

ARAM IAS ACADEMY

- Consider the following statements regarding the relationship between Constitutionalism and the Constitution:

1. Constitutionalism refers to both the restriction on arbitrary governmental power and the promotion of rule of law.
2. Constitutionalism is a philosophy that restrains government power even in the absence of a written Constitution, as long as democratic principles and political culture are strong.
3. Constitutionalism and the Constitution are interdependent, as one cannot exist in practice without the other.

Which of the statements given above is/are correct?

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

Ans: A

Explanation:

- **Statement 1 is correct:** Constitutionalism is primarily about limiting government authority to ensure that no one, including the government, acts beyond the boundaries set by the law or Constitution. By restraining government power, it ensures that citizens' fundamental rights—such as freedom of speech, equality, and due process—are safeguarded. Thus fostering a balance between authority and liberty.
- **Statement 2 is correct:** Constitutionalism can function without a written Constitution, as long as democratic principles, legal precedents, and strong political culture are in place to limit government power. This is evident in countries like the UK, where Constitutionalism is practiced without a single written Constitution.
- **Statement 3 is incorrect:** While Constitutionalism is an ideal that works through a Constitution, the Constitution and Constitutionalism can exist independently. For example, the UK practices Constitutionalism without a codified Constitution, showing that a nation can function with one and not the other in a strict sense. However, it is essential that Constitutionalism prevails to safeguard democratic governance.
- **Thus, option A is correct.**

- Which of the following is not included in the Preamble of the Indian constitution

- a) Economic Justice
- b) Political Equality
- c) Liberty of worship
- d) Equality of status

Ans: B

Explanation:

- Text of the preamble: WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens JUSTICE, social, economic and political; LIBERTY of thought, expression, belief, faith and worship; EQUALITY of status and of opportunity; and to promote among them all FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation; IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.
- We can't find any word which emphasis "Political equality" in the Preamble.
- **Thus, option B is correct.**

- Which of the following is true regarding the role of the Preamble in ensuring the unity and integrity of India?

- a) The Preamble emphasizes liberty over fraternity to secure unity.
- b) The Preamble focuses on economic justice as the primary driver of unity.

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- c) The Preamble advocates fraternity to assure the dignity of individuals, thereby strengthening unity and integrity of the nation.
d) The Preamble's role in unity is primarily linked to the enforcement of Fundamental Duties.

Ans: C

Explanation:

- **Statement 1:** The Preamble does not emphasis liberty over fraternity ad unity of the nation.
- **Statement 2:** Economic justice is guaranteed by Preamble but not seen as a driver of unity.
- **Statement 4:** Preamble had no reference to Fundamental Duty.
- The **Preamble** explicitly mentions fraternity as a core value. The **dignity of the individual** is crucial to this idea of fraternity because when individuals are treated with respect and fairness, they are more likely to develop a sense of belonging and contribute positively to national unity. By **promoting fraternity**, the Constitution aims to break down barriers between various groups, reducing the risk of division or conflict and ensuring the **unity and integrity** of the nation.
- The first and most extensive discussion on fraternity took place in Indira Sawhney v. Union of India,(1992). The idea of fraternity was used to justify the constitutional practice of reservation for backward classes to bring about progress for marginalized sections of society. the Court reasoned that so long as inequality or lack of equal access to opportunity existed, unity of the nation would remain a distant dream thereby additionally hindering the promise of fraternity.
- **Thus, option C is correct.**

⊙ **Which of the following statements describes the function of the constitution?**

1. It provides for the minimal co-ordination
2. It promotes condition for a just society.
3. It empowers people who are traditionally deprived.
4. It promotes majority's will than the minorities.

Which of the statements given above is/are correct?

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

Ans: C

Explanation:

- In India some people are deprived of basic rights due to its social order. Constitution empowers those people who are traditionally deprived by helping them to realize an inclusive and collective good that are common to all.
- By having fundamental rights, the rights of minorities will not be trumped by the majority preferences. So it checks the tyranny of majority.
- The other statements about the constitution given are correct.
- **Thus, option C is correct.**

⊙ **Consider the following statements regarding Doctrine of Adoption:**

1. Legislature was not the body that first made the law but that authority continued it. In the process of continuing it, the legislature may be said to have adopted them.
2. Article 372 of the Constitution of India reflects the Doctrine of Adoption.

Which of the statements given above is/are correct?

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

Ans: C

Explanation:

- According to Hobbes, LEGISLATURE was not the body that first made the law but the authority that continued it. In the process of continuing the laws, the legislature may be said to have

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adopted them. Article 372 of the Constitution which seeks to confine the laws in force, reflects the Doctrine of Adoption.

- Thus, option C is correct.

○ Consider the following statements regarding under current technological advancements:

1. The total carbon emissions from hybrid cars are lesser than that of electric vehicles (EVs).
2. Hybrid vehicles may only be medium term solution, but electric vehicles will be long term solution.

Which of the statements given above is/are correct?

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

Ans: C

Why in news: Hybrids are a medium-term solution for India, a less polluting option than EVs: Report

Explanation:

- Hybrid vehicles are a practical medium-term solution for India's decarbonisation drive as the country moves towards eventual electrification, according to a report by HSBC Global Research.
- Under the current circumstances, the total carbon emissions (well to wheel) from hybrid cars is lesser than that of electric vehicles (EVs) and it may take 7-10 years for EV and hybrid emissions to converge. **Hence statement 1 is correct.**
- "Hybrids are critical not just from a cost of ownership perspective, but also for India's decarbonisation drive," the report said. Hybrids are much less polluting than EVs, it said, adding that the "total carbon emissions i.e. Well to Wheel (WTW) from an EV is currently 158 g/km vs 201 g/km for diesel, 176g/km for petrol, and 133 g/km for hybrid".
- This means that hybrids are 34 per cent, 25 per cent, and 16 per cent less polluting than diesel, petrol, and a proportionate EV, respectively, it added.
- Total emissions include both vehicle emissions -- tank to wheel (TTW) and crude mining/refining emissions, power generation emissions -- well to tank (WTT), the report said.
- In the case of EVs, only the power generation emissions have been incorporated and not coal production emissions, which would have skewed the equation further in favour of hybrids, it added.
- Stating that "it may take 7-10 years for EV and hybrid emissions to converge", the report said the non-fossil share of power generation in India is currently 26 per cent (FY23) and the blended Indian power generation emission is 716g/kWh.
- Total emissions from hybrid cars and EVs will converge if non-fossil power generation in India moves up to 44 per cent, it said, adding, "HSBC estimates that could take 7-10 years, while most other estimates are equal or less than this".
- "By 2030, even if India's share of non-fossil fuel is 40 per cent, hybrids will release 8 per cent fewer emissions than EVs, down from 16 per cent today," the report said.
- Although, over the long term, EVs are inevitable, the HSBC report said, "We believe India needs to embrace hybrids over the next 5-10 years as a credible and practical roadmap to full electrification." **Hence statement-2 is correct.**
- Source: <https://economictimes.indiatimes.com/industry/renewables/hybrids-are-a-medium-term-solution-for-india-a-less-polluting-option-than-evs-report/articleshow/107228797.cms?from=mdr>

○ Which of the following statements about Digi Yatra project is not correct?

