

P2. NATIONAL



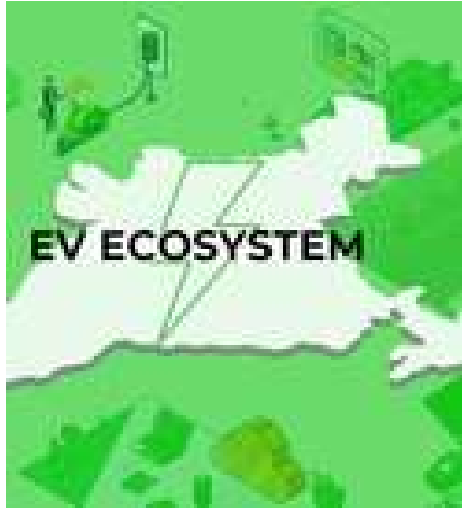
Supreme Court on Assaults Against Medical Professionals - India's move towards computer-based competitive examinations and the infrastructure, security and logistical challenges involved in making the transition.

P3 WORLD



India-U.K. Carbon Border Adjustment Mechanism (CBAM) - The U.K. has recognised India's Carbon Credit Trading Scheme (CCTS) for eligible goods covered under the U.K. Carbon Border Adjustment Mechanism (CBAM)

P4. ECONOMICS



Indian Automobile Industry and Shift Towards Alternative Fuels - India's automobile retail sales grew 17.51% year-on-year in August 2026, while alternative fuels surpassed petrol in passenger-vehicle sales for the first time.

P7. ECOLOGY



India can cut steel emissions before new coal plants lock them in : India has placed steel-sector decarbonisation high on its policy agenda through a proposed ₹5,000-crore scheme.

Editor's Note

A good piece of knowledge should arouse curiosity. It should make a reader pause, ask questions and explore the depth of a subject rather than simply remember a fact. In this edition of the Pala Civil Times, we have attempted to do the same by looking beyond the headlines and asking questions such as: Why is it important for foreign countries to recognise India's indigenous carbon pricing mechanism? What happens when artificial intelligence begins to raise questions about subjectivity and consciousness? What can India learn from Bhutan's remarkable achievement in eliminating dog-transmitted rabies? How can India's steel sector transition towards lower-carbon production while avoiding long-term dependence on carbon-intensive technologies? We also explore India's growing engagement with Belgium and Europe, the evolving debate over the definition and protection of the Aravalli landscape, and the Supreme Court's strong response to violence against medical professionals. Each topic offers more than a current-affairs fact; it opens a window into larger questions of climate action, public health, technology, international relations, environmental governance, democracy and the role of institutions. We hope this edition helps readers develop a clear understanding of these issues and, more importantly, encourages them to question their own grasp of each topic and connect individual developments with the larger ideas behind them. Happy reading!

Editorials Decoded



Natural Partners



The visit of Belgian Prime Minister to India highlights the growing importance of India-Belgium ties within the broader strengthening of India-Europe strategic, economic and defence relations.



Conscious AI and the ethics of a machine that feels



Research on Claude Sonnet 4.5 has renewing debate over whether advanced AI systems could develop consciousness.

Supreme Court on Assaults Against Medical Professionals



The case arose from the alleged assault of three doctors at a Thane hospital, following which the Bombay High Court intervened and imposed stringent bail conditions. The Supreme Court is now examining the bail issue and has stressed strong deterrence against violence against medical professionals.

Latest Developments

Deterrence: The Supreme Court emphasised that a strong message must go beyond the accused and serve as a deterrent against attacks on medical professionals.

Medical Fraternity: The Bench expressed strong concern over individuals showing “no respect for the medical fraternity” and indicated that such conduct could justify cancellation of bail.

Propensity factor: The Bench noted that there appeared to be a “propensity” to assault doctors and hospital staff, strengthening its concern about repeated violence.

The Bombay High Court highlighted that an elected representative is “by the people and for the people” and that an allegation of assaulting one’s own voters can dent the fabric of democracy. The case therefore connects violence against healthcare workers with a broader question of accountability of public representatives and respect for democratic institutions.

