



DAILY CURRENT AFFAIRS 10-04-2026

Mapping Perspective

1. Angola

Prelims Perspective

2. Oak Tree
3. PM Mudra Yojana

Mains Perspective

4. Artemis - II Mission
5. India's NDC update

Angola

Syllabus: Prelims Bits – Mapping.

Context:

- Angola emerges as an important alternative to West Asia in gas supplies to India

About Angola



Location & Boundaries

- Located on the southwestern Atlantic Coast of Africa
- Bordered by Republic of the Congo (Northwest), Democratic Republic of the Congo (North & Northeast), Zambia (Southeast) and Namibia (South)
- Shares a maritime boundary with the Atlantic Ocean

Capital City: Luanda

Geographical Features of Angola

Climate

- Tropical climate with a marked dry season
- Climate largely affected by the northward flow of the cold Benguela Current off the coast and elevation

Rivers

- Cuango River and Cuanza River – vital for hydropower and inland water transport

Waterfalls

- Largest: Calandula Waterfalls (also known as Kalandula Falls) on the Lucala River

Relief Features

- Highest peak: Mount Moco – tallest mountain in Angola

Natural Resources

- Petroleum, diamonds, iron ore, phosphates, copper, feldspar, gold, bauxite, uranium

Oak Tree

Syllabus: Prelims Bits.

Context:

- Recently, the **Uttarakhand High Court** stayed the felling of oak trees in **Mussoorie** for construction by the Municipal Council.



About Oak Tree

- Oak belongs to the genus *Quercus* in the *Fagaceae* family.
- **Geographic Range:** Oaks are found in diverse habitats around the world, with a broad distribution in North America, Europe, Asia, and parts of Africa.
- They can adapt to various climates, from temperate to subtropical regions.
- These are the dominant, climax tree species of the moist temperate forests in the Indian Himalayan region.

- In these regions, 35 species of oaks have been reported between 800 and 3,000 metres above sea level.
- Oaks found in Uttarakhand are **Banj oak, Moru oak, Kharsu oak, Rianj oak, and Phaliath oak.**

Required Climatic Conditions for Oak Tree

- **Climate:** Oaks thrive in a variety of climates but are commonly found in temperate zones; they can endure cold winters and warm summers.
- **Soil:** Well-drained soil is essential; they can tolerate sandy, loamy, and clayey soils.

Ecological Role of Oak Tree

- **Conservation Service:** Providers of numerous ecosystem services such as conservation of soil, water, native flora and fauna; lifeline for local communities.
- **Watershed Protection:** Oak forests assist watershed protection by promoting the recharge of springs.
- **Biodiversity Support:** Oak forests support a remarkably diverse web of life; their trees host lichens, bryophytes, pteridophytes (moss-like plants).

PM Mudra Yojana

Syllabus: GS-3: Indian Economy – Employment – Credit facility.

Context:

- **Recently, the Pradhan Mantri Mudra Yojana (PMMY) completed 11 years of empowering Small and Micro Entrepreneurs**

About Pradhan Mantri Mudra Yojana

- **Launched on:** April 8, 2015
- **Nature:** Flagship Programme of the Central Government
- **Objective:** Funding the **unfunded microenterprises and small businesses**
- **Eligibility:**
 - Any **Indian citizen** with a business plan for **non-farm sector income generating activity**
 - Activities include: **manufacturing, processing, trading or service sector**

Features of PMMY

- **Loan Categories:**

- **Shishu:** loans up to ₹50,000
- **Kishor:** loans above ₹50,000 and up to ₹5 lakhs
- **Tarun:** loans above ₹5 lakh and up to ₹10 lakhs
- **TarunPlus:** loans above ₹10 lakh and up to ₹20 lakhs
- **Coverage of Loans:**
 - Includes **term financing and working capital needs**
 - Sectors covered: **manufacturing, trading and service sectors**
 - Also includes **allied activities to agriculture** such as poultry, dairy, beekeeping, etc.
- **Lending Institutions:**
 - **Commercial Banks, RRBs, Small Finance Banks, MFIs and NBFCs**
- **Interest & Repayment:**
 - Interest rate governed by **RBI guidelines**
 - **Flexible repayment terms**

Institutional Framework

- **MUDRA (Micro Units Development & Refinance Agency Ltd):**
 - A **financial institution set up by Government of India under PMMY**
 - Role: **development and refinancing of micro unit enterprises**

Artemis - II Mission

Syllabus: GS-3: Science and Technology – Space Missions.

