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VAISHNA BISWAS

AIR - 367 | CSE 2025

TODAY'S DATE

29 SEPTEMBER 2026

---TUESDAY-----

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IPS LAXMAN PRATAP
RANK - 597
FORMER ASST. COMMANDANT IN BSF
CITY COLLEGE KOLKATA

OUR UPSC TOPPERS 2024



IRS SARLA JAKHER
AIR 593
CITY COLLEGE KOLKATA



IRS TANMAY
AIR 346
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DAILY CURRENT AFFAIRS-

1. COP31: Fossil-Fuel Transition and Climate Finance
2. Red Rot Disease and New Sugarcane Variety in Uttar Pradesh
3. Dakhla Oasis
4. Arteries
5. Kashmir as India's Gateway to Eurasian Opportunity

1.COP31: Fossil-Fuel Transition and Climate Finance

Source: The Hindu, Page II

Why in News?

The 31st Conference of the Parties (COP31) to the UNFCCC will be held in Antalya, Türkiye, in November 2026. Türkiye will host the summit, while Australia will play a major role in steering the negotiations. Their dependence on fossil fuels has brought renewed attention to the need for a clear global transition away from fossil fuels and stronger climate finance.

COP31 and Joint Hosting

- Türkiye will host COP31, with Murat Kurum serving as President.
- Australia will oversee the negotiations, with Chris Bowen serving as Vice-President.
- The joint arrangement gives both countries important responsibilities in shaping the negotiations.
- Both countries continue to depend heavily on fossil fuels, which account for around 80–90% of their domestic energy needs.
- A major COP31 objective is to increase electricity's share in final energy demand from 20% to 35% by 2035.