- a) It is currently providing contactless, seamless processing of passengers at all international airports in India.
- b) In the Digi Yatra process, there is no central storage of passenger's Personally Identifiable Information (PII) data.
- c) The data is shared by passengers directly, only when they travel and only to the origin Airport.
- d) Digi Yatra Foundation was set up as a joint venture under the Companies Act, 2013.

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Answer: A

Why in news: Amid concerns over Digi Yatra app data privacy, founders assert full control

Explanation:

- Digi Yatra is a mobile application-based facility conceived to achieve contactless, seamless processing of passengers at airports based on Facial Recognition Technology (FRT).
- It is currently being implemented in selected airports. Not all international airports in India now have Digi Yatra facility. **Hence option-a is incorrect**
- It helps travelers pass through various checkpoints at the airports through paperless and contactless processing using facial features to validate their identity and travel details.
- In the Digi Yatra process, there is no central storage of passenger's Personally Identifiable Information (PII) data.
- All the passengers' data is encrypted and stored in the wallet of their smartphone. It is shared only between the passenger and the airport of travel origin, where the passenger's Digi Yatra ID needs to be validated.
- The data is purged from the airport's system within 24 hours of departure of the flight. The data is shared by passengers directly, only when they travel and only to the origin Airport.
- Source: <https://government.economictimes.indiatimes.com/news/technology/amid-concerns-over-digi-yatra-app-data-privacy-founders-assert-full-control/109387734>

⊙ **Consider the following statements regarding Cancer:**

1. Oncology is a branch of medicine that focuses on the diagnosis, treatment, prevention, and study of cancer.
2. Cancer is fundamentally a genomic disease, characterized by uncontrolled cell division due to genetic changes.
3. World Health Organization anticipates a 60% reduction in the cancer burden over the next decade.

Which of the statements given above is/are correct?

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

Answer: B

Why in news: From genomic medicine, a revolution rolls towards cancer care

Explanation:

- Cancer has emerged as a major public health concern worldwide with about 20 million new patients being added every year.
- The World Health Organisation has estimated the cancer burden **will increase by almost 60% over the next decade**, potentially rendering it the second major cause of death. **Hence statement 3 is incorrect.**
- India alone adds approximately 1.4 million new cancer cases every year, with almost 1 in 1,000 Indians being diagnosed annually, per the National Cancer Registry.
- Cancer is fundamentally a genomic disease, characterized by uncontrolled cell division due to genetic changes. **Hence statement 2 is correct.**
- Genomic technologies, bolstered by initiatives like the Cancer Genome Atlas, have played a crucial role in decoding the molecular underpinnings of cancer.
- Oncology is a branch of medicine that specialises in the diagnosis and treatment of cancer. It includes Medical oncology, Radiation oncology. **Hence statement 1 is correct.**
- The focus has shifted to precision oncology, with nearly a third of FDA-approved therapies relying on DNA-based tests as biomarkers.
- Whole-genome sequencing, capable of deciphering an individual's entire DNA – all 3.2 billion nucleotides – in a single, comprehensive test.
- This approach involves sequencing both healthy blood-derived DNA and cancerous tissue or tumour-derived DNA, offering a holistic understanding.

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- The future of cancer care involves a shift in clinical testing, integrating genomics, protein studies, and metabolite analysis (multi-omics).
- This holistic approach enhances the understanding of tumors, identifies molecular subtypes, and informs cancer progression and treatment.
- Source: <https://www.thehindu.com/sci-tech/science/precision-oncology-therapies-whole-genome-sequencing-explained/article67782878.ece>

⊙ **Consider the following statements regarding Aadhaar-Based Payment System (ABPS):**

1. It is mandatory for state governments to link MGNREGA job cards to ABPS.
2. Implementing this has improved the fund transfer time to all active workers under MGNREGA.
3. ABPS helps in eliminating intermediaries and reduces corruption.

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

Ans: C

Why in news: Aadhaar-based pay a bad idea for MGNREGS

Explanation:

- On January 1, the Rural Development Ministry made Aadhaar-Based Payment Systems (ABPS) mandatory in the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). **Hence statement 1 is correct.**
- This is after five deadline extensions by the Union government, disregarding several memorandums by workers to the Ministry to not make ABPS mandatory.
- Government argues that using ABPS ensures that payments are made to the rightful beneficiaries, reducing the chances of fraud and corruption and eliminating intermediaries. **Hence statement 3 is correct.**
- Digital records make it easier to track and audit payments and also help improve financial inclusion.
- However, the over-reliance on technical tools has resulted in problematic implementation, with beneficiaries devoid of a proper recourse for corrections in the system.
- Data analysed by LibTech India suggest that the names of 7.6 crore workers have been deleted over the past 21 months due to discrepancies between the Aadhaar and the job card, among other reasons, with many of these done erroneously.
- Around 12.7% of these active workers are still not eligible due to technological adeptness or a lack of proper documentation. **Hence statement 2 is incorrect.**
- Source: <https://www.thehindu.com/opinion/op-ed/aadhaar-based-pay-a-bad-idea-for-mgnregs/article67786940.ece>

⊙ **Consider the following statements regarding Genocide Convention:**

1. It was the first legal instrument to codify genocide as a crime.
2. It was the human rights treaty unanimously adopted by the United Nations General assembly.
3. India is a State party to the Genocide Convention.

Which of the statements given above is/are correct?