Context:

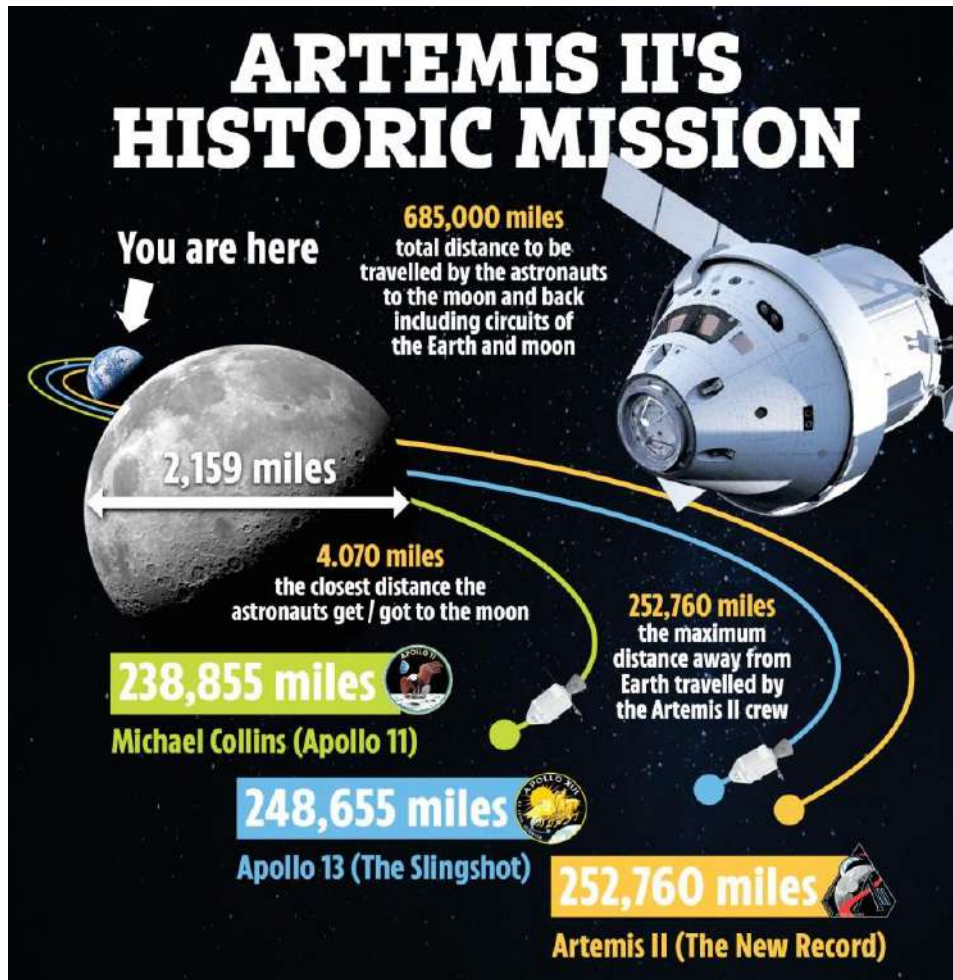
- Artemis II astronauts travelled about **406,771 km from Earth**, setting a new record for the **farthest human spaceflight**
- The **Orion spacecraft** reached this distance while looping around the **far side of the Moon**
- Previous record: **Apollo 13 (1970)** went farther due to **emergency deviation**
- Artemis II distance is **planned trajectory outcome**, not the primary objective

Mission Profile: Nature of Artemis II

Crewed Lunar Flyby

- Artemis II is a **crewed lunar flyby mission**, not a landing mission
- Unlike **Apollo 8 (circular lunar orbit)**, Orion follows an **elliptical free-return trajectory**
- Trajectory uses **Moon's gravity for slingshot return**, reducing engine burns
- Mission designed to **test Orion spacecraft capabilities under controlled conditions**

Flight Path: Free-Return Trajectory



Concept

- A trajectory where spacecraft **automatically returns to Earth using celestial mechanics**
- Relies on **Moon's gravity to redirect spacecraft back to Earth**

Working of Free-Return Trajectory

1. High Earth Orbit (HEO) Phase

- Orion enters an **elliptical Earth orbit extending to ~74,000 km**
- Provides a **42-hour testing window** for:
 - Environmental control systems
 - Life-support systems
- Ensures **abort safety**: spacecraft remains within Earth's gravity → **safe splashdown possible**

2. Translunar Slingshot Phase

- Orion is propelled toward Moon targeting **~10,300 km beyond lunar far side**
- Moon's gravity **captures and slingshots spacecraft**
- Redirects it toward Earth **without additional propulsion**