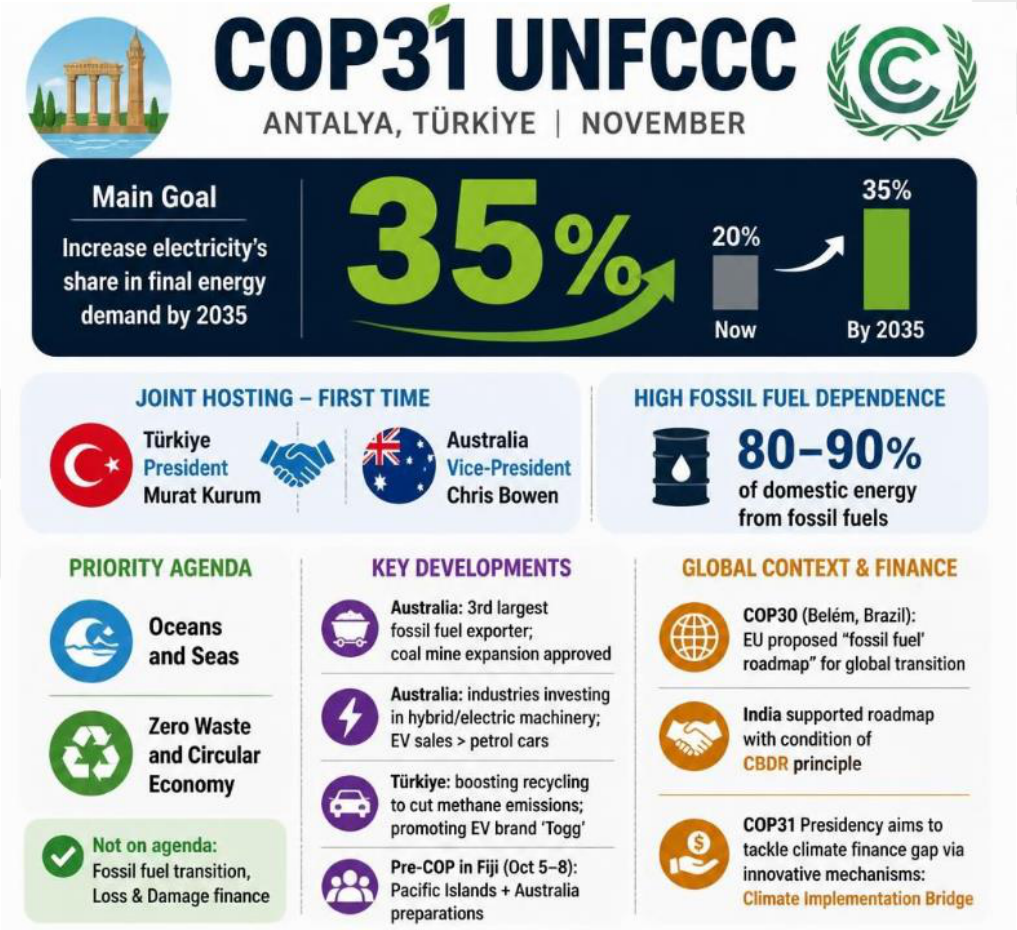
Fossil Fuels and the COP31 Agenda

- Australia is the world's third-largest fossil-fuel exporter and has recently approved expansion of a coal mine.
- At the same time, Australian industries are adopting hybrid/electric machinery, while electric vehicle sales have increased substantially.
- Türkiye is promoting recycling to reduce methane emissions and supporting its domestic EV industry, including Togg.
- A major concern is that the COP31 agenda does not explicitly place fossil-fuel transition at its centre.
- Other proposed priorities include Oceans and Seas and Zero Waste and a Circular Economy.

- At COP30, the EU proposed a global fossil-fuel roadmap. India supported the proposal subject to incorporation of Common but Differentiated Responsibilities (CBDR).

Climate Finance and Loss & Damage

- Developing countries continue to demand greater financial support for mitigation, adaptation and climate-related losses.
- COP31's Presidency proposes mechanisms such as the Climate Implementation Bridge to help address the climate-finance gap.
- Recent catastrophic floods in Nepal may increase pressure for stronger commitments on Loss and Damage financing.
- The absence of explicit focus on loss and damage finance from the initial agenda has therefore become an important concern.
- The broader challenge is to reconcile emission reduction, development needs, energy security and climate justice.



Recent Developments (2024–2026)
As of late 2026, the focus has shifted from setting targets to "implementation" and "finance."

1. COP 29 (2024, Baku, Azerbaijan) – The "Finance COP"

This summit was pivotal for defining how the world will pay for the green transition.

- **NCQG (New Collective Quantified Goal):** Reached a goal to increase climate finance for developing countries to **$300 billion annually by 2035**, replacing the older $100 billion target.
- **Article 6:** Finalized rules for international **carbon markets**, allowing countries to trade emission credits to meet their NDCs.
- **Baku Work Plan:** Established to elevate the voices of indigenous peoples and local communities in climate policy.

2. COP 30 (2025, Belém, Brazil) – The "COP of Implementation"

Hosted in the Amazon gateway, COP 30 marked ten years of the Paris Agreement.

- **Ambition Gap:** The summit focused on the "ratchet-up mechanism," requiring countries to submit more ambitious NDCs for 2035.
- **Tropical Forest Forever Facility:** A key initiative launched to make standing forests more economically valuable than cleared land.
- **Adaptation Finance:** Agreed to **triple adaptation funding** by 2035, though specific contributors remain a point of debate.
- **Fossil Fuel Roadmap:** After failure to reach a binding phase-out text, the Brazilian Presidency launched a voluntary roadmap to transition away from fossil fuels in a just and equitable manner.

3. COP 31 (Upcoming 2026, Antalya, Türkiye)

- **Presidency:** Türkiye will host, with **Australia** co-leading as the "President of negotiations."
- **Focus:** Expected to review post-2020 finance and evaluate global progress toward the 1.5°C limit in a year when scientists warn "overshoot" may be inevitable.

UPSC Prelims Practice

Q.With reference to COP31 and global climate negotiations, consider the following statements:

1. COP31 will be held in Antalya, Türkiye.
2. Australia will play a major role in overseeing the negotiations at COP31.
3. Common but Differentiated Responsibilities is a principle relevant to India's position in climate negotiations.
4. Loss and Damage refers exclusively to financial compensation for mitigation activities in developing countries.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 1, 2 and 3 only

(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Answer: (b) 1, 2 and 3 only

Explanation: Loss and Damage concerns climate-related losses and damages, particularly in vulnerable countries, and is distinct from mitigation finance.