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

Ans: A

Why in news: South Africa files genocide case against Israel at ICJ: Why the African nation supports Gaza so strongly

Explanation:

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- The Convention on the Prevention and Punishment of the Crime of Genocide (CPPCG), or the Genocide Convention, is an international treaty that criminalizes genocide and obligates state parties to pursue the enforcement of its prohibition.
- It was the first legal instrument to codify genocide as a crime, and the first human rights treaty unanimously adopted by the United Nations General Assembly, on 9 December 1948, during the third session of the United Nations General Assembly.
- The Convention entered into force on 12 January 1951 and has 152 state parties as of 2022.
- The Genocide Convention was conceived largely in response to World War II.
- The Convention defines genocide as any of five "acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group."
- These five acts include killing members of the group, causing them serious bodily or mental harm, imposing living conditions intended to destroy the group, preventing births, and forcibly transferring children out of the group.
- The Contracting Parties confirm that genocide, whether committed in time of peace or in time of war, is a crime under international law which they undertake to prevent and to punish
- India ratified the convention in 1959; there is no legislation on the subject.
- **Hence all statements are correct.**
- Source: <https://indianexpress.com/article/explained/everyday-explainers/why-south-africa-filed-genocide-case-israel-icj-9089770/>

⊙ In rural climates, dew formation is often observed more frequently than in urban areas. Which of the following reason explains this phenomenon?

- a) Urban areas have less vegetation, reducing the potential for dew.
- b) Urban heat island effects lead to higher nocturnal temperatures, preventing ground cooling.
- c) Pollution in urban areas inhibits condensation processes.
- d) Rural areas have less atmospheric humidity compared to urban areas, favoring dew formation.

Ans: B

Explanation:

- The urban heat island effect keeps urban areas warmer at night, reducing the temperature drop necessary for dew formation, unlike in rural areas. **So, option B is correct**

⊙ With reference to the concept of "Temperature inversion," consider the following statements:

1. Temperature inversion occurs when the normal lapse rate of the atmosphere is reversed, causing warmer air to be trapped below cooler air.
2. Temperature inversion is common in mountainous regions and valleys.
3. This phenomenon enhances vertical air movement, increasing the possibility of thunderstorms.

Which of the statement(s) given above is/are correct?

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

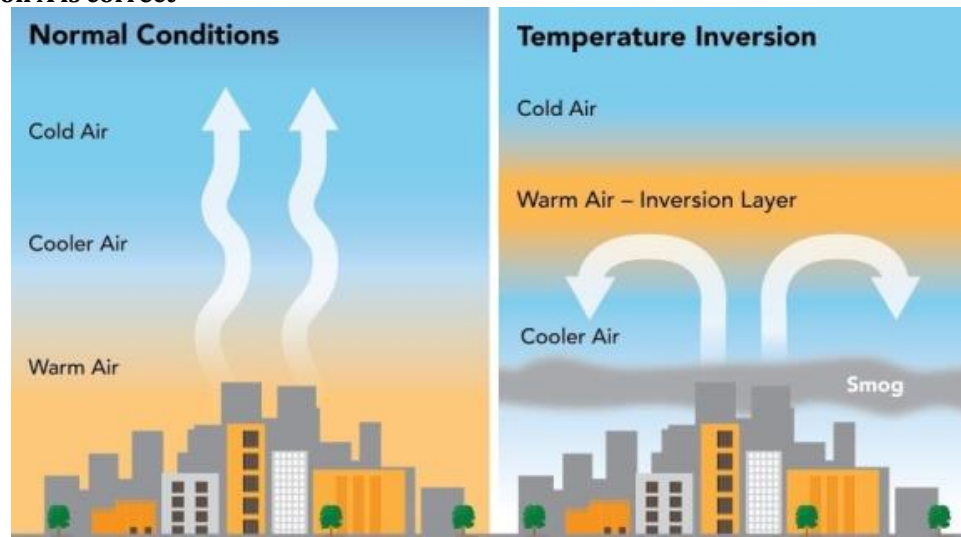
Ans: A

Explanation:

- Temperature inversion refers to a situation where the normal atmospheric temperature lapse rate (where temperature decreases with altitude) is reversed. This means that cooler air is trapped near the Earth's surface with warmer air above it.
- Temperature inversion happens when the normal lapse rate is reversed, trapping cooler air beneath warmer air. This is a typical feature of an inversion layer, especially during nighttime or in calm weather conditions. **Hence, Statement 1 is correct**
- Inversion of Temperature is more commonly observed in mountainous regions and valleys, where cool air tends to settle at lower elevations, and warm air remains above, due to the topography and specific local conditions. **Hence, Statement 2 is correct**
- Temperature inversion suppresses vertical air movement rather than enhancing it. This stable atmospheric condition prevents the upward movement of air, leading to trapped pollutants and

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the reduction of weather activities such as thunderstorms. Hence, Statement 3 is not correct. So, option A is correct



○ Consider the following statements regarding precipitation:

1. All precipitation originates from clouds formed at low altitudes.
2. Convictional precipitation is usually associated with long-lasting rains.
3. Both drizzle and rain can only occur in nimbostratus cloud.

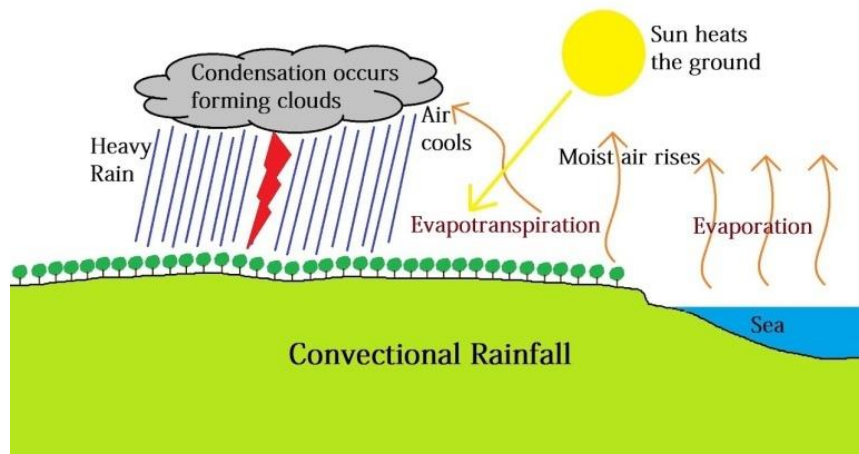
How many of the above given statement(s) is/are correct?

