



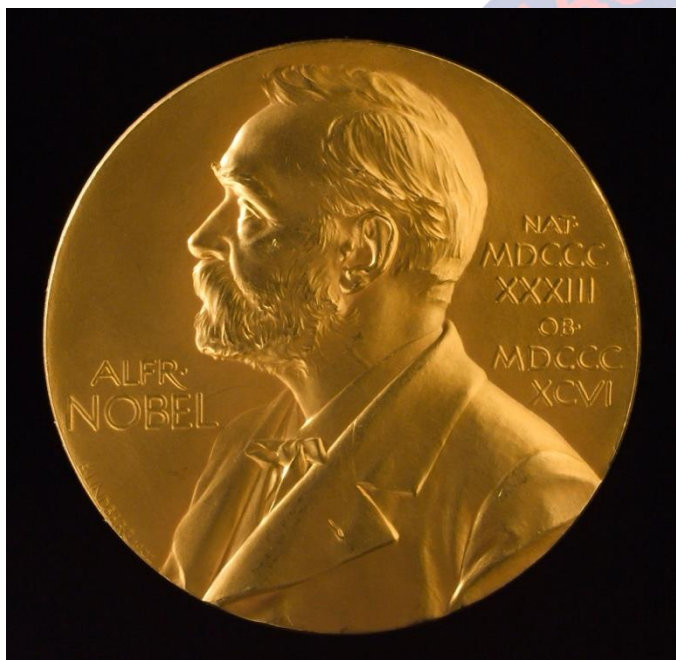
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**PRELIMS EDGE 2025**

**09-10-2025**

## NOBEL PRIZE

**Context:** This week the Nobel prizes for greatest benefit to humankind are being awarded.



### About the Nobel Prize:

- The Nobel Prizes are awards **administered by the Nobel Foundation** and awarded to those who have conferred the **greatest benefit to humankind**, during the preceding year.
- The prizes were **first awarded in 1901**, marking the **fifth anniversary of Alfred Nobel's death**.
- **Originally**, the prize was awarded in the fields of **Physics, Chemistry, Physiology or Medicine, Literature, and Peace**.
- Later in 1968, a sixth prize was added in the field of **economic sciences**, but it is not officially called Nobel Prize (**Sveriges Riksbank Prize in Economic Sciences**).
- Prizes may be given **only to individuals**, **except the Peace Prize**, which may also be conferred upon an institution.
- However, **3 individuals at max**, can share a prize.
- It cannot be awarded posthumously (after death).
- All the Nobel Prizes are given in **Stockholm, Sweden** except for the **Nobel Peace Prize** which is awarded in **Oslo, Norway**.
- Each Nobel Prize consists of a **gold medal, a diploma bearing a citation, and a sum of money**.
- The **first woman** to win the Nobel Prize was **Marie Curie**, and she **won the award twice** (for Chemistry and Physics).
- **Rabindranath Tagore** was the **first non-European and Indian** to get a Nobel Prize in **1913 in literature**.
- India's first **Nobel Prize in Physics** came in 1930 when **Sir Chandrasekhara Venkata Raman** was awarded "for his work on the scattering of light and for the discovery of the effect named after him".
  - This phenomenon is now known as **Raman Effect**.

- First and only Indian woman to receive the Nobel is **Mother Teresa (Peace)**.
- **Other Indian Nobel laureates:** Amartya Sen (Economics) and Kailash Satyarthi (Peace).

Nobel Prize	Awarded by
Physics and Chemistry	Royal Swedish Academy of Sciences
Physiology or Medicine	Nobel Assembly at Karolinska Institutet
Literature	The Swedish Academy
Peace	Norwegian Nobel Committee
Economic Sciences (created in 1968 by Sweden's Central bank)	Royal Swedish Academy of Sciences

Source: Scientists win Chemistry Nobel Prize for bridging metals and organics (*The Hindu*)

## TEJAS LCA

**Context:** The Indian Air Force is set to receive its first light combat aircraft Tejas Mk1A on October 17.



### About Light Combat Aircraft Tejas:

- It is a **4.5-generation single seat supersonic multirole fighter aircraft**.
- **The Defence Research and Development Organisation's (DRDO)** Aeronautical Development Agency (ADA) led the design and development of the aircraft under the **light combat aircraft (LCA) programme**, with **Hindustan Aeronautics Limited (HAL)** working as the prime industrial contractor.
- LCA programme was envisioned in the late 1980s to **replace the MiG-21 and Su-7 fleet**.
- It entered service with the Indian Air Force (IAF) in July 2016.
- It is India's **second indigenous fighter jet** after the **HAL HF-24 Marut**.
- It is designed for offensive air support, close combat, and ground attack roles.
- It has three production models: **Tejas Mark 1, Mark 1A, and trainer variant**.