UPSC Mains Practice

Q."Global climate negotiations must reconcile fossil-fuel transition with climate finance and the principle of Common but Differentiated Responsibilities." Discuss in the context of COP31. (150 words).

2.Red Rot Disease and New Sugarcane Variety in Uttar Pradesh

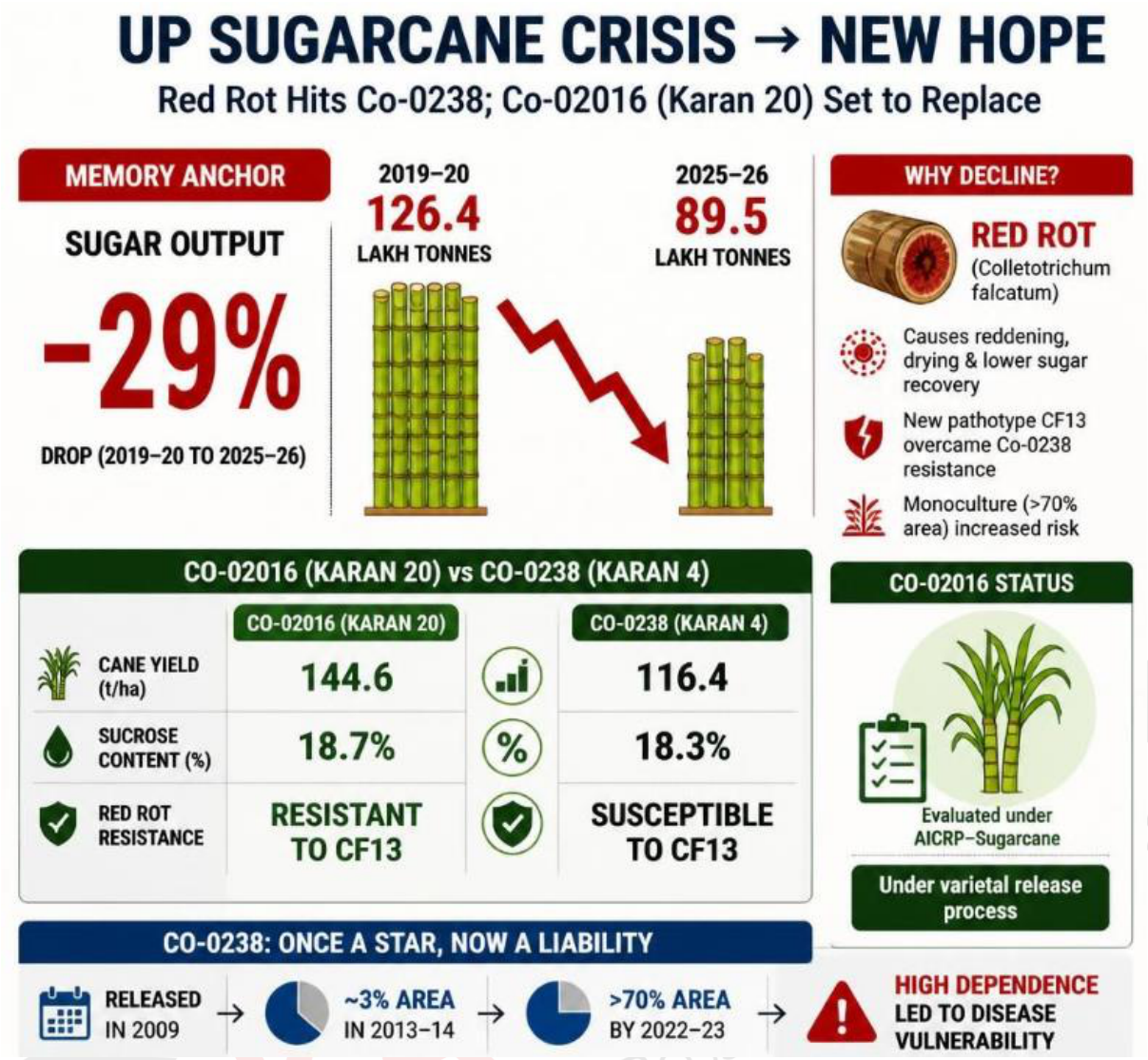
Source: IE

Why in News?

