

29 Jan 2023: UPSC Exam Comprehensive News Analysis



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A. GS 1 Related

Category: ART AND CULTURE

1. Sundarbans temple

Syllabus: *Indian Culture - Salient aspects of Art Forms, Literature and Architecture from ancient to modern times*

Mains: *Effects of climate change on ancient monuments in India*

Context: Sundarbans temple is increasingly eroded by Sea winds.

Key Details:

- The impact of climate change, especially the increase in air salinity, is eroding the outer wall of Jatar Deul, an 11th century terracotta Shiva temple.
 - It is located at Raidighi in South 24 Parganas, West Bengal.
- According to the Archeological Survey of India, “ the outer brick wall of the temple is getting eroded, with the edge of bricks suffering steady corrosion due to increase in air salinity,”.
- The temple is facing erosion because of hydraulic action or air salinity.
- Trees provide a barrier to coastal winds on the upper part of the temple which reduces the erosion on this side.
 - Stone temples located along the coast — such as the famed Konark temple of Odisha — are less affected by salinity since the porosity of stone is far less than that of brick.
- Tropical cyclone in May 2020 had destroyed trees at Jatar Deul, further exposing the temple to the gusty salt-laden coastal winds.
- The ASI is planning to carry out restoration and conservation work at the temple by removing the damaged bricks and replacing them with new bricks of similar size.
 - ASI is also planting trees at the site so that they can serve as a barrier to the temple.

Jatar Deul Temple:

- As per the ASI Website, Jatar Deul is traditionally connected to an inscription by Raja Jayantachandra, purported to have been issued in 975 AD. It says that the temple was built in 10th or 11th century AD on the basis of its architecture.
 - However, Sharmila Saha, an expert on West Bengal temples, disagrees with the dating estimate, and believes that the temple was built around the beginning of the 13th century based on its architectural features.

- Jatar Deul does not follow the traditional structure of Bengal temples. The architectural style is more like that of Oriya style of towering spires.
- Recent excavations revealed 'jagmohana' and 'garbha-griha' (inner sanctorum) in the style of Oriya temples.
- At present the locals consider the temple as the temple of Lord Shiva although there are a lot of pictures and idols of various Gods and Goddesses inside the main chamber of the temple.
- Presently Jatar Deul is maintained by the ASI.



Image Source: The Hindu

B. GS 2 Related

Nothing here for today!!!

C. GS 3 Related

1. Researchers offer tips to save Kerala's sinking island

Researchers offer tips to save Kerala's sinking island

Syllabus: Environmental degradation and conservation.

Mains: Ways to tackle sinking land of Kerala.

Background Details:

- According to a study conducted by the National Centre for Earth Science Studies (NCESS), the main cause for the plight of Kerala's first set of climate refugees (residents of Munroe Thuruthu) is human interventions.
- The residents of the island are facing several challenges like steady land subsidence, tidal flooding, and lower agricultural productivity. This has resulted in a mass exodus from the region.
- The study shows that around 39% of the land area has been lost. Moreover, Peringalam and Cheriya Kadavu islands recorded a land depletion of about 12% and 47% respectively.
- The researchers told that land degradation began in the 1980s, but its severity was realized in the 2000s.
- The major reasons for degradation in the Kallada river are unregulated sand mining and resultant riverbed pools. Furthermore, the sediment supply through the river was blocked after the construction of the Thenmala dam.
- The study used remote sensing data and land survey records to study the morphological changes on the island. It further deployed electrical resistivity metre surveys to analyse the subsurface geology of the region.
- A bathymetric survey of the Kallada river was also done and it was found that there are many saline pools that impact the soil fertility and agriculture productivity.

Measures Ahead:

- The research organisation has proposed to reverse landscaping by integrating all aspects of earth and social sciences in order to retrieve the original geomorphic state of the landscape.
- The study conducted by the research organisation has also stressed sustainable management of the wetland listed in [Ramsar](#). There is a need for strict regulatory measures and better engineering techniques to control sand mining from Ashtamudi Lake and the Kallada river and replace existing construction methods in the region respectively.
- The artificial sedimentation process is also suggested to eradicate saline banks of deep basins.
- The multidisciplinary research carried out during the last five years has recommended appropriate strategies to protect the highly vulnerable [estuarine ecosystem](#).

