



**UPSC
Mentorship**
A Unit of Mentorship India

DAILY CURRENT AFFAIRS

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SOURCES



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GS I

1. Monsoon in Karnataka: KRS dam breaches 100 feet mark, Kabini almost full following rain in Kerala

Source: The Hindu

Context: The water level at the Krishnaraja Sagar (KRS) reservoir, across the river Cauvery breached the 100 feet mark against the maximum level of 124.80 feet recently.

Krishnaraja Sagar (KRS) Dam:

- It is a type of **gravity dam** built on the **river Kaveri** and its tributaries, **Hemavathi** and **Lakshmana Theertha**, in the district of **Mandya** in **Karnataka**.
- **Construction:**
 - The dam was **named after Maharaja Krishna Raja Wadiyar IV**, the then-ruler of the princely state of **Mysore**, who played a significant role in **initiating and funding the construction**.
 - The dam's primary objectives were to provide water for irrigation, generate hydroelectric power and mitigate the impact of droughts in the region.
 - The construction began in 1911 and was **completed in 1931**.
 - The dam was **designed by Sir M. Visvesvaraya**, a famous Indian engineer (often referred to as the '**architect of modern Mysore**' or '**father of planning in India**').
 - The reservoir is spread over an area of 130 Sq. Kms.
- **Features:**
 - It is 2,621 meters (8,600 feet) long and 40 meters (130 feet) high.
 - The dam has arch-type 177 iron sluices and some of them have automatic doors.
 - The dam was among the **first in the world to have automatic sluice gates**.
 - It was constructed **using traditional stone masonry** and a **lime-pozzolan mortar called surki**, which acted as the **binder**.
 - **Brindavan Gardens**, an ornamental garden, is attached to the dam.
- **Usage:**
 - Apart from being the main source of water for irrigation in the most fertile **Mysore and Mandya**, the reservoir is the main source of drinking water for all of **Mysore city** and almost the whole of **Bangalore city**.
 - It also ensures **power supply** to the **Shivanasamudra hydroelectric power station**.
 - The **water released** from this dam flows into the state of **Tamil Nadu** and is stored in the **Mettur dam** in the Salem district.

2. Brahmaputra's lone female gharial's long wait for a mate could end soon

Source: The Hindu



Context: A lone female Gharial has been spotted for more than three years in a stretch of the river within Kaziranga National Park and Tiger Reserve.

Gharial:

- It is a **freshwater crocodile** belonging to the Crocodylia Order and Crocodylidae Family.
- Scientific Name: *Gavialis gangeticus*
- **Distribution:**
 - Historically, the gharial's range spanned the rivers of Bangladesh, Bhutan, India, Myanmar, Nepal and Pakistan.
 - Today, only **fragmented populations remain in Nepal and northern India.**
 - Their major population occurs in **three tributaries of the Ganga River: the Chambal and Girwa Rivers in India and the Rapti-Naryani River in Nepal.**
 - The Gharial reserves of India are located in **three States: Uttar Pradesh, Madhya Pradesh and Rajasthan.**
- **Features:**
 - The gharial is **one of the largest** of all crocodylian species, with males reaching 16 to 20 feet (5 to 6 meters) in length. Females typically grow to lengths of 11.5 to 15 feet (3.5 to 4.5 meters).
 - They have **thick skin covered with smooth epidermal scales** that do not overlap.
 - The **snout of the gharial is uniquely the thinnest and most elongated** among all the crocodylians.
 - In addition, the **adult males sport a large bulb at the tip of their snout, called the 'ghara'.**
 - The teeth are more numerous than any other crocodylian species.
 - It is also the **most aquatic of all crocodylians**, for it never moves far from the water.
 - Because of their **weak leg muscles**, gharials are poorly equipped for locomotion on land.
- **Conservations Status:** The global population of gharials has been reduced from 5000 in the 1940s to a few hundred individuals in the wild.
 - **IUCN Red List:** Critically endangered.
 - **Wildlife (Protection) Act, 1972:** Schedule I
 - **CITES:** Appendix I



3. Tradition in tatters: Kalamkari colours fading in A.P.'s Pedana

Source: The Hindu

Context: Kalamkari art form which was once-flourishing art form is now struggling for survival in contemporary times due to the rise of power looms, escalating raw material costs.