- Uttar Pradesh's sugar output declined from 126.4 lakh tonnes in 2019-20 to about 89.5 lakh tonnes in 2025-26, partly due to red rot disease.
- The widely cultivated variety Co-0238 (Karan 4) has become increasingly susceptible to red rot.
- ICAR-Sugarcane Breeding Institute (ICAR-SBI) has developed Co-02016 (Karan 20), which is being considered as a replacement for Co-0238.

About / Key Facts

- Co-0238 was released in 2009 for north-western India because of its early maturity, high cane yield and high sugar recovery.
- Its cultivation in Uttar Pradesh increased from about 3% in 2013-14 to over 70% in 2022-23, creating heavy dependence on a single variety.
- Large-scale monoculture increases genetic uniformity and can allow pathogens to spread rapidly and overcome existing resistance.
- Red rot is caused by the fungus *Colletotrichum falcatum*.
- Symptoms include reddening of internal cane tissues, drying, reduced cane weight and lower sucrose recovery.



- Co-0238 was initially moderately resistant to prevalent red-rot races, but newer pathotypes such as CF13 have weakened its field resistance.
- Co-02016 recorded:
    - Average cane yield: about 144.6 tonnes/hectare, compared with 116.4 tonnes/hectare for Co-0238.
    - Mean sucrose content: about 18.7%, compared with 18.3% for Co-0238.
- Co-02016 has shown resistance to the highly virulent CF13 red-rot pathotype.
- It has undergone multi-location evaluation under the All India Coordinated Research Project on Sugarcane (AICRP-Sugarcane) and is undergoing the varietal release process.

Way Forward

- Diversify cultivated sugarcane varieties to reduce dependence on a single variety.

- Use disease-free planting material and remove infected plants to reduce pathogen build-up.
- Crop rotation can help reduce monoculture-related disease pressure.
- Disease-resistant varieties are important for sustaining sugarcane-based sectors including sugar, ethanol, jaggery, molasses and cogeneration, along with farmers' incomes.

3.Dakhla Oasis

Source: IE

Why in News?

- A rare pyramid-shaped tomb dating to the Roman period has been uncovered at Bir Al-Shaghala in Egypt's Dakhla Oasis.

About / Key Facts

- Dakhla Oasis is a desert oasis located west of the Nile River, between Cairo and Luxor.
- It lies in Egypt's Western Desert, which covers about two-thirds of the country's land area.
- Area: approximately 2,000 sq. km.
- Nomadic hunter-gatherers first settled in the oasis around 12,000 years ago.
- It historically served as a crossroads connecting Egypt, the Sahara and Libya.
- Ancient routes through the region have left evidence of repeated human activity, including thousands of petroglyphs.
- Petroglyphs depict animals, people, hunting scenes and symbols associated with different periods of settlement.
- Dakhla was connected to the outside world by road only in the 1980s through the so-called Great Desert Loop.
- Its fertile soil supports agriculture, particularly dates, olives and other crops.
- The oasis is also known for therapeutic hot springs such as Bir Tarfawi and Bir Al-Gebel.
- Important sites include Mut, Al-Qasr village and the Dakhla Oasis Heritage Museum.

4.Arteries

Source: The Hindu

Why in News?

- Pain in the legs while walking can be a warning sign of Peripheral Artery Disease (PAD), in which narrowed arteries reduce blood flow to the limbs.

About / Key Facts

- Arteries are blood vessels that generally carry oxygen-rich blood away from the heart to body tissues.
- The heart pumps blood into the aorta, the largest artery, which branches into progressively smaller arteries throughout the body.
- Arteries transport oxygen, nutrients and hormones to cells and tissues.
- About 10% of the body's blood is present in arteries at any given time.
- Arteries have three layers:
    - Tunica intima: Inner layer containing tissue with elastic fibres.
    - Tunica media: Middle layer mainly composed of smooth muscle, allowing arteries to constrict or dilate.
    - Tunica externa: Outer layer that interacts with surrounding tissues, including nerves.