Nut Graf: *There is steady land subsidence and reduced agricultural productivity in Munroe Thuruthu in Kerala. The researchers have offered various solutions like regulation of sand mining and better construction approaches.*

Nothing here for today!!!

E. Editorials

Nothing here for today!!!

F. Prelims Facts

1. Sources of Air Pollution

Syllabus: *GS03-Biodiversity and Environment*

Prelims: *Environmental pollution & degradation; Monitoring of pollution sources*

Context: Sources of air pollution to be identified in real-time.

Key Details:

- Delhi government is expected to inaugurate a website and mobile laboratory (a lab-on-van capturing [air pollution](#) readings and sources from different parts of the city) used for the “real-time source apportionment study”, under which data on Delhi’s air were collected and a model (software) created giving sources of air pollution by using air from the surroundings as input.
- The source apportionment study is being done by IIT Kanpur, IIT Delhi, [The Energy and Resources Institute \(TERI\)](#) and the Indian Institute of Science Education and Research (IISER), Mohali, at a cost of around ₹12 crore for the Delhi Pollution Control Committee.
- The Delhi Cabinet had approved the study in July 2021 and an MoU was signed in October 2021.
- The study involves a supersite, where equipment has been set up to monitor parameters like particulate matter and other gaseous pollutants, determine sources of pollutants in real time, and generate forecasts on hourly, daily, and weekly basis.
- The real time data will help the government accurately identify the sources of air pollution and take actions to curb them more effectively.
- The Delhi government is expected to share the analysis with [CAQM \(Commission for Air Quality Management\)](#) to aid the Union government to address the issue.

G. Tidbits

1. Noble's Helen

- A swallowtail butterfly has been recorded for the first time in India.
- These “extremely rare” Noble’s Helen (*Papilio noblei*) butterflies were recorded from three locations in the [Namdapha National Park](#) of Arunachal Pradesh in September 2021.
- The Noble’s Helen, closest to *Papilio antonio* from the Philippines and characterised by a large dorsal white spot, was once common in the montane forest at moderate elevations in northern Thailand.
- This species of swallowtail butterfly has also been reported from the Myanmar, Yunnan and Hubai regions of China, Laos, Cambodia and Vietnam.
 - The species are slowly disappearing in the ranges it was previously recorded.
- Butterflies are distributed worldwide except Antarctica, totalling some 18,500 species. They are considered vital indicators of the state of biodiversity and key ecosystem functions.

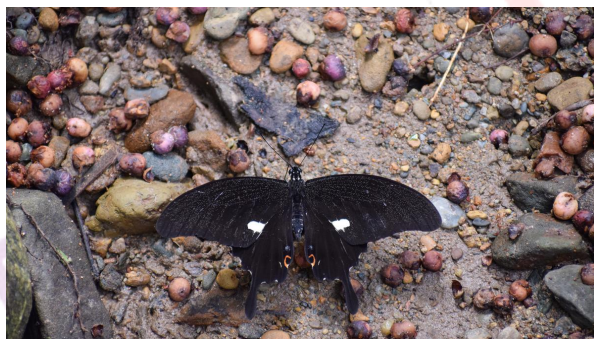


Image Source: The Hindu

2. Mughal Gardens

- The Rashtrapati Bhavan gardens, popularly known as the Mughal Gardens, was renamed ‘Amrit Udyan’ on January 28, 2023 as part of the ["Azadi Ka Amrit Mahotsav"](#) celebrations.
- It was designed by Edwin Lutyens, spreading across 15 acres, it incorporates both Mughal and English landscaping styles.
- It draws its inspiration from the Mughal Gardens in Jammu and Kashmir, the gardens around the Taj Mahal and even miniature paintings of India and Persia.
- The main garden has two channels intersecting at right angles dividing the garden into a grid of squares — a Charbagh (a four-cornered garden) — a typical characteristic of the Mughal landscaping.
 - The charbagh structure was intended to create a representation of an earthly utopia – jannat – in which humans co-exist in perfect harmony with all elements of nature.