Kalamkari:

- It is a highly popular form of **hand-painted or block-printed** cotton textile and paintings, practised in **Andhra Pradesh**.
- Kalamkari emerged as a textile tradition during the reign of **Qutb Shahis at Golconda** in the 16-17th century.
- The art form **originated in Tilang**, the region between present-day Andhra Pradesh and Telangana.
- “The word ‘Kalam’ meant pen, while ‘Kari’ meant craftsmanship.
- There are two distinct styles of Kalamkari – **Srikalahasti and the Pedana style Kalamkari**
- **Pedana style Kalamkari**
 - It is also known as **Machilipatnam style** which involves vegetable dyed block-painting of a fabric.
 - The artist prints the outlines as well as the main features of his designs with **hand-carved wooden blocks**.
 - It is Persian in character because of its patronage and proximity to the **Mughals and the Golkonda Sultanate**.
 - The traditional block prints in this art largely use **motifs** such as interlacing patterns of leaves and flowers, the cartwheel, different forms of the lotus flower etc.
 - This style has received a **Geographical Indications tag**.
- **Srikalahasti’s style**
 - Srikalahasti’s style involves using a **traditional pen** with a brush to draw the designs.
 - The Srikalahasti artisans restricted themselves to making a **hand-painted cloth** that was **primarily used in temples**, to either hang behind the deity or on a chariot.
 - **Theme:** Mythological figures became the theme of the art that originated in the temple town.



GS II

4. Indo-Russian Joint Venture Delivers 35,000 AK-203 Rifles to Indian Army

Source: The Hindu

Context: The Indo-Russian Rifles Private Limited (IRRPL), a joint venture between India and Russia, has successfully delivered 35,000 AK-203 Kalashnikov assault rifles to the Indian Army.

AK-203 Rifle:

- It is a **modern firearm** originating from Russia, designed by the renowned engineer **Mikhail Kalashnikov** between 2007 and 2010.
- It is a **gas-operated, magazine-fed, select-fire assault rifle**.
- It is a version of the AK-200 rifle **chambered for the 62x39mm cartridge** used in the Indian Army.
- The weapon has the traditional advantages of Kalashnikov assault rifles: **reliability and ease of maintenance**.
- These AK-203 rifles are **produced in India using proprietary Russian technologies and certified equipment**, ensuring high product quality and adherence to specifications.
- It will be **manufactured by Indo-Russian Rifles Private Limited (IRRPL)**.
 - IRRPL is a **joint venture between India and Russia**, set up in 2019 to produce AK-203 rifles in the **Korwa Ordnance Factory in Amethi district, Uttar Pradesh**.
 - The joint venture **plans to ensure 100% localisation** of the production of AK-203 rifles in India.
- India is the **first country outside Russia** which has started the **production of the AK-200 series assault rifles**.
- **Features of AK-203 Rifle:**
 - Weighing 3.8 kg, this rifle measures between 880 and 940 mm in length with the stock extended, while its barrel is 415 mm long.
 - Its mechanism is based on a **gas-operated action with a rotating bolt**, allowing a firing rate of approximately **700 rounds per minute**.
 - With an initial velocity of 715 m/s, the AK-203 offers an effective **firing range between 400 and 800 meters**, depending on sight adjustments.
 - The weapon is fed by a 30-round detachable box magazine, although a 50-round quad-column magazine can also be used for increased capacity.
 - It is equipped with **adjustable iron sights**, and **picatinny rails** allow the addition of various optical sighting systems.



5. The Scheme will Provide a Support of One Lakh Rupees to Eligible UPSC Aspirants

Source: PIB

Context: The Union Minister for Coal and Mines recently launched the portal “Noble Initiative for Rewarding Mains Aspirants of National Civil Services Examination (NIRMAN)”.

NIRMAN Scheme:

- Noble Initiative for Rewarding Mains Aspirants of the National Civil Services Examination (NIRMAN) is a unique Corporate social responsibility (CSR) scheme by Coal India Limited (CIL) designed to support meritorious candidates from its operational districts.
- The NIRMAN scheme is tailored to provide financial assistance of ₹1,00,000 to candidates who have successfully cleared the preliminary round of the UPSC Civil Services and Forest Service Examinations in 2024.
- The eligible beneficiaries include those with an annual family income of less than ₹8 lakhs, and who are permanent residents of the 39 districts where CIL operates.
- This support extends to individuals from Scheduled Castes (SC) and Scheduled Tribes (ST), as well as female and third-gender candidates.
- The application process for NIRMAN is fully digital and facilitated through a dedicated portal.