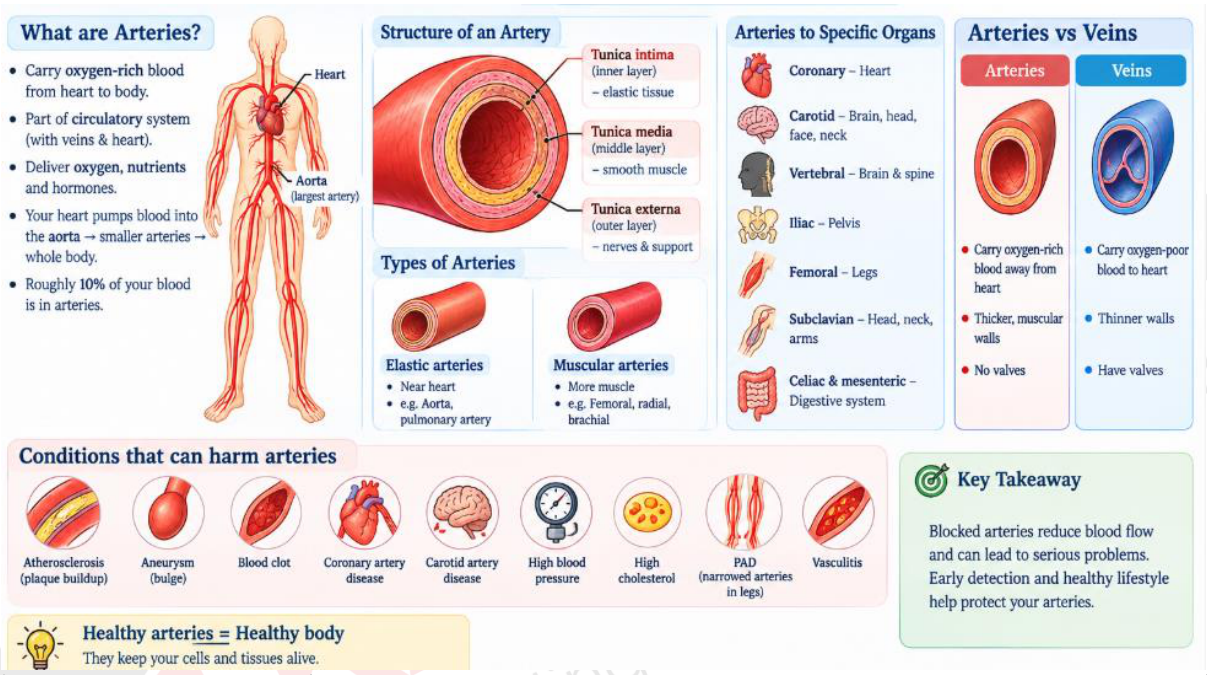
Types of Arteries

- Elastic arteries: Contain more elastic tissue and are located close to the heart; examples include the aorta and pulmonary artery.
- Muscular arteries: Contain more smooth muscle; examples include femoral, radial and brachial arteries.
- Major arteries and their areas supplied:
    - Coronary arteries → Heart
    - Carotid arteries → Brain, head, face and neck
    - Vertebral arteries → Brain and spine
    - Iliac arteries → Pelvis
    - Femoral artery → Legs
    - Subclavian arteries → Head, neck and arms

- Celiac and mesenteric arteries → Digestive system

Arterial Disorders

- Atherosclerosis: Plaque builds up and hardens inside arteries, narrowing them and restricting blood flow.
- Aneurysm: Abnormal stretching or bulging of an artery that may rupture.
- Blood clots can obstruct blood flow.
- Other conditions include coronary artery disease, carotid artery disease, high blood pressure, high cholesterol, peripheral artery disease and vasculitis.



Arteries vs Veins

- Arteries:
  - Carry blood away from the heart.
  - Have thick, strong muscular walls to withstand higher blood pressure.
  - Generally do not require valves because the pressure generated by the heart maintains one-way flow.
- Veins:
  - Return blood to the heart after tissues have used oxygen.
  - Have thinner walls because blood pressure is lower.
  - Contain valves that prevent backward flow.

5.Kashmir as India's Gateway to Eurasian Opportunity

Source: The Hindu

Why in News?

Jammu & Kashmir and Ladakh possess significant demographic and geographical potential, but conflict, limited connectivity and employment opportunities have constrained its economic integration. Greater economic connectivity with Central Asia, alongside security and diplomatic considerations, could help convert the region into a gateway for wider Eurasian trade and opportunities.

