
Prelims Exam Topics

INDIAN PEACOCKS

Context

India presented **five Indian peacocks**, including **four blue peafowl** and **one rare white-feathered male**, to the **United Nations Office at Geneva (UNOG)**.

About Indian Peacocks

- **Appearance & National Status:** Indian peacock/peafowl is a large, colourful bird and was declared **India's National Bird in 1963**.
- **Habitat:** It inhabits **open lowland forests, thorn scrub, agricultural fields, grasslands and riverbanks** and is also commonly found near human settlements, parks and village outskirts.
- **Distribution:** Native to **South Asia**, including **India, Sri Lanka, Nepal, Bhutan and Pakistan**; it has also been introduced into several other regions.
- **Conservation Status:** **IUCN Red List – Least Concern; Wildlife Protection Act, 1972 – Schedule I.**
- **Sexual Dimorphism:** Males (**peacocks**) have a metallic-blue head and neck with a fan-shaped crest, while females (**peahens**) are smaller with predominantly brown plumage that provides camouflage during nesting.
- **Train & Ocelli:** The male's distinctive “tail” is actually an elongated **upper-tail covert train** containing over 200 feathers with iridescent **eye-spots (ocelli)**, which are prominently displayed during courtship.
- **White Variant:** Rare white-feathered peafowl can result from **leucism**, a genetic condition causing reduced pigmentation; unlike albinos, they retain normally pigmented eyes.
- **Diet & Roosting:** They are **omnivorous ground feeders**, consuming seeds, grains, insects, small reptiles and young snakes, and generally **roost at elevated locations** such as tall trees to avoid predators.

LAKE MEAD

Context

Lake Mead, the largest artificial reservoir in the United States, recently fell to a record-low water level of **1,040.4 feet (317.1 m) above sea level**.

About Lake Mead

- **Type:** Lake Mead is the **largest man-made reservoir in the United States by volume**, formed by damming the **Colorado River**.
- **Location:** It lies along the **Arizona–Nevada border, USA**.
- **Reservoir System:** Lake Mead functions alongside **Lake Powell**, formed behind Glen Canyon Dam, as part of a major **two-reservoir system for regulating Colorado River water storage and releases**.
- **Causes of Decline:** Reduced Rocky Mountain snowpack, prolonged drought and rising evaporation, and long-standing over-allocation of Colorado River water to the seven basin states and Mexico have lowered Lake Mead's water levels.

MERCHANT DISCOUNT RATE (MDR)

Context

The government has indicated that the proposed **Merchant Discount Rate (MDR) on UPI transactions** will be nominal and applicable only to a limited category of merchant transactions above a specified threshold.

About Merchant Discount Rate

- **Definition:** MDR is the **fee charged to a merchant for accepting a digital payment**, with the merchant generally receiving the transaction value after deduction of the applicable MDR.
- **Payment Ecosystem:** MDR supports the commercial structure involving participants such as **payment gateways/aggregators, acquiring banks, issuing banks, card or payment networks and other payment infrastructure providers**.
- **Cost Components:** MDR may include **payment processor fees, interchange fees, assessment fees, markup charges and additional charges** for services such as fraud prevention and chargeback handling.

- **Rate:** MDR is generally calculated as a **percentage of the transaction value** and varies according to the payment mode, provider and applicable arrangement; it is typically around **1–3%**.
- **Modes Covered:** MDR arrangements can differ across **cards, net banking, wallets, UPI, EMI, BNPL and QR-based payments**, among other digital payment modes.

MDR on UPI

- **Initial Framework:** MDR was applicable when **UPI was launched in 2016**.
- **Zero-MDR Regime:** In **January 2020**, the government removed MDR on **UPI and RuPay debit-card transactions** to promote widespread digital-payment adoption.
- **Industry Compensation:** Since zero MDR removed transaction-based revenue for banks, **NPCI and fintech companies**, the government has supported the ecosystem through subsidies.

Recent Changes introduced

- **Legal Provision:** The **Taxation and Other Laws (Amendment) Bill, 2026** empowers the government to levy MDR on selected electronic payment modes, with a potential **0.25–0.4% MDR on certain business-directed UPI transactions**.
- **Limited Applicability:** The proposed MDR is intended to apply only to a **limited category of merchant transactions above a specified value threshold**, at a rate substantially lower than existing debit- and credit-card MDRs.
- **Consumer Protection:** **Person-to-person (P2P) UPI transfers will remain free**, while small merchants and eligible person-to-merchant transactions below the threshold are expected to remain exempt.