Key Facts about Coal India Limited (CIL):

- It is a Govt of India-owned Maharatna company.
- It is the single largest coal producer in the world.
- It contributes to 85% of total domestic coal production and 75% of total coal-based generation.
- CIL contributes to 55% of total power generation and meets 40 % of the primary commercial energy requirements of the country.
- CIL functions through its subsidiaries in 84 mining areas spread over eight states in India.
- CIL has 313 mines (as of 1st April 2024), of which 131 are underground, 168 are opencast and 14 are mixed mines.
- It operates Asia’s largest opencast coal mine at Gevra, Chhattisgarh.



GS III

6. Rare vampire squid's appearance in South China Sea leaves biologists puzzled

Source: PIB

Context: Recently, scientists found a rare vampire squid, the second known living species, inside the deep water off South China Sea.

Vampire Squid:

- It is a small (12-inch-long) **cephalopod found in deep** temperate and tropical seas.
- The vampire squid possesses characteristics of both **squid and octopi**, and occupies its own order in taxonomy (scientific classification).
- **Habitat**
 - It lives in the **tropical and subtropical oceans** of the world at depths ranging from 300-3000m with a majority of squids living between the ranges of 1,500-2,500m.
 - Vampire squids live in the **oxygen minimum layer** of the ocean where virtually no light penetrates.
- **Characteristics**
 - It has **black chromatophores** with reddish-brown ones interspersed.
 - In contrast to other cephalopods, these **chromatophores are non-functional** because they have lost the muscles that enable rapid color change.
 - It shares most other features with other octopods and decapods, but it has several adaptations that allow it to live in a deep-sea environment.
 - The vampire squid also **has photophores** which are large circular organs which are located posterior to each adult fin and are also distributed over the surface of the mantle, funnel, head and aboral surface.
 - These **photoreceptors produce luminescent clouds** of glowing particles that allow the vampire squid to glow.
 - Its most intriguing physical characteristic is that it has **proportionally the largest eyes** of any animal in the world.
 - **Food habit:** They are **deep-sea scavengers** and are in fact usually gravitate toward feces and dead animals.



Editorial, Ideas and Opinions

7. Tariff hikes on Chinese goods and Red Sea crisis are fuelling container shortages, impacting exporters

Source: The Indian Express

Prelims:

Mains:

Context: India and global traders are grappling with severe container shortages as the European Union's 37.6% tariffs on Chinese electric vehicle (EV) imports begin, preceding upcoming US tariffs.

- At a recent Commerce Ministry review, Indian exporters highlighted that container shortages, a persistent issue since the COVID-19 pandemic, are exacerbated by structural weaknesses.
- The Red Sea crisis and renewed US-China trade tensions have further increased ship voyage times, intensifying the shortages.

Reasons behind the container crunch

- **Steep US and EU tariffs on Chinese products**
 - Indian exporters face severe container shortages due to heightened demand from Chinese exporters aiming to beat steep US and EU tariffs on products like electric vehicles (EVs) and semiconductors.
 - The US tariffs, which can reach up to 100% on EVs and 50% on semiconductors, along with the EU's 37.6% tariffs, will become effective from August 1.
 - These have prompted a rush to ship goods, leaving fewer containers for Indian exporters.
 - Due to the scale of trade between the US and China, container demand has gone up leaving Indian exporters with fewer containers for exports.
- **Contribution of the Red Sea crisis**
 - The Red Sea crisis further exacerbates the shortage, with near-daily attacks by Yemen's Houthi rebels reducing traffic by 90% and forcing ships to take longer routes via the Cape of Good Hope.
 - This has increased port congestion, with global congestion hitting an 18-month high and 60% of ships waiting in Asia.
- **Continued and expanded tariffs**
 - Unlike past tariff hikes, the current situation is worsened by the continued and expanded tariffs under the Biden administration, targeting high-demand items like EVs.
 - Additionally, other countries like Canada and Indonesia are also imposing higher tariffs on Chinese goods, increasing global demand for containers.
 - Indonesia has also announced an import tariff of up to 200 percent on a range of Chinese goods.
- **Dependence on China for containers**
 - India's dependency on China for containers, which produces 95% of the global supply, is a significant issue.
 - China is the largest exporter of containers.



- Much of the container manufacturing in China is done by a handful of highly subsidized state owned enterprises that has sparked security concerns in the US, EU as well as in India.
- Efforts to mitigate this dependence began post-COVID-19, with India and the US initiating domestic container production to reduce reliance on Chinese manufacturing.