Aravalli Hills — Defining the Range and Regulating Mining

The Supreme Court has rejected a six-month extension sought by its high-powered committee and directed it to submit its final report on the Aravalli hills and range by November 30, 2026.

Background and Evolution

Mining Regulation: The Supreme Court has been regulating mining in the Aravalli region since 2002, reflecting its ecological importance.

Illegal Mining: A 2018 Forest Survey of India report recorded the disappearance of 31 hillocks across nearly 3,000 sites in Rajasthan and Haryana due to illegal mining.

2025 Definition: In November 2025, the Court accepted a definition under which a landform rising 100 metres or more above local relief would qualify as an Aravalli hill, while two or more such hills within 500 metres would constitute the Aravalli range.

Concern: The definition raised concerns that large parts of the Aravalli landscape could fall outside legal protection, potentially facilitating mining.

Suo Motu: On December 29, 2025, the Supreme Court took suo motu cognisance of these concerns, kept its November order in abeyance, and barred new mining leases and renewal of existing ones.

Current Developments

Mandate: Constituted by the Supreme Court in May 2026, the five-member committee, headed by Kanchan Devi, is tasked with developing a uniform definition of the Aravallis and assessing mining impacts.

Approach: It is using spatial, ecological, geological, hydrological and socio-economic factors, rather than relying solely on elevation.

Finding: Its August 31 interim report said the Aravallis cannot be adequately defined using a single terrain or elevation criterion and sought further data, field verification and expert inputs.

Deadline: The Court rejected the committee’s request for extension till February 28, 2027 and fixed November 30, 2026 for the final report, while requiring stakeholder consultation, including with tribal communities.

PYQ Compass



- Q. Consider the following pairs: (2015)
 Place of Pilgrimage Location
 1. Srisailem : Nallamala Hills
 2. Omkareshwar : Satmala Hills
 3. Pushkar : Mahadeo Hills
 Which of the above is/are correctly matched?
 a) 1 only
 b) 2 and 3 only
 c) 1 and 3 only
 d) 1, 2 and 3

India-U.K. Carbon Border Adjustment Mechanism (CBAM)

The U.K. has recognised India's Carbon Credit Trading Scheme (CCTS) for eligible goods covered under the U.K. Carbon Border Adjustment Mechanism (CBAM), potentially reducing the carbon-related liability of Indian exporters. The recognition allows U.K. importers of eligible Indian goods to seek carbon price relief corresponding to the effective carbon price already borne by those goods under India's CCTS.

How Does the Relief Work?

Carbon Price: If eligible Indian goods have already borne a qualifying carbon price under the CCTS, the corresponding amount can be considered while determining their U.K. CBAM liability.

Avoiding Double Taxation: The arrangement reflects the U.K. CBAM principle that goods should not face double carbon pricing when an eligible carbon price has already been paid in the country of origin.

Conditional Relief: The relief is not automatic; its amount depends on the effective carbon price borne by the goods.

Verification: U.K. CBAM-liable persons must still satisfy the prescribed evidence and verification requirements.

Significance for India-U.K. Trade

Exporters: Lower effective CBAM liability can directly benefit Indian exporters of eligible goods to the U.K.

Carbon Markets: The recognition strengthens cooperation between India and the U.K. on carbon pricing and carbon-market design.

Institutional Cooperation: Further cooperation will continue through the U.K.-India Energy Memorandum of Understanding.

Bhutan leads Southeast Asia region in eliminating rabies

The World Health Organization (WHO) has validated Bhutan as the first country in the WHO South-East Asia Region to eliminate dog-transmitted rabies as a public health problem.



What is Rabies?

- Rabies is a viral disease that is almost always fatal once clinical symptoms appear.
- Globally, it still causes around 59,000 deaths annually, with about one-third occurring in India.
- In India, around 96% of rabies-related mortality and morbidity is associated with dog bites.
- Rabies is preventable through dog vaccination and timely post-exposure prophylaxis (PEP) following exposure.

