UPSC Daily Current Affairs | Prelim Bits 07-11-2024

Jagannath Temple

Odisha's law minister recently clarified that there was no secret chamber inside the treasury of the Jagannath Temple in Puri.

- The circular temple is situated in Puri, Odisha.
- It is the only circular temple in India.
- It is a revered temple where ***Lord Krishna*** is worshipped as Lord Jagannath.
- Lord Jagannath is present in this temple along with elder brother Lord Balbhadra and younger sister Goddess Subhadra.
- **Built by -** King ***Anatavarman Chodaganga Deva*** of the Kachchhapaghata Dynasty (Eastern Ganga Dynasty) in the 12th century.
- **Architecture-**The temple is known for its Kalinga style architecture, which features intricate carvings and curvilinear towers.



- **Features - *Sandstone and laterite*** construction, intricate carvings of Hindu mythology, main shrine built in the 10th century
- The circular structure of the temple is believed to have inspired the design of the Indian Parliament building.
- The temple is also known as the ***"White Pagoda"*** and is one of the 4 great ***"Char Dham" pilgrimage*** sites.

Char Dham refers to the 4 holy sites or 4 abodes of God in the 4 directions of India likely Puri in the East, Rameshwaram in the South, Dwarka in the West, and Badrinath in the North.

- It is famous for its Annual Rath yatra, or chariot festival.

References

1. Indian Express | Jagannath temple
2. Odisha Govt.in | Puri Temple

Ranthambore National Park

In a recent report, officials say that 25 out of 75 tigers were missing last year in Ranthambore National Park.

- The National Park, named after the ***Ranthambore fort***, is situated in Karauli and Swai Madhovpur districts of ***Rajasthan.***
- It is one of the largest tiger habitats in India.
- **Range** - It is located at the junction of ***Aravallis and Vindhyan ranges.***
- **History** - It was established initially as Sawai Madhopur Game Sanctuary in 1955 by the Government of India.
- In 1973, it was declared as one of the ***Project Tiger reserves*** in India.
- In1980, it was declared a national park, while the forests located beside it were named Sawai Man Singh Sanctuary & Keladevi Sanctuary.
- **Rivers** - It is bounded to the north by the Banas river and to the south by the Chambal river.
- **Topography** - It is dry deciduous forests and open grassy meadow.
- **Flora -** There are about 539 species of flowering plants where the Dhok tree is the most common type of tree, apart from it, mango, tamarind, and banyan are amongst the other tree species.
- Ranthambore is also famous for housing one of the largest banyan trees in India at Jogi Mahal.
- **Fauna** – It is popular for being a natural habitat for ***Royal Bengal Tiger.***
- It also has a rich population of leopards, sloth bears, several deer species like chital (spotted deer), marsh crocodile, palm civet, jackal, desert fox, serpent eagle, waterfowl.
- 40 species of mammals, 35 species of reptiles and 320 species of birds found inside the park.
- Birds include serpent eagle, waterfowl, cormorant, painted spurfowl, sarus crane, bronzed-winged jacana, sandpiper, kingfisher, nightjar, painted sandgrouse, and great-horned owl.
- Most of the birds inhabit the areas around the 3 large lakes Padam Talao, Malik Talao and Rajbagh Talao.
- **Significance** - Tiger populations in Ranthambore are smaller, isolated populations.
- This makes them less genetically diverse due to lesser intermixing of different populations.



- **Threats -** Poaching, habitat loss and fragmentation.

References

1. The Hindu | Ranthambore National Park
2. Rajasthan Govt | Ranthambore Tiger Reserve

TOI-6651b, a new planet

An international team of scientists led by the Physical Research Laboratory (PRL), Ahmedabad, has discovered an exoplanet outside our solar system.

- It is a ***sub-Saturn class planet***, 5 times bigger and 60 times heavier than the Earth.

  Sub-Saturn class planets have a size in between that of Neptune and Saturn.

- **Discovered using** - The 2nd ***PRL Advanced Radial Velocity Abu Sky Search (PARAS-2)***, a high-end spectroscope mounted on PRL's 2.5m telescope at Mount Abu in Rajasthan.
- **Distance** - Located 690 light years away from the Sun.
- It is the ***3rd most dense sub-Saturn class*** located at the edge of the ***Neptunian desert*** (4th exoplanet found within the rare Neptunian desert).

  Neptune desert is a region of the known exoplanet population, where planets rotating close to the stars are rare.