DIRAC MEDAL 2026

Context

Physicist **Deepak Dhar** has been awarded the **2026 Dirac Medal** for his contributions to theoretical physics and the understanding of complex systems.

About Dirac Medal

- **Instituted By:** The Dirac Medal was instituted in **1985** by the **Abdus Salam International Centre for Theoretical Physics (ICTP), Italy**.
- **Named After:** It is named after **Paul Dirac**, a pioneering physicist who made fundamental contributions to quantum theory.

- **Purpose:** The award recognises outstanding contributions to **theoretical physics**.

Research Contributions of Deepak Dhar

- **Complex Systems:** His research examines how **simple interactions can generate complex and sometimes unpredictable behaviour in large systems**.
- **Applications:** His work has been used to model phenomena such as **earthquakes, traffic congestion and fluctuations in financial markets**.
- **Fundamental Research:** He has contributed to **fundamental theoretical research in physics for more than four decades**, including after returning to India from abroad.

Other Major Recognition of Deepak Dhar

- **Boltzmann Medal:** Dhar received the **Boltzmann Medal in 2022**, becoming the **first Indian** to receive the award.
- **Rare Distinction:** With the Dirac Medal and Boltzmann Medal, he joins a **small group of scientists who have received both awards**.

PRAKRITI GYAN DHAM – ECO-EDUCATIONAL HUB

Context

The Union Minister for Science & Technology dedicated ‘**Prakriti Gyan Dham**’, a first-of-its-kind **Eco-Educational Hub** developed by **CSIR-NBRI**, to the nation at the **Maharishi Parashar Bioresource Centre (MPBC)**, Banthra, Lucknow.

About Prakriti Gyan Dham

- **Nature:** It is an **eco-educational facility** integrating **scientific research, environmental education, biodiversity conservation, botanical heritage and cultural interpretation**.
- **Developer:** Developed by the **CSIR–National Botanical Research Institute (CSIR-NBRI)**.
- **Purpose:** It aims to connect **scientific knowledge with society** through experiential learning, public outreach and demonstration of plant diversity, conservation practices and science-based technologies.
- **PAaVan Path:** The **Plants and Associated Vegetations for Appreciating Nature (PAaVan) Path** is an interpretive heritage trail featuring curated plant collections representing diverse ecological regions and associated vegetation.

- **Vibhav Enclave:** The **Threatened Plants of India Garden** showcases rare, endangered and threatened plant species while promoting awareness about **biodiversity loss, habitat degradation, climate change and conservation of plant genetic resources**.
- **Bhairav Enclave:** The **State Plants of India Garden** presents officially designated plants of **States and Union Territories**, highlighting their ecological, cultural and symbolic significance.
- **Bamboosteum:** It houses **43 indigenous and exotic bamboo species** and demonstrates bamboo's applications in **ecological restoration, carbon sequestration, soil conservation, sustainable livelihoods, traditional craftsmanship and green infrastructure**.



Mains Exam Topics

INDIA'S HANDLOOM SECTOR

Context:

National Handloom Day, observed on **August 7**, commemorates the launch of the **Swadeshi Movement in 1905**, when boycotting British textiles and promoting indigenous production made weaving a symbol of **economic self-reliance, national identity and resistance**. More than a century later, the challenge is to translate this historical and cultural value into **sustainable livelihoods, higher weaver incomes and global competitiveness** for India's handloom sector.

Why does a higher retail price for handloom not necessarily translate into higher weaver incomes?

- **Asymmetric Value Retention:** A high final retail price does not guarantee high producer realisation because value is distributed across traders, master weavers, brands, designers and retailers before reaching the artisan.
 - e.g., A handwoven product may command a substantial premium in urban retail markets while the weaver continues to receive primarily a labour-based payment.
- **Tied Input and Buyer Dependence:** Dependence on intermediaries for yarn, orders and working capital can restrict the weaver's ability to switch buyers and negotiate remuneration.
 - e.g., Dependence on master weavers and traders for yarn and production orders can simultaneously provide market access while constraining producer bargaining power.
- **Asymmetric Cash-Flow Imperative:** Small weavers with limited working capital may prioritise immediate and predictable payment over potentially higher but delayed returns through formal or direct-market channels.
 - e.g., An intermediary offering advances against ongoing production can remain attractive even when direct-market channels offer higher eventual prices.
- **Value-per-Labour-Hour Constraint:** Handloom is inherently labour-intensive, making income growth dependent on increasing the **value realised per hour of skilled labour** rather than simply increasing physical output.
 - e.g., An intricate design may substantially increase weaving time without generating a proportionate increase in the weaver's effective hourly income.