- From the gardens surrounding Humayun's Tomb in Delhi to the Nishat Bagh in Srinagar, all are built in this style – giving them the moniker of Mughal Gardens.
- There are six lotus-shaped fountains at the crossings of these channels rising to a height of 12 feet. The garden houses nearly 2,500 varieties of dahlias and 120 varieties of roses.
 - Rose varieties include Adora, Mrinalini, Taj Mahal, Eiffel Tower, Scentimental, Oklahoma (also called Black Rose), Black Lady, Blue Moon and Lady X. There are also roses named after personalities: Mother Teresa, Raja Ram Mohan Roy, Abraham Lincoln, Jawahar Lal Nehru, and Queen Elizabeth.
- The garden is thrown open to the public for a limited period during spring each year.

3. Titanosaurs

- In central India's Narmada Valley, researchers discovered 92 nesting sites containing a total of 256 fossil eggs belonging to titanosaurs, which were among the largest dinosaurs to ever live.
- The Lameta Formation, located in the Narmada Valley, is well-known for fossils of dinosaur skeletons and eggs of the Late Cretaceous Period that lasted from about 145 to 66 million years ago.
- Based on the layout of the nests, it is inferred that these dinosaurs buried their eggs in shallow pits like modern-day crocodiles.
- Certain pathologies discovered in the eggs, such as a rare case of "egg-in-egg," suggest that titanosaur sauropods had a reproductive physiology similar to birds and may have laid their eggs sequentially, as seen in modern birds.
- The presence of multiple nests in the same area suggests that these dinosaurs, like modern birds, engaged in colonial nesting behaviour.
- The close spacing of the nests, on the other hand, left little room for adult dinosaurs, lending credence to the theory that adults abandoned the hatchlings (newborns) to fend for themselves.
- The findings contribute significantly to palaeontologists' understanding of how dinosaurs lived and evolved.

H. UPSC Prelims Practice Questions

Q1. Consider the following Pairs: (Level-Difficult)

Traditional Theatre	State
1. Maach	Madhya Pradesh
2. Shumang Leela	Assam
3. Tamasha	Maharashtra
4. Therukoothu	Kerala

How many pairs given above are correctly matched?

- A. Only one pair
- B. Only two pairs
- C. Only three pairs
- D. All four pairs

Answer: B

Explanation:

- **Pair 01 is correctly matched**, Maach is a prominent folk theatre form of Madhya Pradesh and historical findings suggest that it has been an integral part of the local culture of the Malwa region since the early eighteenth century, making it a 200–250-year-old art form.
- **Pair 02 is incorrectly matched**, Shumang Kumhei also known as Shumang Leela (Meitei for 'Courtyard Play'), is a Meitei traditional form of theatre, usually performed in Manipur.
- **Pair 03 is correctly matched**, Tamasha is a traditional form of Marathi theatre, often with singing and dancing, widely performed by local or travelling theatre groups within the state of Maharashtra.
- **Pair 04 is incorrectly matched**, Therukoothu is a Tamil street theatre form practised in Tamil Nadu and Tamil-speaking regions of Sri Lanka.

Q2. Consider the following statements: (Level-Medium)

1. Hazaribagh Wildlife Sanctuary is located in the State of Bihar
2. In a Wildlife Sanctuary Human activities are not allowed.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both
- D. None

Answer: D

Explanation:

- **Statement 01 is correct**, Hazaribagh Wildlife Sanctuary is a wildlife sanctuary in Jharkhand. The Hazaribagh National Park was established in 1955. It was demoted to the status of a wildlife sanctuary in 1976.
- **Statement 02 is correct**, A highly restricted human activity is allowed in wildlife sanctuaries. The hunting and poaching of animals are strictly banned as well as trees and plants cannot be cut down for agriculture or any other application. There are no clearly

carved out boundaries or fencing to prohibit people from entering into wildlife sanctuaries. Individuals are allowed to walk through wildlife sanctuaries for educational, recreational, or research reasons.