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

Ans: D

Explanation:

- Precipitation can originate from clouds at different altitudes, not just low-level clouds. High-altitude clouds, such as cirrus or cumulonimbus, can also produce precipitation, especially during heavy rainfall or thunderstorms. **Hence statement 1 is not correct**
- Convictional precipitation is generally linked to short, intense showers rather than prolonged rainfall. This occurs when the sun heats the Earth's surface, causing warm air to rise and cool, often leading to localized thunderstorms and heavy downpours. **Hence statement 2 is not correct**



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- Although nimbostratus clouds are commonly associated with continuous rain or drizzle, other cloud types, like stratus and cumulonimbus, can also produce precipitation. Therefore, precipitation is not limited to nimbostratus clouds. **Hence statement 3 is not correct. So, option D is correct**

○ **Consider the following statements:**

- The temperature in the stratosphere decreases with altitude due to the absorption of UV radiation
- The stratospheric ozone layer is also responsible for absorbing infrared radiation, contributing to global warming.

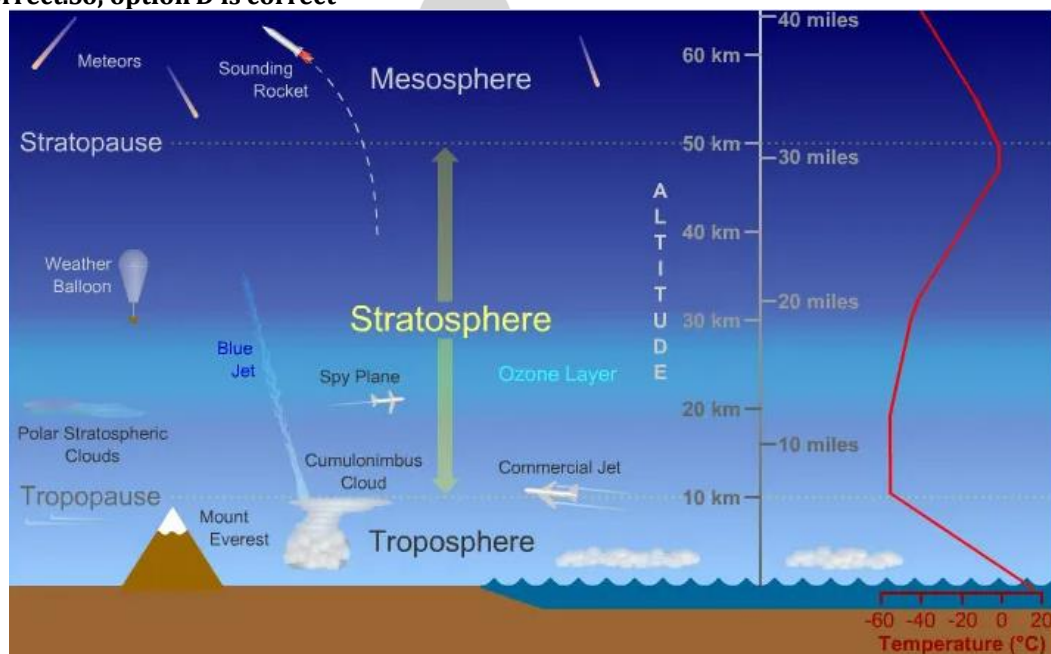
Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Ans: D

Explanation:

- In the stratosphere, temperature rises with altitude due to the absorption of ultraviolet (UV) radiation by the ozone layer. This occurs as ozone molecules absorb UV radiation, converting it into heat, which leads to a temperature increase at higher altitudes. **Hence statement 1 is not correct**
- The ozone layer primarily absorbs UV radiation, not infrared radiation. Infrared radiation is absorbed by greenhouse gases, such as carbon dioxide (CO₂) and methane (CH₄), in the troposphere, contributing to global warming. The stratospheric ozone layer does not significantly absorb infrared radiation or contribute directly to global warming. **Hence statement 2 is not correct. So, option D is correct**



○ **Consider the following statements regarding Doldrums:**

- Doldrums are known for their high-pressure systems.
- The region of the Doldrums is characterized by strong prevailing winds
- The instability in the Doldrums can lead to the formation of tropical cyclones

How many of the above given statement(s) is/are correct?

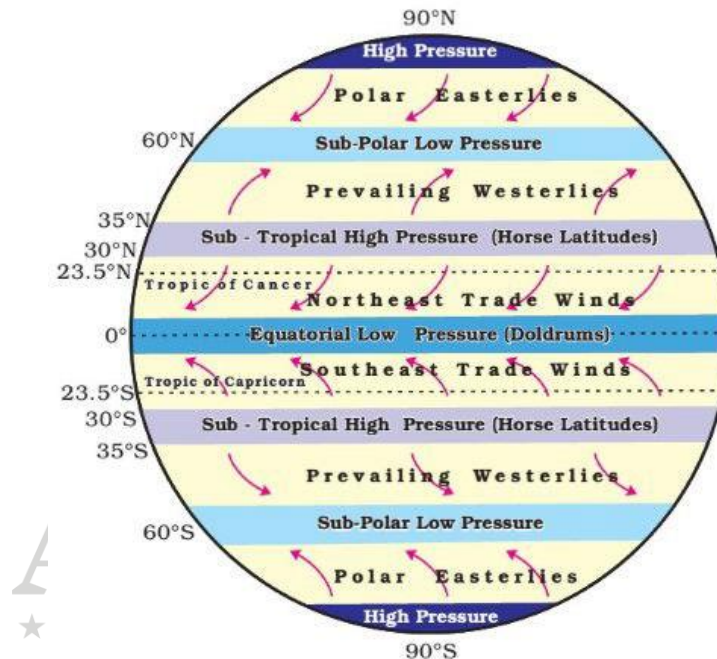
- Only one
- Only two
- All three
- None of the above

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Ans: A

Explanation:

- The Doldrums is a low-pressure area characterized by very light and variable winds, resulting from the convergence of trade winds from both hemispheres. **Hence statement 1 is not correct**
- The Doldrums also known as the Intertropical Convergence Zone (ITCZ), is marked by calm conditions and fluctuating wind patterns, rather than strong prevailing winds. **Hence statement 2 is not correct.**
- This region experiences significant instability and convection, which can foster the development of tropical cyclones. The rising warm, moist air in the Doldrums can contribute to cyclone formation under favorable conditions. **Hence statement 3 is correct. So, option A is correct**



Major Pressure Belts and Wind System

☉ Which of the following is *not* the feature of the Indian Constitution?

