in Telangana, while 43% was the share of women across worker-owners (Section 5A), 52% among formal hired workers (4A), and 26% among informal hired workers, (3A), it was 59% among unpaid family workers (2A).
- Even in States where women did not play a major role in unincorporated enterprises in hired/ownership roles, their share among unpaid family workers was higher. This explains why the circles in Section 2 appear pushed to the right, while in other job types, they are crowded towards the left.
- This means women across India play a relatively silent, yet major role in unincorporated sectors. In many cases, they take no payment and have little say in how the enterprise is run.



4. Double health budget, reduce out-of-pocket spends

Source: The Hindu, Page 12

Context: Since 2010, India's public spending, in proportion to the GDP, has hovered around 1.12% to 1.35%. In gross terms, though central budget allocations have improved – up from ₹25,133 crore in 2012-13 to ₹86,175 crore in 23-24.

Health Budget:

- Demonetization, GST and the COVID pandemic in quick succession have adversely impacted millions of households living at the margin with stagnant wages, high prices of food and borrowings, making 'affordability' of health care critical.
- While 13.4% of households in rural areas and 8.5% in urban areas have borrowed money to pay their medical bills, the rest have either sought access to free public care, denied themselves health care or availed substandard care that is within their budget.
- India's health system is at a crossroads as it needs to, without any further procrastination, build the capacity in all States, particularly the northern States, to cope with the dual burden of disease.
- Communicable and infectious diseases are easier to handle in terms of the episodic nature of the disease, though, if neglected, the consequences can be devastating and brutal. Non-communicable diseases on the other hand have to be managed over a lifetime necessitating a steady, routinized, system of care. Tackling both requires a health system that is swift and nimble but also steady and solid.
- In addition to strengthening the public health systems, there is a need to rationalise the GST levies on health products, such as 18% GST on health insurance premiums or 5% GST on insulin and hepatitis diagnostics when the number of diabetics and those prone to hepatitis are increasing.
- The bottom line regarding the health sector, however, is all about the role of the State, the rights of a tax-paying citizenry and the development model proposed. This takes time, needs political consensus and not be disrupted or buffeted about on account of an unstable political environment. Other countries have shown the way. India needs to now follow their path to lend credibility to the aspiration of being a developed country by 2047.

5. In an electric vehicle, what is regenerative braking?

Source: The Hindu, Page 11

Context: Regenerative braking is a system designed to convert the kinetic energy of the wheels to a form that can be stored and used for other purposes

What is braking?

Braking is the mechanism by which an automotive vehicle in motion slows down. A vehicle moving faster has more kinetic energy than a vehicle moving slower, so the process of braking removes (mostly) kinetic energy from the vehicle. The law of energy conservation means this removed energy has to go somewhere.



What is regenerative braking?

- Regenerative braking is a brake system designed to convert the kinetic energy of the wheels to a form that can be stored and used for other purposes.
- Regenerative braking is one type of dynamic braking. In an electric vehicle, of the types becoming common on Indian roads, a battery onboard the vehicle draws electric power from the grid and stores it. When the vehicle moves, the battery powers an electric motor that propels the vehicle, converting electrical to mechanical energy. This motor is called the traction motor.
- During regenerative braking, the motor operates as a generator, turning mechanical energy back to electrical energy. In the vehicle, this means an electric current will be produced as the vehicle brakes, which is stored separately in a battery. In some other vehicles, especially trains, the current is fed back into the traction motor.
- The other type of dynamic braking is rheostatic braking, where the current is sent to an array of resistors that dissipate the electrical energy as heat. It is often necessary for a vehicle to have both regenerative and rheostatic braking in case the electrical energy recovered can't be stored or used right away.

6. Central Consumer Protection Authority directs 'Yatra' an online Travel Platform to refund booking amount to consumers affected due to Covid-19 lockdown

Source: PIB

Context: Over 2.5 Crore still pending for refund from Yatra, approx 23 Crores refunded to Consumers

About Central Consumer Protection Authority:

- As provided in the Consumer Protection Act, 2019, the Central Consumer Protection Authority (CCPA) has been established w.e.f. 24th July, 2020.
- Objective: To promote, protect and enforce the rights of consumers as a class.
- Composition:
 - It will have a Chief Commissioner as head, and only two other commissioners as members — one of whom will deal with matters relating to goods while the other will look into cases relating to services.
- It will be empowered:



- To conduct investigations into violation of consumer rights and institute complaints / prosecution,
 - Order recall of unsafe goods and services,
 - Order discontinuation of unfair trade practices and misleading advertisements,
 - Impose penalties on manufacturers/endorsers/publishers of misleading advertisements.
- Nodal Ministry: Ministry of Consumer Affairs, Food & Public Distribution.