Q3. Which of the following is/are correctly matched? (Level-Difficult)

Fighter Aircraft	Origin
1. Mirage 2000	Russia
2. Sukhoi Su-30	France
3. SEPECAT Jaguar	United Kingdom

Options:

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

Answer: B

Explanation:

- **Pair 01 is incorrectly matched,** The Dassault Mirage 2000 is a French multirole, single-engine, fourth-generation jet fighter manufactured by Dassault Aviation.
- **Pair 02 is incorrectly matched,** The Sukhoi Su-30 is a twin-engine, two-seat supermaneuverable fighter aircraft developed in the Soviet Union by Russia's Sukhoi Aviation Corporation.
- **Pair 03 is correctly matched,** The SEPECAT Jaguar is an Anglo-French jet attack aircraft originally used by the British Royal Air Force and the French Air Force in the close air support and nuclear strike role. It is still in service with the Indian Air Force.

Q4. Assertion (A): Rajasthan has the highest goat population in the country.

Reason(R): With the expansion of desert in Rajasthan, people shift from agriculture and cattle rearing to goat rearing because goats can survive in harsh environments.

(Level-Difficult)

Codes:

- A. Both A and R are individually true and R is the correct explanation of A
- B. Both A and R are individually true and R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

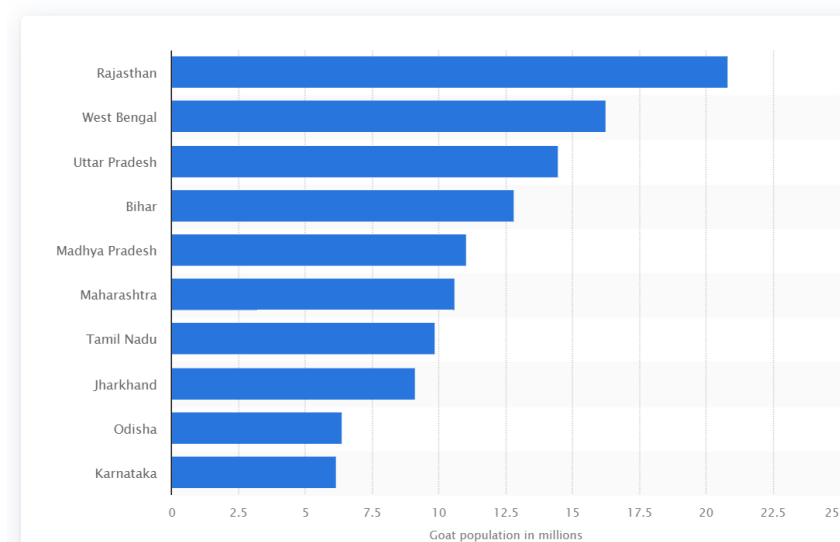
Answer: A

Explanation:

- Rajasthan has the highest goat population in the country.

Indian states with the highest number of goats in 2019

(in millions)



- With the expansion of desert in Rajasthan, numerous small and medium farmers shift from agriculture and cattle rearing to goat rearing because goats can survive in harsh environments.
 - Goat rearing is not capital intensive, hence easy to start. The partially denuded Aravali hills provide free grazing ground; that saves close to 70 per cent of the rearing cost.

Q5. Consider the following statements: (PYQ-CSE-2007)(Level-Difficult)

1. In India, Red Panda is naturally found in the western Himalayas only
2. In India, slow Loris lives in the dense forests of the North East.

Which of the statements given above is/are correct?

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

Answer: B

Explanation:

- **Statement 01 is incorrect**, The red panda is endemic to the temperate forests of the Himalayas, and ranges from the foothills of western Nepal to China in the east. Its range includes southern Tibet, Sikkim and Assam in India, Bhutan, the northern mountains of Burma, and in south western China, in the Hengduan Mountains of Sichuan and the Gongshan Mountains in Yunnan.
- **Statement 02 is correct**, in India, Slow Loris lives in the dense forests of the North East. The Bengal slow loris (*Nycticebus bengalensis*) or northern slow loris is a strepsirrhine primate and a species of slow loris native to the Indian subcontinent and Indochina.

I. UPSC Mains Practice Questions

1. [Discuss the challenges that Climate Change poses to our culture and heritage?](#) (10 marks, 150 words)
2. [Who is a climate refugee? What are the implications for humanitarian institutions with regards to this new type of refugee?](#) (10 marks, 150 words)