Advantages of Free-Return Trajectory

- **Built-in safety mechanism**: ensures return even if engines fail → prevents astronaut stranding
- **Fuel-efficient**: avoids heavy deceleration/acceleration burns required in circular orbit
- **Propellant conservation**: uses Moon's gravity for direction change
- **Reduced launch weight + availability of reserve fuel for emergencies**

Next Steps in Artemis Programme

- Primary goal: **test whether Orion can safely support human life in deep space**
- **10-day mission** to:
 - Match Artemis I distances
 - Ensure crew safety under real conditions
- Orion's return will provide **critical performance & life-support data**
- Insights will aid:
 - Future **human Moon missions**
 - Long-term goal of **establishing a Moon Base**

India's NDC update

Syllabus: GS-3: Environment – Climate Change – Measures.

Context:

- India's revised Nationally Determined Contributions (NDCs) reflect a **careful and measured approach** to climate action
- Emphasis on **continuity and gradual progress**, rather than major changes to earlier commitments
- Targets considered **sufficient and aligned with fair share of global climate responsibility**
- Approach consistent with **climate justice principles** and India's **developing country status**

Three Key Climate Goals

- **Emissions intensity reduction:** From 45% (by 2030) to **47% below 2005 levels by 2035**
- **Clean energy capacity:** **60% of installed power capacity** from non-fossil fuels
- **Carbon sink expansion:** Forest and tree cover to absorb **3.5–4 billion tonnes of CO₂ equivalent** above 2005 levels

Structural Constraints in Climate Policy

- Policy shaped by **lower middle-income country constraints**, limiting choices
- Continued emphasis on **UNFCCC framework** due to persistent structural realities
- **Paris Agreement periodic updates** increase role of short-term considerations
- **Worsening global climate environment** influences recent commitments

Climate Action: Efforts vs Commitments

- Strong commitment via initiatives: **EVs, energy efficiency, non-fossil energy, green hydrogen, CCS**
- Significant **public and private investment** at central and state levels
- Reluctance to convert all efforts into stricter NDCs due to:
 - Higher accountability
 - Mandatory reporting via **Biennial Transparency Reports (BTRs)**
- Reflects **cautious policy approach** at current developmental stage

Debate on Adequacy of Targets

- **Criticism:** Targets insufficient for **1.5°C goal**
- **Counter-view:** Targets are easily achievable or metrics should differ (e.g., generation vs capacity)
- Even supporters uncertain if commitments reflect **maximum possible effort**

Challenges in India's Climate Transition

Coal Dependence and Transition Costs

- Coal reliance → emissions reduction requires **deliberate policy intervention**
- Renewable expansion increases costs by replacing **cheaper coal-based generation**

Renewable Energy & Storage Costs

- Scaling battery storage requires **investment of several trillion rupees**
- Financial burden likely on **government**, diverting resources
- **Pumped hydropower constraints:** environmental, regulatory, water-use limits

Infrastructure & Grid Issues

- Challenges:
 - Inadequate transmission capacity
 - Grid balancing problems
- Hidden costs often ignored in renewable affordability assessments

Operational Inefficiencies

- Coal needed as **backup for intermittent renewables**
- Leads to:
 - Curtailment of renewable energy
 - Increased maintenance cost of thermal plants

Broader Economic Costs

- Investments in:
 - Energy efficiency
 - Industrial emission targets
 - EV adoption
 - Stricter emission norms
- Represent **significant but underestimated economic costs**

Climate Finance and Knowledge Gaps

- Limited **international climate finance support** despite post-COP26 investments
- Lack of **reliable estimation of total mitigation cost** → major knowledge gap

Development vs Climate Commitments

Limits of Economic Extrapolation

- Cannot rely on current trends; future needs include:
 - Industrial growth
 - Expansion of services
 - Rapid urbanisation

Development vs Climate Expectations

- “India can do more” ignores **long-term development priorities**
- Climate commitments must not constrain **economic and social growth**

Constraints of Global Targets

- Strict alignment with **1.5°C target not feasible**
- India’s **low per capita emissions** limit its global influence

Inequity in Global Climate Efforts

- Benefits of India’s reductions accrue to **major emitters**
- Issue worsens when **historical polluters dilute commitments**

Need for Strategic Commitments

- NDCs must be **context-based and cautious**
- Balance between:
 - **Development needs**
 - **Global climate responsibilities**

Conclusion (Analytical Insight)

- India’s NDC strategy reflects a **pragmatic balance between climate ambition and developmental imperatives**
- Emphasis on **gradualism, equity, and strategic flexibility** rather than aggressive commitments under global pressure