Editorial, Ideas and Opinions

7. Indigenous HPV vaccine, the rhetoric and the reality

Source: The Hindu, Page 8

Context: India's public health sphere was subject recently to a one-sided discourse on how vaccination against the human papillomavirus (HPV) prevents cervical cancer and consequent death.

The path of vaccine manufacture

- The Serum Institute of India (SII) developed 'Cervavac' and promoted it as an indigenous and affordable vaccine.
- Cervavac uses similar techniques, deploying virus-like particles (VLPs) produced using recombinant deoxyribonucleic acid (rDNA) techniques to generate an immune response against HPV infections.
- The vaccine against cervical cancer is only the second rDNA vaccine in the world using the techniques of the early 1970s, the first being the vaccine against Hepatitis-B.
- Vaccine innovation underwent significant changes in terms of its organisation, patenting strategies and even distribution practices in academia and industry.
- An important element of this 'value addition' is legalisation of the conversion of public 'research' into private 'development' and its monopolisation by patenting. This facilitated the change of hands in vaccine development and production from the public to private sector.

Impact on India

- Earlier, the Indian Patent Act (1970) abolished patenting products and allowed only processes, that too excluding agricultural and biological patents. This enabled the growth of domestic industries to become the pharmacy of the world within two decades.
- They manufactured low-cost generic drugs and vaccines, often within a couple of years after they were introduced in the global north.
- The first rDNA vaccine produced in India for hepatitis-B not only entered the market within five years under the process patent but also dropped the price to an order of magnitude cheaper than in the global north.

Competing vaccines are scant

- Another serious concern is the unavailability of other competing vaccines from domestic players, which could have put downward pressure on the current price of Cervavac.
- The Cervavac vaccine is currently recommended universally under the government vaccination programme for girls between the ages of nine to 26 at a price of ₹500 for two doses, which is expensive even for the government.
- Therefore, even as the need for universal HPV vaccination to prevent cervical cancer remains an unresolved doubt, the lack of competition and opaque pricing merits investigation in the larger public interest.



In Brief

8. Powai Lake

- Recognised as a wetland, Powai Lake is located in the northeastern suburbs of Mumbai, Maharashtra.
- The Powai Lake is an artificial man-made lake located to the north of Mumbai and southwest of Thane.
- It was formed as a result of two dams built on the Mithi River in 1891.
- The purpose was to create a reservoir for providing water supply in Mumbai. However, water quality degraded within a few years, and it was declared unfit for drinking.
- It is being used for industrial purposes. Management - The Maharashtra State Angling Association (then called Bombay Presidency Angling Association), formed in 1936, currently controls and manages the lake. In 1995, the National Lake Conservation Plan (NLCP) included Powai Lake among India's 10 main lakes to be revived and improved.

9. What are white goods?

Context-White goods refer to heavy consumer durables or large home appliances, which were traditionally available only in white

Examples: washing machines, air conditioners, stoves, refrigerators, etc They are consumer durables made of enamel-coated sheet steel Indian white goods industry:

The Indian appliance and consumer electronics (ACE) market reached INR 76,400 crore in 2019 and is expected to double to reach INR 1.48 lakh crore by 2025

Brown Goods : Brown goods are relatively light electronic consumer durables such as computers, digital media players, TVs and radios.



Daily Quiz

1. Consider the following statements regarding cave paintings:

1. Cave paintings are predominantly found in Europe and North America.
2. Lascaux and Altamira are famous sites known for Palaeolithic cave paintings.
3. Bhimbetka in India is renowned for its Neolithic cave paintings.
4. Chauvet Cave in France is famous for its ancient cave paintings dating back to the Palaeolithic era.

Which of the statements given above is/are correct?

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

2. Which of the following police organizations in India is responsible for investigating crimes related to cyber offenses?