Bhutan's Rabies Elimination Strategy

WHO validated Bhutan's achievement after its last rabies death in June 2023, meeting the criterion of no human deaths from dog-transmitted rabies for at least two years while maintaining prevention re-emergence.

One Health: Bhutan integrated human and animal health through mass dog vaccination, dog population management, surveillance, community engagement and joint investigations.

PEP: After exposure, prevention involves thorough wound washing, a full course of rabies vaccine and, when necessary, rabies immunoglobulins.

PYQ Compass



Q. Consider the following statements: (2024) **Statement-I:** The European Parliament approved The Net-Zero Industry Act recently.

Statement II: The European Union intends to achieve carbon neutrality by 2040 and therefore aims to develop all of its own clean technology by that time. Which one of the following is correct in respect of the above statements ?

- Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- Statement-I is correct, but Statement-II is incorrect
- Statement-I is incorrect, but Statement-II is correct

Indian Automobile Industry: Retail Sales and Shift Towards Alternative Fuels

Automobile retailers sold 24,23,201 units in August 2026, registering 17.51% YoY growth, although sales declined 6.48% month-on-month because of the seasonal monsoon lull and a shift in the festival calendar.

Leads: Wheeled Construction Equipment grew by 31.45%, followed by Two-Wheelers (19.69%), Passenger Vehicles (16.14%) and Commercial Vehicles (14.45%). Two-Wheelers, Passenger Vehicles, Commercial Vehicles, Tractors and Three-Wheelers each recorded their highest-ever August retail sales, while overall August registrations were also the highest ever.

Electrification Trends

Total EV retail sales across categories reached 2,98,448 units, up 52.9% YoY, raising overall EV penetration from 9.5% to about 12.3%.

Three-Wheelers: Three-Wheeler sales rose 8.64% to 1,22,281 units, with EV penetration reaching 65.30%, indicating a strong structural shift towards electric mobility.

Commercial Vehicles: Electric Commercial Vehicle penetration reached an all-time high of 5.18%, compared with 2.06% a year earlier, with monthly volumes also setting a record.



Market Concerns and Significance

The data indicates an important shift in India's automobile market, with alternative fuels collectively overtaking petrol in passenger vehicles and EV penetration rising across multiple segments. The simultaneous growth of passenger vehicles, two-wheelers, commercial vehicles and construction equipment reflects continued demand from consumption, infrastructure, logistics and mobility

CII Business Outlook Survey: Business Sentiment and Ground-Level Growth

The latest CII Business Outlook Survey shows rising business confidence, but also highlights a gap between strong macroeconomic indicators and on-ground business performance.

WHAT IS CII-BOS?

- CII Business Outlook Survey (BOS) is a quarterly survey that assesses prevailing business sentiment and provides an outlook on the broader economy.
- It examines how businesses performed during the preceding quarter and their perceptions of emerging trends in the current quarter.
- The survey takes a pan-India view and covers diverse sectors and enterprises, including micro, small, medium and large enterprises.
- Its findings are used by CII members and economy watchers, and are also referred to by the Reserve Bank of India (RBI).

Does Business owners remain Confident?

Confidence: The composite business confidence score rose from 60.8 in Q1 FY27 to 66 in Q2 FY27, indicating strengthening business sentiment. The improvement was primarily attributed to the easing of disruptions arising from the West Asia conflict.

Coverage: The survey covered 238 public and private firms from all industry sectors and different regions.

With 61% of firms expecting higher domestic demand and the share anticipating over 20% growth rising from 12.9% to 16%, the outlook points to strengthening demand and sustained business confidence in Q2 FY27.

PYQ Compass



Q. Consider the following types of vehicles:

- Full battery electric vehicles
- Hydrogen fuel cell vehicles
- Fuel cell-electric hybrid vehicles

How many of the above are considered as alternative powertrain vehicles?

- Only one
- Only two
- All the three
- None

Natural Partners (The Hindu : 08-09-2026)

The visit of Belgian Prime Minister Bart De Wever to India highlights the growing importance of India-Belgium ties within the broader strengthening of India-Europe strategic, economic and defence relations.