- a) Doctrine of Separation of Power
- b) Doctrine of Mutual Exclusion in Secularism
- c) Doctrine of Division of Powers
- d) Doctrine of Parliamentary Form of Government

Ans: B

Explanation:

- Indian Constitution ensures that there will be no religion of state but it also **ensures to protect all religions by state** so **state is not isolated from religion** but protects all religions.
- The doctrine of mutual exclusion of religion is a concept that refers to the complete separation of religion from the state, or the exclusion of religion from state affairs and vice versa. This concept is a feature of the Western concept of secularism, which also includes the following principles:
 - ✓ The state and religion have separate spheres of jurisdiction
 - ✓ The state cannot aid religious institutions
 - ✓ The state cannot hinder religious communities as long as they follow the law
- **Thus, option B is correct.**

☉ Which of the following provisions were included in the Constitution of India regarding citizenship at the time of its commencement?

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1. Citizenship by birth
2. Citizenship by naturalization
3. Citizenship by domicile
4. Citizenship by registration

Select the correct answer using the codes below:

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

Ans: C

Explanation:

- The Constitution of India, at the time of its commencement, provided for various methods of **acquiring** citizenship under **Articles 5 to 8**. These articles outlined the following provisions for citizenship:
 1. **Citizenship by birth** (Article 5) – Any person who was born in the territory of India and met certain conditions at the time of commencement of the Constitution was considered a citizen of India.
 2. **Citizenship by domicile** (Article 5) – Any person who had their domicile in the territory of India and met other conditions was entitled to Indian citizenship.
 3. **Citizenship by registration** (Article 6 and Article 8) – Certain people, such as those who had migrated from Pakistan or were of Indian origin and residing abroad, could acquire citizenship by registration, provided they met the necessary conditions.
- **However**, the Constitution at the time of commencement did not provide for **citizenship by naturalization**. Naturalization as a mode of acquiring citizenship was later detailed in the **Citizenship Act of 1955**.
- **Thus, option C is correct.**

☉ Which of the following states/union territories have two capitals?

1. Jammu and Kashmir
2. Punjab
3. Chandigarh
4. Maharashtra
5. Himachal Pradesh

Select the correct answer using the code given below

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

Ans: B

Explanation:

- Himachal Pradesh has two capital Shimla (Summer) and Dharmasala (Winter)
- Jammu & Kashmir has Srinagar as capital in summer and Jammu in winter.
- Maharashtra has Mumbai as capital in summer and Nagpur as Capital in winter.
- **Thus, option B is correct.**

☉ Which of the following is *not* a core element of the Basic Structure Doctrine as articulated by the Supreme Court of India?

- a) Supremacy of the Constitution
- b) Rule of Law
- c) Fundamental Rights
- d) Division of Power

Ans: C

Explanation:

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- The Basic Structure Doctrine emerged from the landmark case of *Kesavananda Bharati v. State of Kerala* (1973). While the Basic Structure Doctrine emphasizes the federal nature of the Indian polity, it does not include a unitary nature. The doctrine is designed to **protect** the essential features of the Constitution, including its federal character, which ensures a balance of power between the central and state governments.
- Fundamental Right is not a basic structure. That is, it can be amended. However protection of fundamental rights is part of Basic structure.
- Supremacy of constitution, Rule of Law and Division of Powers (Federalism) are part of basic structure.
- **Thus, option C is correct.**

⊙ **Assertion (A):** Democratic socialism is more compatible with democratic values and institutions than state socialism.

Reason (R): State socialism often involves restrictions on individual liberties and political pluralism in the name of achieving societal goals.

Which one of the following is correct?

- a) Both A and R are true, and R is the correct explanation of A
- b) Both A and R are true, but R is not the correct explanation of A
- c) A is true, but R is false
- d) A is false, but R is true

Ans: A

Explanation:

- **Democratic socialism:** It is a political ideology that advocates for a democratic society with a socialist economy. It **seeks** to balance individual freedom with social equality and economic justice. This ideology emphasizes individual liberties, political pluralism and rule of law.
- **State socialism:** It often involves a one-party state and a centralized government that exercises strict control over the **economy** and society. This can lead to restrictions on individual liberties and political pluralism. However, such restrictions can undermine democratic values and institutions.
- While both ideologies seek to achieve social and economic equality, democratic socialism does so within a **democratic** framework that respects individual liberties and political pluralism.
- **Thus, option A is correct.**

⊙ **Which of the following state has longest land boundary with Myanmar?**

- a) Nagaland
- b) Arunachal Pradesh
- c) Manipur
- d) Mizoram

Ans: B

Why in news: Reconsidering the free movement regime: Home minister

Explanation:

- The FMR allows people living on either side of the border to travel upto 16 km inside each other's country without a visa.
- A border resident needs to have a border pass, valid for a year, to stay in the other country for about two weeks per visit.
- The FMR also envisaged the promotion of localised border trade through customs stations and designated markets apart from helping the people of Myanmar access better education and healthcare facilities on the Indian side of the border.
- Much of India's present-day northeast was temporarily under Burmese occupation until the British pushed them out in the 1800s.
- The victors and the vanquished signed the Treaty of Yandaboo in 1826, leading to the current alignment of the boundary between India and Burma, later renamed Myanmar.
- The FMR came about in 2018 as part of the Act East policy. The Rohingya refugee crisis that began in August 2017 caused the delay.

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- Arunachal Pradesh shares the longest border with Myanmar, at 520 km; Nagaland: 215 km, Manipur: 398 km, Mizoram: 510 km. These four northeastern states of India share a total of 1,643 km of border with Myanmar. Hence option-b is correct.
- Source: <https://www.thehindu.com/news/national/reconsidering-the-free-movement-regime-explained/article67773825.ece>

⊙ **Consider the following statements regarding Geographical Indication (GI) tags:**

1. Globally, agricultural products and foodstuffs have the highest share of registered GIs.
2. India is among the top five countries with highest number of registered GI tags in the world.
3. GI is governed under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Which of the statements given above is/are correct?