Demographic Dividend and the Aspiration–Reality Gap

- India's large young population can become a demographic dividend only when supported by **quality education, relevant skills, productive employment and economic opportunities**.
- A youthful population without adequate opportunities can instead lead to **frustration and social disillusionment**.
- The smartphone revolution has expanded aspirations by exposing even remote populations to global educational, professional and lifestyle opportunities.
- Higher education has expanded, but a degree alone does not guarantee employment or economic independence.
- Unemployment, recruitment delays, examination irregularities and paper leaks can widen the **aspiration–reality gap**.
- India therefore needs an economy capable of absorbing the skills and aspirations of its growing workforce.

Kashmir: From Security Lens to Opportunity Lens

- Kashmiri youth share aspirations common to young people elsewhere: **dignity, employment, economic independence and a secure future**.
- Decades of conflict and political uncertainty have created additional constraints on economic opportunities.
- Jammu & Kashmir possesses potential in **hydropower, minerals, tourism, agriculture, horticulture and handicrafts**.
- Its geographical location can also become an economic asset if supported by appropriate infrastructure, connectivity and security arrangements.
- A development-oriented approach can complement security considerations by expanding legitimate economic opportunities for young people.

Kashmir's Historical and Contemporary Connectivity

- Historically, Kashmir functioned as a **crossroads between South Asia, Central Asia and Tibet**, rather than simply as an isolated frontier.
- Caravan routes facilitated movement of **goods, people, ideas, culture and skills**.
- The influence of **Mir Sayyid Ali Hamadani (Shah-i-Hamadan)** and Persian and Central Asian craftsmen illustrates how connectivity contributed to Kashmir's handicraft traditions.
- The historical experience demonstrates how connectivity can create wider **economic and cultural ecosystems**.
- Modern revival of suitable routes would require a **phased and regulated approach**, taking into account contemporary diplomatic and security conditions.

J&K as a Northern Economic Gateway

- Greater connectivity with Central Asia could position Jammu & Kashmir and Ladakh as potential **northern economic gateways for India**.
- Improved connectivity could facilitate Indian access to Central Asian markets and encourage investment, tourism and commerce.
- Potential sectors include:
    - Transport and logistics
    - Warehousing and supply chains
    - Tourism and hospitality
    - Agriculture and horticulture
    - Manufacturing and handicrafts
    - Finance, technology and services
- Land-based economic corridors can distribute economic activity across wider areas rather than concentrating opportunities only around airports or major cities.
- Connectivity with Pakistan and China remains sensitive and would require **diplomatic engagement, security assessment and phased implementation**.
- Pilot corridors based on economic potential and diplomatic feasibility could precede wider expansion.

Way Forward: Connectivity to Human Capital

- Infrastructure should be viewed as a means to create **sustained employment and human development**, rather than as an end in itself.
- Construction can generate immediate employment, while operational corridors can create long-term demand for logistics, manufacturing, services and entrepreneurship.
- Greater market access could provide young people with alternatives to dependence on limited public-sector employment.
- Education, skill development and entrepreneurship should therefore accompany connectivity projects.
- India's demographic dividend is **time-sensitive**; demographic potential must be converted into productive human capital before the window narrows.
- Ultimately, **education without employment, connectivity without economic activity and security without inclusion** cannot fully address the aspirations of a young population.

UPSC Prelims Practice

Q.With reference to Jammu & Kashmir's potential as an economic gateway, consider the following statements:

1. Historically, Kashmir functioned as a link between South Asia, Central Asia and Tibet.
2. The movement of Persian and Central Asian craftsmen contributed to Kashmir's handicraft traditions.
3. Land-based economic corridors can generate opportunities in logistics, tourism, manufacturing and services.
4. The development of connectivity alone is sufficient to realise the demographic dividend.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 1, 2 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Answer: (b) 1, 2 and 3 only

Explanation: Connectivity must be accompanied by education, skills, employment and entrepreneurship. Therefore, statement 4 is incorrect.

UPSC Mains Practice

Q.“Connectivity can transform Jammu & Kashmir from a predominantly security-oriented frontier into a wider economic gateway, but infrastructure alone cannot deliver this transformation.” Discuss. (150 words

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