India-Belgium Economic Relations

Trade: Bilateral trade is around \$13 billion, with the diamond industry accounting for nearly one-third of this trade.

Diamond Link: Antwerp is a global diamond-trading hub, while Mumbai and Surat are major centres for cutting and polishing.

Trade Expansion: Both sides agreed to target doubling bilateral trade within five years, with greater opportunities in areas such as renewable energy and food processing.

India-EU FTA: The India-EU Free Trade Agreement was described as a major opportunity to diversify critical value chains and open new markets, with both sides stressing its timely implementation.



Defence and Strategic Cooperation

Defence Industry: Belgium has a high-technology defence industry covering small arms, drones, counter-drone technology, ammunition and naval defence.

Co-development: India and Belgium agreed on an MoU for co-development of military hardware and signed a Letter of Intent on defence cooperation.

Defence Representation: India will appoint a resident Defence Attaché in Brussels, complementing Belgium's move to strengthen its defence representation in India.

Strategic Partnership: The relationship extends beyond bilateral interests to broader cooperation between India and Europe, particularly in defence, technology and economic security.

Security Cooperation: The proposed India-EU Security and Defence Partnership is expected to deepen cooperation in maritime security, defence industry and technology, cyber and hybrid threats, space and counter-terrorism.

India-EU Dimension

Strategic Partnership: India and Belgium reaffirmed the centrality of the India-EU Strategic Partnership to their bilateral relationship.

Trade and Investment: Both sides called for early conclusion of the India-EU Investment Protection Agreement and the Agreement on Geographical Indications.

Trade and Technology Council: They welcomed progress under the India-EU Trade and Technology Council, including its July 2026 Ministerial Meeting in Brussels.

2030 Agenda: India and the EU endorsed the Joint India-EU Comprehensive Strategic Agenda for 2030 to broaden and deepen cooperation and deliver concrete outcomes.

Resilient Supply Chains: Cooperation among India, Belgium and the EU is increasingly focused on diversifying critical value chains and reducing excessive dependence on concentrated sources of trade and production.

India-Belgium relations increasingly reflect a broader convergence between India and Europe on strategic autonomy, economic resilience and diversification of supply chains. Belgium's concerns about overdependence on China and India's effort to diversify defence procurement create areas of mutual interest. At the same time, continued India-Belgium engagement despite differing positions on the Russia-Ukraine conflict demonstrates that their broader economic and strategic interests can sustain the relationship.

PYQ Compass



Q. Consider the following countries:

- I. Austria
 - II. Bulgaria
 - III. Croatia
 - IV. Serbia
 - V. Sweden
 - VI. North Macedonia
- How many of the above are members of the North Atlantic Treaty Organization?
- (a) Only three (b) Only four
 (c) Only five (d) All the six

Conscious AI and the ethics of a machine that feels (I.E : 08-09-2026)

Research on Claude Sonnet 4.5 has revealed internal neural patterns linked to its eventual outputs, renewing debate over whether advanced AI systems could develop consciousness.



Intelligence or Consciousness

Intelligence: AI systems can process information, identify patterns and generate sophisticated responses, but this does not by itself establish that they possess conscious experience.

Consciousness: Consciousness refers to subjective experience, which is the capacity to experience sensations, emotions or states such as excitement, anxiety, suffering or pleasure.

Key Distinction: Evidence that an AI behaves intelligently should not automatically be treated as evidence that it experiences what it is doing.

Scientific Debate: Research on consciousness has produced more than 300 theories and frameworks, showing that there is no single universally accepted explanation of consciousness.

Claude and the "J-Space"

Internal Patterns: Researchers found that when prompted, internal layers of Claude Sonnet 4.5 produce words connected to its eventual output that remain invisible to the user.

J-Space: Anthropic describes this collection of internal neural patterns as "J-space", suggesting that it functions somewhat like an information-processing workspace.