- **Weak Market Intelligence:** Limited access to information on consumer preferences, fashion trends, end-market prices and product margins reduces the ability of weavers to capture changing demand.

Why is handloom attracting renewed interest among some younger artisans and entrepreneurs despite historically low economic returns?

- **Demand-Side Revaluation:** Growing interest in authenticity, cultural identity, slow fashion and sustainable consumption is creating new commercial value around traditional handloom products.
 - e.g., Traditional weaving techniques are increasingly incorporated into contemporary fashion, lifestyle products and designer collections.
- **Digital Access with Re-Intermediation Risk:** E-commerce and social media expand market reach but do not automatically create direct producer-to-consumer relationships because platforms, aggregators and brands can become new intermediaries.
 - e.g., A digital marketplace may expand sales while retaining control over customer acquisition, commissions and consumer relationships outside the weaving community.
- **Occupational Transformation without Craft Decoupling:** Youth participation can expand into design, branding and entrepreneurship, but the long-term viability of the ecosystem depends on simultaneously renewing the underlying weaving skill base.
- **Product Modernisation:** Contemporary designs, colours, apparel formats and lifestyle products can make traditional weaving techniques commercially relevant to changing consumer preferences.
 - e.g., Traditional techniques can be adapted into contemporary apparel, accessories and home furnishings without abandoning the handwoven process.
- **Greater Economic Autonomy:** Handloom becomes more attractive to younger entrants when new models provide greater control over design, pricing, branding and customer relationships rather than reproducing low-paid contract weaving.

Why has the sustainability advantage of handloom not yet produced proportional export competitiveness?

- **Scale-Reliability Gap:** Fragmented production makes it difficult to provide the consistent volume and continuity required by large international buyers.
 - e.g., A buyer seeking thousands of units with predictable replenishment may prefer an integrated supplier even when handloom offers greater craft differentiation.

- **Consistency-Differentiation Tension:** International buyers require predictable quality and specifications, but excessive standardisation can weaken the artisanal variation that creates handloom's premium value.
 - e.g., The objective should be **consistency in quality and compliance**, not identical reproduction of every piece; controlled variation can remain part of the product's artisanal identity.
- **Aggregation Infrastructure Deficit:** Individual weavers often lack shared facilities for testing, finishing, packaging, warehousing, inventory management and export documentation, preventing dispersed production from functioning as a reliable export supply chain.
- **Weak Global Brand Conversion:** India's handloom traditions possess strong cultural identities, but cultural recognition does not automatically become internationally recognised brands capable of sustaining premium prices.
 - e.g., Banarasi, Kanchipuram, Chanderi and Pochampally possess distinctive identities that can be strengthened through provenance, contemporary design and international branding.
- **Sustainability-Monetisation Gap:** Low power use and low mechanisation provide environmental advantages, but these do not automatically generate export premiums without credible verification, traceability and consumer recognition.
 - e.g., The EU's forthcoming textile-specific Digital Product Passport framework is intended to improve product information, traceability and sustainability transparency; the textile-specific requirements are planned through a future delegated act, currently indicated for Q4 2027.

Way Forward

- **Institutional Liquidity and Risk Absorption:** Producer organisations should replicate the economically useful functions of intermediaries-advance payments, input supply, order aggregation and working-capital support-while sharing inventory risk through diversified buyers and confirmed orders.
 - e.g., Order-linked finance, buyer advances, credit guarantees and export receivables financing can reduce the cash-flow gap without requiring producer organisations to absorb unlimited unsold inventory risk.
- **Raise Value per Loom-Hour without Diluting Craft:** Increase value realisation through design, premiumisation and market positioning while preserving the auxiliary skills and techniques that contribute to fabric texture, drape and artisanal identity.

- e.g., Technology should primarily reduce drudgery and repetitive work while avoiding excessive mechanisation of processes whose variations contribute to the handloom product's distinctive character.
- **Decentralised Production with Centralised Quality Assurance:** Keep weaving dispersed and artisanal while creating shared infrastructure for testing, documentation, finishing, packaging, logistics and export compliance.
 - e.g., Common facilities should establish minimum quality and buyer specifications without forcing every artisan to produce visually identical pieces.
- **Enforced Provenance with Proportionate Compliance:** Combine Geographical Indications (GIs), Handloom Mark, testing, labelling, traceability and market surveillance while using shared compliance systems to prevent new regulatory requirements from disproportionately burdening small producers.
- **Protect the Craft Base while Building Producer-Centric Markets:** Combine craft-skill transmission, youth apprenticeship, digital market access and collective export aggregation so that rising returns accrue to actual weaving labour rather than disproportionately to downstream managers and digital intermediaries.