Container production in India

- In 2021 that state-owned wagon manufacturer Braithwaite, and engineering major Bharat Heavy Electricals Limited had received an order from Container Corporation of India (CONCOR) to develop and produce 1000 containers each.
- However, the production did not go as expected.
- In 2023, Railway Minister told Parliament that CONCOR was facing problems in supply and procurement of domestic containers.
- He told the Parliament that CONCOR had placed orders for 19,000 containers on seven indigenous container manufacturers located in Andhra Pradesh, West Bengal, Chhattisgarh, Punjab, Maharashtra, and Gujarat.
- However, till 31 March 2023, about 500 containers had been delivered to CONCOR.



In Brief

8. What is Aphelion?

Source: The Hindu

Context: Every year earth reaches its aphelion position in the month of July.

Aphelion:

- It is the point of the **Earth's orbit** that is **farthest away from the Sun**.
- It always happens in early July, about two weeks after the June solstice.
- **Why it occurs?** Earth has an aphelion as a result of its **orbit being elliptical**, rather than circular.
- At aphelion, Earth's distance from the Sun is **about 152.1 million km**.
- Six months later, in early January, Earth reaches **perihelion** — the point at which it is closest to the Sun. At perihelion, the distance between Earth and the Sun is roughly 147.1 million km.

Does aphelion affect temperatures on Earth?

- We get **7% less sunlight** at aphelion compared to what we are exposed to at perihelion, leading to slightly milder summers and winters in the **Northern Hemisphere**.
- But this effect is offset by Earth's **tilt on its axis** — at different points along its orbit the hemispheres slant either toward or away from the Sun.

9. Japan issues new yen banknotes packed with 3D hologram technology to fight counterfeiting

Source: The Hindu

Context: Japan issued its first new banknotes in two decades, yen packed with 3D hologram technology to fight counterfeiting.

3D Hologram Technology:

- It is a **virtual three-dimensional image** created by the interference of light beams that reflect real physical objects. Holograms preserve the depth, parallax, and other properties of the original item.
- Unlike conventional 3D projections, **holograms can be seen with the naked eye**.
- **Principle:** It uses the principles of **interference and diffraction of light waves** to record and reconstruct 3D images of objects.
- There are **two methods for creating holograms**: computer-generated holograms for augmented reality glasses and actual holograms for optical displays.
- **Application:** It has a wide range of applications in **medicine, the military, weather forecasting, virtual reality, digital art and security**.



How do holograms prevent counterfeiting?

- Holograms prevent counterfeiting because of **their complexity**, making them difficult to replicate using traditional methods.
- Holograms' intricate patterns and properties make them **difficult to duplicate completely**, which deters counterfeiters.
- Additionally, holograms are designed to be easily recognizable by trained individuals, facilitating quick identification of genuine products versus fake ones.

10. WEP and Transunion Cibil to collaborate to enhance financial literacy and business skills of women entrepreneurs

Source: The Hindu

Context: NITI Aayog's Women Entrepreneurship platform and credit bure have collaborated to launch SEHER programme.

SEHER Programme:

- It is a comprehensive **credit education program** designed to enhance financial literacy and business skills **among women entrepreneurs**.
- This initiative is expected to enable women to access the financial tools necessary for business growth and job creation.
- It is an initiative of NITI Aayog's **Women Entrepreneurship Platform (WEP) and TransUnion CIBIL**.
- This initiative supports WEP's goal of improving financing access for women in India's 63 million MSMEs.

Key facts about the Women Entrepreneurship Platform

- It was **incubated in NITI Aayog** in 2018 as an aggregator platform that transitioned as a **public-private partnership** in 2022 to build a comprehensive ecosystem supporting women entrepreneurs across India.
- WEP aims at **empowering women entrepreneurs** by overcoming information asymmetry and providing a continuum of support across different pillars - Entrepreneurship promotion, Access to Finance; Market Linkage; Training and skill; Mentoring and Networking and Business Development Services.
- For this, WEP adopts a wide array of interventions with a focus on convergence and collaboration with existing stakeholders.



Daily Quiz

Q.1 Which of the following statements about the vampire squid is correct?

- (a) Vampire squids are found only in the Atlantic Ocean.
- (b) Vampire squids have chromatophores that enable rapid color change.
- (c) Vampire squids live in the oxygen minimum layer of the ocean.
- (d) Vampire squids are primarily predators that hunt small fish and crustaceans.