Global Workspace Theory: This idea is linked to the Global Workspace Theory, which explains conscious thought through a workspace that gathers, integrates and distributes information across different parts of the brain.

Limitation: The existence of such internal processing does not establish that Claude is conscious. Rather, it only provides a basis for investigating whether AI systems exhibit mechanisms relevant to theories of consciousness.

Why Could AI Consciousness Become Possible?

Brain Mimicry: AI systems increasingly attempt to reproduce aspects of how the human brain processes and integrates information, raising questions about whether sufficiently advanced systems could develop consciousness.

Bio-Hybrid Computing: Research into biological or bio-hybrid computers, where human neurons are integrated with silicon-based systems, further blurs the boundary between biological and artificial information processing.

Scientific Uncertainty: The possibility of conscious AI remains unresolved because scientists themselves do not have a single established explanation of how consciousness arises.

Intelligence-Consciousness Gap: As emphasised by neuroscientist Anil K. Seth, intelligence and consciousness are fundamentally different concepts, so increasing AI intelligence alone cannot demonstrate consciousness.

Ethical Significance of Conscious AI

If an AI system were genuinely conscious, it would no longer be merely a sophisticated tool but potentially a being capable of subjective experience. This would fundamentally alter the ethical questions surrounding AI, particularly if such systems could experience suffering, fear, jealousy or other forms of negative experience.

PYQ COMPASS



Q. With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)

1. Bring down electricity consumption in industrial units
 2. Create meaningful short stories and songs
 3. Disease diagnosis
 4. Text-to-Speech Conversion
 5. Wireless transmission of electrical energy
- Select the correct answer using the code given below:

- a) 1, 2, 3 and 5 only
- b) 1, 3 and 4 only
- c) 2, 4 and 5 only
- d) 1, 2, 3, 4 and 5

India can cut steel emissions before new coal plants lock them in

India has placed steel-sector decarbonisation high on its policy agenda through a proposed ₹5,000-crore scheme, green steel certification and pilot green hydrogen projects.

What is Green Steel?

- Green steel refers to steel produced with significantly lower greenhouse gas emissions than conventional steelmaking.
- Under India's Green Steel Certification Scheme launched in 2024, steel with an emissions intensity of less than 2.2 tonnes of CO₂-equivalent (tCO₂e) per tonne of crude steel is classified as green steel.
- The scheme places the greenest steel within an emissions-intensity range that can still reach 1.6 tCO₂e per tonne of crude steel.
- India's National Mission on Green Steel aims to reduce the steel sector's emissions intensity from 2.55–2.65 tCO₂e per tonne to 2.2 tCO₂e per tonne by 2029–30.

Steel Decarbonisation Pathways

BF-BOF: The conventional Blast Furnace–Basic Oxygen Furnace (BF-BOF) route uses coking coal to reduce iron ore and remains the dominant global route at 70.4%; India's share is 43%, with BF-BOF capacity projected to reach 56% by 2030.

Alternatives: Electric Arc Furnaces (EAFs) can produce steel from scrap with less than half the emissions intensity of BF-BOF, while Direct Reduced Iron–Electric Arc Furnace (DRI-EAF) offers India an alternative given limited scrap availability.

Hydrogen: DRI-EAF can initially use natural gas and later shift to green hydrogen, with the model suggesting this transition could occur around 2040–45 as hydrogen becomes cost-competitive.

Lock-in: Relining blast furnaces every two decades can extend their life by 15–20 years; over 43 MTPA of Indian capacity is due for relining before 2030, risking long-term coal dependence and stranded assets.



India's Steel Transition: Challenges and International Dimension

Scale: India produced around 160 million tonnes of steel in FY 2025–26, making it the world's second-largest producer. Production is expected to expand towards 300 MT by 2030–31 and 400 MT by 2035–36, making decarbonisation critical for the 2070 net-zero target.

Emissions: Steelmaking contributes nearly 12% of India's GHG emissions, with emissions intensity around 32% above the global average. Limited domestic steel scrap also restricts India's ability to rapidly shift to scrap-based EAF production.