- **Orbit -** TOI-6651b orbits around its host star, a Sun-like star, in just ***5 days.***
- As the planet is revolving dangerously close to its parent star, this area receives strong irradiation from the star itself.
  - It means that the close-by planets will be unable to retain their gaseous atmosphere for long as they evaporate, leaving behind a rocky core, as in this case.
- The core of the exoplanet is massive (nearly 87%) composed of rich ***metals like iron***

and was found to be rocky whereas the rest mass consisted of a low-density envelope of ***hydrogen and helium.***
- **Temperature -** 1,500 degrees Kelvin (about 1,200 degrees Celsius), thus ***ruling out TOI-6651b from being habitable***.

References

1. Indian Express | TOI-6651b
2. Times Now News | TOI-6651b

Purchasing Managers' Index (PMI)

India's services PMI recovered from its 10-month low in September to reach 58.5 in October supported by strong expansions in output and new business, which in turn boosted job creation.

- The Purchasing Managers' Index (PMI) is an indicator of the prevailing direction of economic trends in the ***manufacturing or service sectors.***
- **Released by** - The ***Institute for Supply Management (ISM)***, a nonprofit supply management organization.
- The indicator is compiled and released ***monthly*** is a survey of supply chain managers across 19 industries, covering both upstream and downstream activity.
- The value of the PMI and its movements can provide useful insight to business decision makers, market analysts, and investors.
- The PMI is a leading indicator of overall economic activity in the U.S.
- **Calculation** - *PMI = (P1 * 1) + (P2 * 0.5) + (P3 * 0),* Where
  - P1 = percentage of answers reporting an improvement
  - P2 = percentage of answers reporting no change
  - P3 = percentage of answers reporting a deterioration
- **Focused areas -** The PMI is based on 5 major survey areas each of which is weighted equally
  - New orders
  - Inventory levels
  - Production
  - Supplier deliveries
  - Employment
- **Headline** - The headline PMI is a number from ***0 to 100.***
  - A PMI above 50 represents an expansion when compared with the previous month.
  - A PMI reading under 50 represents a contraction while a reading at 50 indicates no change.
  - The further away from 50, the greater the level of change.
- The PMI is usually released on a monthly basis, offering up-to-date information about the economic activity in the manufacturing or services sector.
- Changes in the PMI can signal shifts in economic activity before those changes are seen in other indicators like GDP growth or employment numbers.

- The PMI also captures information from various sub-components such as new orders, production, employment, supplier deliveries, and inventories.

References

1. The Hindu | Purchasing Managers' Index (PMI)
2. Investopedia | Purchasing Managers' Index (PMI)

Common Cat Snake

Rare 'Cat Snake' recently spotted in Valmiki Tiger Reserve, only Tiger reserve in Bihar.

- **Scientific Name** - Boiga trigonata.
- The common cat snake is far ***less venomous*** than other snake species and is also considered ***extremely rare.***
- **Morphology -** It is a ***medium-sized*** snake that is usually found in 70-100cm range.
- Its body is slender, thin and bears a thin tail. Its upper body colour is grey-brown, with cream coloured irregular markings, margined with black colour.
- Its underside is yellow-white or yellow-brown, with most of the ventral scales having dark spots.
- Its head is large, triangular-shaped and distinctly broader than the neck. Its eyes are large and bear vertical pupils.
- Unlike other Cat Snakes of its range, this species bears characteristic “gamma” or “Y” shaped marking that helps in its quick identification on the field.
- **Behavior -** These snakes are ***nocturnal***, meaning they become active and hunt as darkness falls.
- During the day, their pupils shrink to narrow vertical slits, but as night approaches, the pupils dilate and become almost round.
- **Habitats -** It can be found in almost all types of forests and at a wide range of elevations.
- It hides in tree holes, crevices, and dense vegetation at low to moderate heights.
- **Distribution -** Sri Lanka, India, Pakistan, Nepal, Bangladesh, Afghanistan, southern Turkmenistan, southern Uzbekistan, southeastern Tajikistan, and Iran.
- It is found all around India, excluding north-east states after Sikkim.
- **Conservation status**
    - **IUCN –** Least Concern.
- It is posing no life-threatening risk to humans, does have an impact on small animals.
- Its venom can be dangerous to creatures such as lizards, frogs, rats, and birds, which the snake typically preys on.
- This natural behavior helps maintain balance within its ecosystem.

Reference

News 18 | common cat snake



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