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

Ans: C

Why in news: Untapped potential- India's two-decade journey with Geographical Indication tags has shown limited out-come

Explanation:

- Geographical Indication (GI) is a form of certification that recognises unique products based on their origin, which is often attributed to agro-climatic variations and traditional cultivation practices.
- This certification is also extended to non-agricultural products, such as handicrafts, based on human skills, materials and resources available in certain areas that make the product unique.
- At the level of the World Trade Organization (WTO), GI is governed under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Hence statement 3 is correct.
- Germany leads in GI registrations, with 15,566 registered products, followed by China (7,247), as per 2020 data with the World Intellectual Property Organization. Hungary, Czech Republic, Bulgaria, Italy and Portugal are the next countries in the list. **Hence statement 2 is incorrect**
- Globally, wines and spirits comprise 51.8 per cent of registered GIs, followed by agricultural products and foodstuffs at 29.9 per cent. In India, handicraft (about 45 per cent) and agriculture (about 30 per cent) comprise the majority of the GI products. **Hence statement 1 is incorrect**
- Till December 2023, Intellectual Property India received just 1,167 applications, of which only 547 products have been registered, as per the GI Registry.
- This means the application acceptance ratio is only about 46 per cent, which indicates that regulations are quite strict. It took over a decade for the famous Alphonso mango to receive GI registration due to dis-putes over geography.
- Trade reforms, legal protection and consumer acceptance are necessary to commercialise local products and gain premium prices in domestic and international markets.
- Empirical evidence from many developing and developed countries shows that GI helps economic enhancement at the producer's level. But this is not true to the same extent in India, perhaps due to flaws in the GI registration system and market inefficiencies.
- Therefore, India's journey of over two decades—the Geographical Indications of Goods (Registration and Protection) Rules was enacted in 1999—with GI has had limited outcomes and re-quires more popularisation to achieve its full economic potential.
- The government should incentivise GIs at the initial juncture—at the producers' level—to boost the numbers. Emphasis should also be on amendment of laws to clearly dictate exclusion of "non-producers" from benefiting from GIs, and ensure direct benefits to producers.
- The government's One District One Product scheme should be integrated with GIs through the involvement of food producer organisations. Promotion of GI-based products requires special emphasis on marketing and branding, which can be resolved to a certain extent by developing market outlet schemes.

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- Source: [https://www.downtoearth.org.in/governance/untapped-potential-94029#:~:text=Geographical%20Indication%20\(GI\)%20is%20a,variations%20and%20traditional%20cultivation%20practices.](https://www.downtoearth.org.in/governance/untapped-potential-94029#:~:text=Geographical%20Indication%20(GI)%20is%20a,variations%20and%20traditional%20cultivation%20practices.)

⊙ Consider the following statements:

Statement I:

For the first time since independence, Lakshadweep has been connected through Submarine Optic Fiber Cable.

Statement II:

Department of Tele communications is the Project Executing Agency of Kochi-Lakshadweep Submarine OFC Project (KLI project).

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

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c) Statement-I is correct but Statement-II is incorrect
- d) Statement-I is incorrect but Statement-II is correct

Answer: C

Why in news: Prime Minister, Shri Narendra Modi inaugurated Kochi-Lakshadweep islands submarine optical fiber connection (KLI-SOFC) project.

Explanation:

- The Department of Telecommunications (DOT) conceptualized the Kochi-Lakshadweep Submarine OFC Project (KLI project).
- In the Kochi-Lakshadweep Islands Submarine Cable (KLI) project submarine cable connectivity from Mainland (Kochi) to eleven Lakshadweep Islands namely, Kavaratti, Agatti, Amini, Kadmat, Chetlet, Kalpeni, Minicoy, Androth, Kiltan, Bangaram and Bitra has been extended. Total link distance: 1,868 kilometres.
- The project is funded by Universal Services Obligation Fund (USOF), Department of Telecommunication.
- Bharat Sanchar Nigam Limited (BSNL) was the Project Executing Agency. **Hence statement -II is incorrect**
- Total cost of project :Rs 1072 crore plus taxes
- For the first time since independence, Lakshadweep will be connected through Submarine Optic Fibre Cable. **Hence statement-I is correct**
- The dedicated submarine OFC will ensure a paradigm shift in communication infrastructure in the Lakshadweep islands, enabling faster and more reliable internet services, telemedicine, e-governance, educational initiatives, digital banking, digital currency usage, digital literacy etc.
- Source: <https://timesofindia.indiatimes.com/gadgets-news/pm-modi-inaugurates-kochi-lakshadweep-islands-submarine-optical-fibre-connection/articleshow/106524199.cms>

⊙ Which of the following states became the first in the country to unveil its own comprehensive policy to combat the menace of Invasive species?

- a) Gujarat
- b) Uttarakhand
- c) Tamil Nadu
- d) Odisha

Ans: C

Why in news: No food in forests: Tamil Nadu challenges spread of invasive species head on

Explanation:

- The dense forests of Tamil Nadu are facing a rapid spread of invasive plant species, which is upsetting the natural balance, making it challenging for wild animals to find food

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- Invasive alien plant species have been a long-persisted problem in the state's forests owing to the large-scale introduction of myriad species (mostly due to commercial and socioeconomic reasons) in the past.
- A 2015 analysis of invasive alien plant species in the country used ecological niche modelling (ENM), also known as species distribution modelling, to predict the distribution of species in geographic space. It found parts of Tamil Nadu, predominantly the Western Ghats, among the chief invasion hotspots.
- Recognising the need to combat the menace, Tamil Nadu became the first state in the country to unveil its own comprehensive policy, the Tamil Nadu Policy on Invasive Plants and Ecological Restoration (TNPIPER), in June 2022. **Hence option-c is correct**
- The forest department began removing the top-priority invasive species, *prosopisjuliflora*, from Mudumalai Tiger Reserve elephant corridor in the state in 2021
- The corridor comprises a village on the banks of a Bhavani river tributary, Mayar river and is surrounded by Sathyamangalam in Erode district, a protected area and tiger reserve.
- The region is bordered by the Western and Eastern Ghats, as well as the Mudumalai Tiger Reserve. Elephants from Nagercoil, Wayanad and Bandipur National Park use this corridor to reach Bhavanisagar lake and come back.
- However, eliminating alien species like *prosopisjuliflora* and *lantana camara* is not easy, as they regrow even after they are removed or burnt. So, it has to be ensured that the model is sustainable and maintained in the subsequent years.
- Alien species often replace native vegetation, altering or degrading natural habitats and reducing the availability of preferred food sources for wildlife.
- The displacement of native flora by invasive species may also lead to a decline in plant diversity, affecting the variety of food resources available for different animal species.
- It can even alter foraging patterns. Changes in vegetation composition can force animals to modify their foraging patterns or adapt to new food sources, which may not be as nutritionally rich
- Source: <https://www.downtoearth.org.in/wildlife-biodiversity/no-food-in-forests-tamil-nadu-challenges-spread-of-invasive-species-head-on-94030>

☉ **The products Cheston Cold, Vicks Action 500 and Foracet, which were in news can be classified under which of the following?**

- a) Fixed-dose combination medicines
- b) Essential daily use medicines
- c) Antidepressants
- d) All the above.