Lock-in: Rising BF-BOF capacity, including planned plants and furnace relining, could lock India into coal-intensive production for decades. Green hydrogen remains costly, while natural gas creates concerns over import dependence, fuel shortages and geopolitical risks.

Market: India's green steel certification defines steel below 2.2 tCO₂e per tonne as green, but the broad threshold and limited demand for green steel may weaken its effectiveness. Creating a market willing to pay the green premium remains important.

Global: The EU's CBAM increases carbon-related costs for carbon-intensive steel imports, creating pressure on Indian producers to reduce emissions. China and India are particularly important to the global transition because of their large near-term steel investments.

Response: India's National Mission on Green Steel, ₹5,000-crore decarbonisation scheme and three green hydrogen pilot projects worth over ₹400 crore support cleaner production. Early investment in DRI-EAF and green hydrogen can prevent future carbon lock-in.

PYQ Compass



Q. What is blue carbon? (2021)

- Carbon captured by oceans and coastal ecosystems
- Carbon sequestered in forest biomass and agricultural soils
- Carbon contained in petroleum and natural gas
- Carbon present in atmosphere

PYQ Compass



Q. Consider the following pairs: (2015)

Place of Pilgrimage	Location
1. Srisailem	: Nallamala Hills
2. Omkareshwar	: Satmala Hills
3. Pushkar	: Mahadeo Hills

Which of the above is/are correctly matched?

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

Ans : a

Srisailem – Nallamala Hills: This is correctly matched. The Srisailem temple and pilgrimage site are located in the Nallamala Hills in Andhra Pradesh, known for their scenic beauty and biodiversity.

Omkareshwar – Satmala Hills: This is incorrectly matched. Omkareshwar, a famous pilgrimage site, is located on the Mandhata Island in the Narmada River, Madhya Pradesh, and not in the Satmala Hills.

Pushkar – Mahadeo Hills: This is also incorrectly matched. Pushkar, known for its holy lake and Brahma temple, is located in the **Aravalli Hills in Rajasthan**, not in the Mahadeo Hills. Hence, only pair 1 is correctly matched.

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Which one of the following is correct in respect of the above statements ?

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- c) Statement-I is correct, but Statement-II is incorrect
- d) Statement-I is incorrect, but Statement-II is correct

Ans : C

Statement-I is correct. The European Parliament did approve The Net-Zero Industry Act recently, which is part of the European Union's efforts to accelerate its transition to net-zero emissions by supporting the development of clean technologies within the EU.

Statement-II is incorrect. While the European Union does aim to achieve carbon neutrality, its target is 2050, not 2040. The European Union's European Green Deal and other related initiatives aim for carbon neutrality by 2050, not by 2040.

PYQ Compass



Q. Consider the following types of vehicles:

- I. Full battery electric vehicles
- II. Hydrogen fuel cell vehicles
- III. Fuel cell–electric hybrid vehicles

How many of the above are considered as alternative powertrain vehicles?

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

Ans : C

A powertrain is the system in a vehicle that generates power and delivers it to the wheels, allowing the vehicle to move. It typically includes the engine, transmission, and drivetrain (including axles, differentials, and drive shafts). Cars and buses have powertrains. All the three types of vehicles are alternative powertrain vehicles because they use non-conventional propulsion systems compared to traditional internal combustion engines (ICE). I. Full battery electric vehicles (BEVs): These are powered entirely by electricity stored in batteries and use non-ICE systems. Hence option I is correct. II. Hydrogen fuel cell vehicles (FCEVs): Use hydrogen fuel cells to generate electricity to power electric motors. Hence it has an alternative powertrain. Hence option II is correct. III. Fuel cell–electric hybrid vehicles: Combine a fuel cell and a battery or other electric storage system. Thus it is an alternative powertrain. Hence option III is correct.

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 - d) 1, 2, 3, 4 and 5

Ans : b

AI can generate stories and songs (e.g., using models like GPT), but their quality and meaningfulness are still subject to human review and often lack depth or true creativity. Thus, this cannot be considered "effectively" done. Wireless transmission of electrical energy is not a function of AI. It is a field of study within electromagnetic engineering and physics, unrelated to AI.