Q.2 Consider the following statements regarding the Krishnaraja Sagar (KRS) Dam:

- 1-The KRS Dam is built across the Tungabhadra River in the state of Karnataka.
- 2-It was constructed under the supervision of Sir M. Visvesvaraya, a renowned engineer and statesman.
- 3-The dam plays a crucial role in providing water for the irrigation of the Cauvery delta.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 2 only
- (d) 1, 2, and 3

Q.3 Consider the following statements about the Gharial (*Gavialis gangeticus*):

- 1. The Gharial is classified as "Endangered" on the IUCN Red List.
- 2. The major populations of Gharials in India occur in the Chambal, Girwa, and Rapti-Naryani Rivers.
- 3. The unique feature of adult male Gharials is a large bulb at the tip of their snout, known as the 'ghara'.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 3 only



Q.4 Consider the following statements regarding the Noble Initiative for Rewarding Mains Aspirants of National Civil Services Examination (NIRMAN) Scheme:

1. The NIRMAN scheme provides financial assistance to candidates who have successfully cleared the preliminary round of both the UPSC Civil Services and Forest Service Examinations in 2024.
2. To be eligible for the NIRMAN scheme, the candidates must have an annual family income of less than ₹8 lakhs and be permanent residents of any district in India.
3. The NIRMAN scheme is implemented by Coal India Limited (CIL) as a Corporate Social Responsibility (CSR) initiative.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 1, 2, and 3

Q.5 Consider the following statements regarding the AK-203 rifles and the Indo-Russian Rifles Private Limited (IRRPL):

1. The AK-203 rifle is chambered for the 7.62x39mm cartridge.
2. The Indo-Russian Rifles Private Limited (IRRPL) joint venture was established in 2019 to produce AK-203 rifles in the Korwa Ordnance Factory in Amethi district, Uttar Pradesh.
3. India is the first country outside Russia to start the production of the AK-100 series assault rifles.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2, and 3



Solutions

1- **Answer:** (c) Vampire squids live in the oxygen minimum layer of the ocean.

Explanation:

(a) Incorrect. Vampire squids are found in the tropical and subtropical oceans worldwide, including the South China Sea.

(b) Incorrect. While vampire squids have chromatophores, these are non-functional and do not enable rapid color change because they have lost the muscles required for this function.

(c) Correct. Vampire squids live in the oxygen minimum layer of the ocean, where virtually no light penetrates.

(d) Incorrect. Vampire squids are deep-sea scavengers and are known to gravitate towards feces and dead animals rather than actively hunting small fish and crustaceans.

2. **Answer:** (b) 2 and 3 only

Explanation:

1. The KRS Dam is not built across the Tungabhadra River; it is built across the Cauvery River in Karnataka. This makes statement 1 incorrect.
2. The dam was indeed constructed under the supervision of Sir M. Visvesvaraya, who is celebrated for his engineering expertise and contributions to public works in India. Statement 2 is correct.
3. The KRS Dam is crucial for providing water for irrigation in the Cauvery delta, which is a key agricultural region. Statement 3 is correct.

3. **Answer:**

(b) 2 and 3 only

Explanation:

1. The Gharial is classified as "Critically Endangered" on the IUCN Red List, not just "Endangered". This makes statement 1 incorrect.
2. The major populations of Gharials in India indeed occur in the Chambal and Girwa Rivers, with the Rapti-Naryani River population in Nepal. Statement 2 is correct.
3. The unique feature of adult male Gharials is the large bulb at the tip of their snout, known as the 'ghara'. Statement 3 is correct.

4. **Answer:** (a) 1 and 3 only



Explanation:

1. The NIRMAN scheme indeed provides financial assistance to candidates who have successfully cleared the preliminary round of both the UPSC Civil Services and Forest Service Examinations in 2024. Statement 1 is correct.
2. The eligibility criteria specify that candidates must be permanent residents of the 39 districts where CIL operates, not any district in India. This makes statement 2 incorrect.
3. The NIRMAN scheme is indeed implemented by Coal India Limited (CIL) as a Corporate Social Responsibility (CSR) initiative. Statement 3 is correct.

5. Answer:

(a) 1 and 2 only

Explanation:

1. The AK-203 rifle is indeed chambered for the 7.62x39mm cartridge. Statement 1 is correct.
2. The Indo-Russian Rifles Private Limited (IRRPL) joint venture was established in 2019 to produce AK-203 rifles in the Korwa Ordnance Factory in Amethi district, Uttar Pradesh. Statement 2 is correct.
3. India is the first country outside Russia to start the production of the AK-200 series assault rifles, not the AK-100 series. This makes statement 3 incorrect.





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