Ans: A

Why in news: India's apex drug regulator has given conditional approval to continue the manufacture and sale of five fixed-dose combination (FDC) medicines

Explanation:

- FDC drugs are those that contain a combination of two or more active pharmaceutical ingredients (APIs) in a single form, which is usually manufactured in a fixed proportion.
- According to experts, FDCs became a contentious issue from a safety and regulatory point of view after a parliamentary standing committee report in 2012 observed that some state licensing authorities had issued manufacturing licences for several FDCs without prior clearance from the CDSCO.
- This led to the market being flooded by FDCs that could potentially put patients at risk, as these were not tested for safety and efficacy.
- Central government had prohibited the manufacture for sale, sale and distribution for human use of 344 FDCs under Section 26 A of the Drugs and Cosmetics Act, 1940.
- These five FDCs are part of 344 drug combinations that the government had first banned in 2016.
- Cheston Cold, Vicks Action 500 and Foracet are among the most common FDC in India.
- Source: https://www.business-standard.com/industry/news/34-more-fixed-dose-combination-under-scanner-says-cdsco-official-124082301054_1.html

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⊙ Consider the following statements regarding Relative Humidity:

1. If moisture is added to the air through evaporation, the relative humidity will decrease.
2. High relative humidity can make the air feel warmer than the actual temperature

Which of the statement(s) given above is/are correct?

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

Ans: B

Explanation:

- Relative humidity refers to the percentage of moisture present in the atmosphere relative to the maximum amount it can hold at a specific temperature.
- When moisture is added to the air through evaporation, the relative humidity increases. This is because relative humidity measures the amount of water vapor in the air compared to the air's capacity to hold moisture at a given temperature. As more moisture is added, the relative humidity rises. **Hence statement 1 is not correct**
- High relative humidity impairs the body's ability to cool itself through sweating, which can make the air feel warmer and more uncomfortable than the actual temperature. This occurs because the sweat evaporation process, which helps cool the body, is less effective in humid conditions. **Hence statement 2 is correct. So, option B is correct.**

⊙ Consider the following statements:

1. Solar radiation is unevenly distributed across the Earth's surface, with the equatorial regions receiving the maximum insolation.
2. Forests and oceans have higher albedo values than ice caps and deserts.
3. Melting of polar ice caps decreases the Earth's albedo.
4. The majority of the heat emitted from the Earth's surface is lost directly to outer space.

Which of the above given statement(s) is/are not correct?

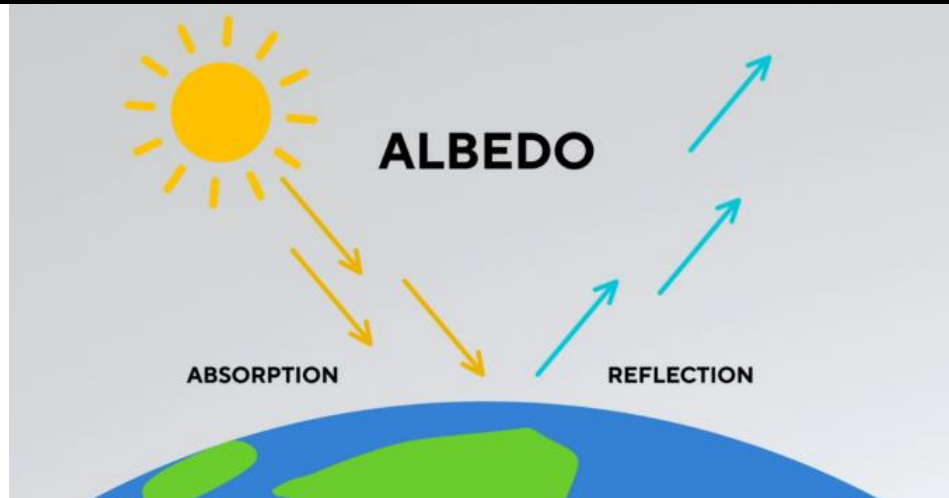
- a) 1 and 2 only
- b) 2 and 4 only
- c) 1, 2 and 3 only
- d) 1, 2, 3 and 4

Ans: B

Explanation

- The equatorial regions experience the highest levels of solar insolation due to the sun being positioned almost directly overhead throughout the year. In contrast, the polar regions receive less insolation because the sunlight strikes at a much lower angle. **Hence, statement 1 is correct.**
- The melting of polar ice caps reveals darker ocean surfaces, which absorb more sunlight, leading to a reduction in the Earth's overall albedo and further warming. **Hence, statement 3 is correct.**
- Most of the heat radiated from the Earth's surface is captured and re-emitted by greenhouse gases in the atmosphere, rather than escaping directly into space. This trapped heat contributes to the greenhouse effect. **Hence, statement 4 is not correct.**
- Albedo is a measure of how much sunlight a surface reflects. Ice caps and deserts have a high albedo, reflecting a significant portion of sunlight, while forests and oceans have a low albedo, absorbing more solar energy. **Hence, statement 2 is not correct. So, option B is the answer.**

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⊙ Consider the following statements:

1. The equatorial regions experience significant temperature variation due to monsoon winds.
2. The movement of the ITCZ affects the seasonal distribution of rainfall in equatorial regions.
3. Humidity levels in the equatorial climate are generally low.

How many of the above given statement(s) is/are correct?