PYQ Compass



Q. Consider the following countries:

I. Austria

II. Bulgaria

III. Croatia

IV. Serbia

V. Sweden

VI. North Macedonia How many of the above are members of the North Atlantic Treaty Organization?

(a) Only three

(b) Only four

(c) Only five

(d) All the six

Ans : b

Recent context: In 2024, Sweden became the 32nd NATO member, earlier Finland joined NATO in 2023 Sweden, making entire Nordic region the part of NATO. NATO is a transatlantic political and military alliance established by the North Atlantic Treaty (Washington Treaty), 1949 with Headquarters: Brussels, Belgium. In 2024, Sweden became the 32nd NATO member. D CA [https://www.nato.int/content/membership-map-net-receipts-obtained-from-the-sale-of-shares-in-Public Sector Undertakings \(PSUs\)](https://www.nato.int/content/membership-map-net-receipts-obtained-from-the-sale-of-shares-in-public-sector-undertakings-psus). Hence option (c) is the correct answer. Note: Revenue receipts are current income receipts from all sources such as taxes, profits of public enterprises, grants, etc. Revenue receipts neither create any liability nor cause any reduction in the assets of the government. Capital receipts, on the other hand, are the receipts of the government that either create liability or cause any reduction in the assets of the government. e.g., borrowings, recovery of loans, and disinvestment, etc.

12 Founding member countries: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, UK and USA. Since 1949, NATO's membership has increased from 12 to 32 countries through 10 rounds of enlargement. Bulgaria became member of NATO in 2004.

Q. What is blue carbon? (2021)

a) Carbon captured by oceans and coastal ecosystems

b) Carbon sequestered in forest biomass and agricultural soils

c) Carbon contained in petroleum and natural gas

d) Carbon present in atmosphere

Ans : a

Blue carbon refers to the carbon captured by the world's oceans and coastal ecosystems, particularly through the processes of sequestration and storage in marine and coastal habitats. These ecosystems, such as mangroves, seagrasses, and salt marshes, are incredibly efficient at absorbing carbon dioxide (CO₂) from the atmosphere and storing it in the soil or biomass for long periods, making them crucial in mitigating climate change.

PRACTICE QUESTIONS

Q. Consider the following statements regarding rabies control in India:

1. Rabies is endemic throughout India except the Andaman and Nicobar Islands and Lakshadweep.
2. The National Rabies Control Programme aims to progressively achieve zero human deaths from rabies by 2030.
3. Rabies elimination requires only human post-exposure prophylaxis, as animal vaccination does not form part of the control strategy.

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) 1, 2 and 3

Answer: (a) 1 and 2 only

Statement 1 is correct: Rabies is endemic across India except the Andaman and Nicobar Islands and Lakshadweep.

Statement 2 is correct: The National Rabies Control Programme aims to progressively bring human rabies deaths to zero by 2030.

Statement 3 is incorrect: Rabies control requires a combination of dog vaccination, animal birth control, surveillance and timely post-exposure prophylaxis (PEP). It is therefore not limited to human treatment after exposure.

Q. With reference to "Green Steel", consider the following statements:

1. Green steel refers to steel produced with significantly lower greenhouse gas emissions than conventional steelmaking.
2. Greater use of renewable electricity and green hydrogen can support the decarbonisation of steel production.
3. Transitioning to green steel is important for India because the steel sector is a significant source of greenhouse gas emissions.

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) 1, 2 and 3

Answer: (d) 1, 2 and 3

Green steel aims to substantially reduce the carbon intensity of steel production. Technologies such as renewable-powered Electric Arc Furnaces (EAFs) and green hydrogen-based Direct Reduced Iron (DRI) can provide pathways for decarbonisation. For India, reducing emissions from steel is important because of the sector's significant contribution to national greenhouse gas emissions and its relevance to the country's net-zero 2070 goal.