### Features:

- It is the **smallest and lightest** in its class of contemporary **supersonic combat aircraft**.
- It features a fin but lacks a horizontal tail.
- The aircraft weighs approximately 5,450 kg and has a maximum take-off weight of 13,500 kg.

- It is powered by a single uprated General Electric F404-GE-IN20 engine.
- It is designed to carry a range of air-to-air, air-to-surface and precision-guided weapons.

Source: After delays, IAF set to receive first Tejas Mk1A fighter jet (The Hindu)

## PM-KUSUM

**Context:** The Union government is looking to showcase the PM-KUSUM programme to several African countries and island nations.

**About PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan) Scheme:**



- The PM-KUSUM Scheme was **launched in 2019** for **de-dieselisation of the farm sector** and enhancing the income of farmers.
  - It is aimed at **ensuring energy security for farmers** in India, along with **honoring India's commitment to increase the share of installed capacity of electric power from non-fossil-fuel sources** as part of **Intended Nationally Determined Contributions (INDCs)**.
  - The scheme aims to add Solar capacity of about **34,800 MW** by March 2026 with the total Central Financial support of Rs 34,422 crore.
  - **Nodal Ministry:** Ministry of New and Renewable Energy (MNRE)
  - Under the Scheme, a **central government subsidy upto 30% or 50% of the total cost** is given for the **installation of standalone solar pumps** and also for the **solarization of existing grid-connected agricultural pumps**.
  - Further, farmers can also install **grid-connected solar power plants up to 2MW**, under the Scheme on their barren/fallow land.
  - This scheme is being implemented by the designated departments of the State Government.
- The Scheme consists of **three components:**
- **Component A:**
    - 10,000 MW of solar capacity through the installation of small Solar Power Plants of individual plants of capacity up to 2 MW.
    - The solar power plants will be preferably installed within five-kilometre radius of the notified substations in order to avoid high cost of transmission lines and losses.
    - The power generated will be purchased by the local DISCOM at a pre-fixed tariff determined by the respective State Electricity Regulatory Commission (SERC).
  - **Component B:**
    - Installation of 20 lakhs of standalone Solar Powered Agriculture Pumps.
    - Individual farmers will be supported to install standalone solar Agriculture pumps of capacity up to 7.5 HP for the

replacement of existing diesel Agriculture pumps / irrigation systems in off-grid areas, where grid supply is not available.

- The State Government will give at-least subsidy of 30% and the remaining will be provided by the farmer.
- **Component C:**
  - For Solarisation of 15 Lakh Grid Connected Agriculture Pumps.
  - Under this Component, individual farmers having grid connected agriculture pump will be supported to solarise pumps.
  - The farmer will be able to use the generated solar power to **meet the irrigation needs** and the excess solar power will be sold to DISCOMs at pre-fixed tariff.
- The **eligible categories** for KUSUM Scheme are:
  - An individual farmer.
  - A group of farmers.
  - FPO or Farmer producer organization.
  - Panchayat.
  - Co-operatives.
  - Water User Associations.

Source: India to boost solar pumps scheme in Africa, island nations (The Hindu)

## TERMS IN NEWS

### Lantana Camara



- It is an **invasive alien species**.
- It is a pantropical weed species, is native to the tropical and sub-tropical regions of **Central and South America**.
- It is an exotic weed that **aggressively proliferates** and forms a dense mesh of bushes.
- In India, it was **first introduced in the early 18th century**, and since then, it has invaded almost all the tropical areas across the country.
- **Ecological Impact:** It is known to produce **allelochemicals** that **restrict the growth of other species** under its canopy.
- Hence, it replaces native flora, resulting in homogeneous vegetation, significantly contributing to decline in biodiversity.
- Its management can be achieved by using its biomass for socioeconomic purposes — its timber for making furniture and also as fuelwood, etc.
- Its biomass can be used to produce organic compost and vermicompost, which will be

better for organic farming and an alternative to inorganic manures available in the market.