- A) Central Reserve Police Force (CRPF)
- B) Central Bureau of Investigation (CBI)
- C) National Investigation Agency (NIA)
- D) Cyber Crime Cell of State Police

3. Which region of India has the highest share of women in the unincorporated sector, according to recent reports?

- A) North
- B) South
- C) East
- D) West

4. Which of the following is NOT a component of India's Union Budget?

- A) Vote on Account
- B) Revised Estimates

C) Comptroller and Auditor General (CAG) Report
D) Budgetary Allocation

5. Regenerative braking, a technology increasingly adopted in electric vehicles, helps in:

- A) Reducing air pollution by capturing brake dust
- B) Extending the lifespan of brake pads
- C) Improving fuel efficiency and range
- D) Enhancing engine performance during acceleration

6. Consider the following statements:

Statement: The HPV vaccine is recommended for both males and females.

Reason: HPV infections can lead to cervical cancer in females and other cancers such as anal and throat cancers in males.

- A) Both the statement and reason are correct, and the reason is the correct explanation of the statement.
- B) Both the statement and reason are correct, but the reason is not the correct explanation of the statement.
- C) The statement is correct, but the reason is incorrect.
- D) The statement is incorrect, but the reason is correct.

7. Which vaccine is primarily used to prevent measles in India?

- A) BCG
- B) MMR
- C) DPT
- D) Hepatitis B

8. Powai Lake, located in Mumbai, is primarily known for:



- A) Being a natural freshwater lake
- B) Serving as a major source of drinking water for Mumbai
- C) Hosting a variety of migratory birds
- D) Being an artificial reservoir created by a dam

9. What is the primary role of the Central Consumer Protection Authority (CCPA) in India?

10. Consider the following statements about the distribution of women in the unincorporated sector:

- 1. Southern states have a relatively high share of women in the workforce of unincorporated enterprises.
- 2. West Bengal is the only state outside south India with a high share of women worker-owners.

- A) Setting interest rates for consumer loans
- B) Enforcing consumer rights and protection laws
- C) Managing government subsidies for consumer goods
- D) Conducting market research on consumer behavior.

- 3. The share of women among unpaid family workers is generally lower than other job types in every state.

Which of the above statements is/are correct?

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



Solutions

1. Correct option (D)

Answer Explanation:

- Statement 1: Incorrect. Cave paintings are found globally, with significant concentrations in Europe, Africa, Asia, and Australia.
- Statement 2: Correct. Lascaux in France and Altamira in Spain are famous for their Palaeolithic cave paintings.
- Statement 3: Incorrect. Bhimbetka in India is renowned for its Palaeolithic rock shelters and paintings, not Neolithic.
- Statement 4: Correct. Chauvet Cave in France is famous for its ancient cave paintings dating back to the Palaeolithic era.

2. Correct option (D)

Answer Explanation:

Cyber Crime Cell of State Police.

3. Correct option (B)

Answer Explanation:

Recent reports indicate that the southern region of India has the highest share of women in the unincorporated or informal sector compared to other regions. This reflects regional disparities in economic activities and gender participation in the informal economy across the country.

4. Correct option (C)

Answer Explanation:

Comptroller and Auditor General (CAG) Report, as it is not a component of India's Union Budget.

5. Correct option (C)

Answer Explanation:

Improving fuel efficiency and range

6. Correct option (A)

Answer Explanation:

- **Statement: Correct.** The HPV vaccine is indeed recommended for both males and females to prevent HPV infections.
- **Reason: Correct.** HPV infections are known to cause cervical cancer in females and can lead to other cancers like anal and throat cancers in males.

Therefore, both the statement and the reason are correct, and the reason provides a correct explanation for the statement. Hence, the correct answer is A) Both the statement and reason are correct, and the reason is the correct explanation of the statement.

7. Correct option (B)

Answer Explanation:

MMR (Measles-Mumps-Rubella) vaccine is used in India's UIP to prevent measles, mumps, and rubella.

8. Correct option (B)

Answer Explanation:

Serving as a major source of drinking water for Mumbai.

9. Correct option (B)

Answer Explanation:

Enforcing consumer rights and protection laws



10 Correct option (B)

Explanation:

- Statement 1 is correct because southern states are noted for having a high share of women in the workforce of unincorporated enterprises.
- Statement 2 is correct because West Bengal is the only state outside south

India with a high share of women worker-owners.

- Statement 3 is incorrect because the share of women among unpaid family workers is generally higher than other job types in every state





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