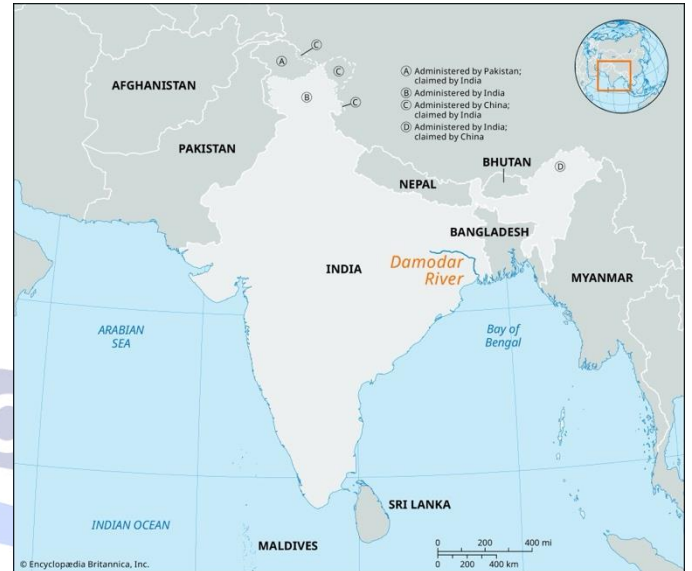
### Mera Hou Chongba Festival



- It is **celebrated in Manipur** on the 15th lunar day of the Mera month of the **Meitei calendar** every year.
- The festival's historical roots are believed to date back to the time of Nongda Lairen Pakhangba, a legendary early ruler of Manipur.
- **Rituals:** Manipur's titular King leads a ritual march involving tribal village chiefs from the Manipur Royal Palace to the **historic Kangla**, where traditional rituals, including Mera Thaomei Thanba (lighting of the ceremonial fire) and Mera Yenkhong Tamba (exchange of gifts).
- The festival will culminate with a showcase of cultural dances and a grand feast marking the brotherhood among different tribes in the state.
- It is the **only festival in Manipur in which all indigenous communities participate**, and it has a significant importance in the unity and communal harmony of Manipur.

## PLACES IN NEWS

### Damodar River



- The Damodar River flows through the states of **Jharkhand and West Bengal**.
  - Located in the eastern part of the Indian subcontinent, it is an important part of the **Ganges River System**.
  - The river is also known as the '**Sorrow of Bengal**' because of its devastating floods in the plains of West Bengal.
- Course:**
- It **originates from the Palamau hills of Chota Nagpur** in Jharkhand.
  - From its source, the river flows in a southeastern direction, passing through the Chota Nagpur Plateau, a region known for its rich mineral deposits.
  - In its lower course, it flows through West Bengal's plains and is joined by several tributaries.
  - Finally, the **Damodar River meets the Hooghly River** at Shayampur, which is 48 km from Kolkata.

- **Total Length:** 592 km
- The Damodar River has several tributaries, including: Barakar River, Konar River, Jamunia River, Bokaro River, Sali River etc.

### Damodar Valley Project:

- It is a significant river valley project in Eastern India, implemented to supply hydroelectric power to West Bengal and Bihar, as well as to prevent floods effectively.
- The project is operated by the Damodar Valley Corporation (DVC), an undertaking of the Indian Government established in July 1948.
- It is situated on the **Konar River** in the district of Hazaribagh in Jharkhand.

## PRACTICE QUESTIONS

Q1. With reference to the Nobel Prize, consider the following statements:

1. All the Nobel Prizes are given in Stockholm, Sweden.
2. Only one Indian woman has won the Nobel so far.
3. Rabindranath Tagore was the first non-European to be awarded the Nobel Prize.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Q2. Consider the following statements:

1. LCA Tejas is a 5<sup>th</sup> generation single seat supersonic multirole fighter aircraft.
2. It is India's first indigenous fighter jet.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q3. With reference to the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM) scheme, consider the following statements:

1. It aims to enhance the use of solar energy for irrigation and reduce farmers' dependence on diesel.
2. Risk free income through the sale of surplus solar energy is a benefit of the scheme for farmers.

Which among the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q4. Consider the following statements regarding the Damodar River:

1. It is also known as the 'sorrow of Bihar'.
2. It flows through 2 states only.

Which among the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q5. Mera Hou Chongba is a festival celebrated in which state of India?

- (a) Mizoram
- (b) Bihar
- (c) Manipur
- (d) Himachal Pradesh

### Answers:

1. B
2. D
3. C
4. B
5. C