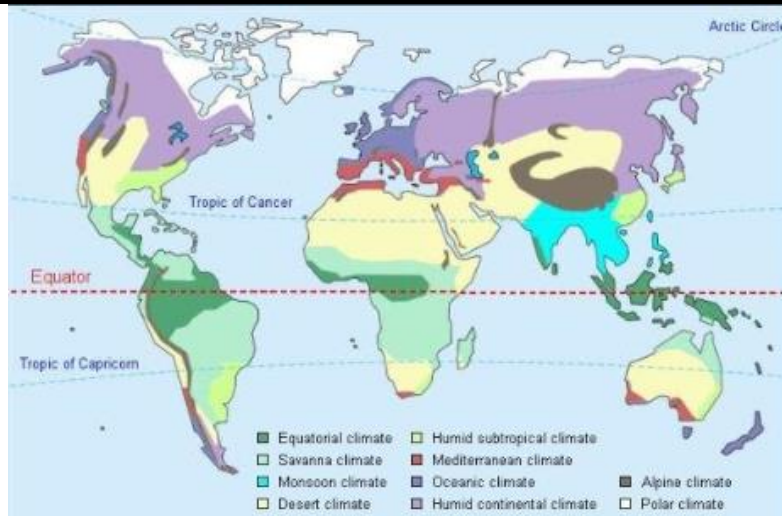
- a) Only one
- b) Only two
- c) All three
- d) None of the above

Ans: A

Explanation:

- Equatorial regions generally have consistent temperatures year-round due to their proximity to the equator. While monsoon winds can influence rainfall patterns, they do not cause significant temperature variations in these regions. Temperatures remain relatively stable, with minor variations. **Hence, statement 1 is not correct**
- The Intertropical Convergence Zone (ITCZ), where the trade winds from the Northern and Southern Hemispheres meet, shifts seasonally and impacts the distribution of rainfall. **Hence, statement 2 is correct**
- The equatorial climate is known for its high humidity due to the abundant rainfall and consistent warm temperatures. High evaporation rates from oceans and land, combined with frequent precipitation, result in consistently high humidity levels. **Hence, statement 3 is not correct. So, option A is correct**

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- It is an eco-climatic and bio-geographic transition zone in Africa with a semi-arid climate, stretching across the south-central latitudes of Northern Africa between the Atlantic Ocean and the Red Sea. This region features flat, barren plains and includes the fertile delta of the Niger, one of Africa's longest rivers.

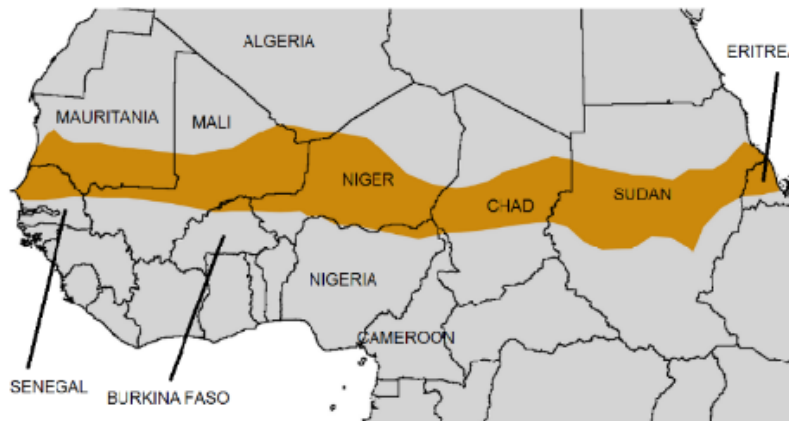
Which one of the following is the region described in the above paragraph?

- a) Sahel
- b) Sahara
- c) Savannah
- d) Ethiopian highlands

Ans: A

Explanation:

- The Sahel is an eco-climatic and bio-geographic transition zone in Africa, situated between the Sahara Desert to the north and the Sudanian savanna to the south. **So, option A is the answer.**
- The Sahel features a semi-arid climate and extends across the south-central latitudes of Northern Africa, lying between the Atlantic Ocean and the Red Sea.
- The name "Sahel" is derived from the Arabic word for "coast" or "shore," used figuratively to describe the southern edge of the vast Sahara Desert.
- The Sahel spans from west to east, encompassing parts of northern Senegal, southern Mauritania, central Mali, northern Burkina Faso, the extreme south of Algeria, Niger, the northernmost regions of Nigeria and Cameroon, the Central African Republic, central Chad, central and southern Sudan, the extreme north of South Sudan, Eritrea, and the northernmost parts of Ethiopia.



- The Sahel includes the fertile delta of the Niger River, one of Africa's longest rivers.

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- The region's green vegetation appears only during the rainy season and is often rapidly harvested by farmers or consumed by animals.

○ Consider the following statements:

1. Argon is present in higher concentrations than carbon dioxide in the atmosphere.
2. The concentration of water vapor is highest in the polar regions.
3. The presence of ozone in the troposphere is beneficial for human health unlike stratospheric ozone.

Which of the above given statement(s) is/are *not* correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) All the above
- d) None of the above

Ans: B

Explanation:

- **Nitrogen** and **oxygen** together make up nearly 99% of clean, dry air. The remaining gases are mostly inert and account for about 1% of the atmosphere. **Argon** comprises approximately 0.93% of the Earth's atmosphere, while **carbon dioxide** makes up about 0.04%. Therefore, argon is present in higher concentrations than carbon dioxide. **Hence, statement 1 is correct.**
- **Water vapor** is one of the most variable gases in the atmosphere. It absorbs long-wave terrestrial radiation (infrared or heat emitted by the Earth during the night) and a portion of incoming solar radiation.
- **Water vapor** is crucial for precipitation and cloud formation. When it condenses, it releases latent heat of condensation, which drives storm activity.
- The concentration of water vapor is generally highest in the **tropical regions**, where warmer temperatures allow the air to hold more moisture. In contrast, water vapor levels are lower in the **polar regions** due to colder temperatures, which limit the air's moisture capacity. **Hence, statement 2 is not correct.**
- **Ozone** in the **troposphere** (ground-level ozone) is harmful to human health, potentially causing respiratory issues and other health problems. In contrast, **ozone** in the **stratosphere** (the ozone layer) is beneficial as it shields the Earth from harmful ultraviolet (UV) radiation from the sun. **Hence, statement 3 is not correct. So, option B is the answer.**

○ Which of the following is/are NOT the functions of the Indian Constitution?

1. It ensures that a dominant group does not misuse its power against others.
2. It ensures that all the minority groups are not excluded from anything that is available to the majority.
3. It ensures the state governments to draw their powers from it and they do not work as agents of the central governments.

Select the correct answer using the codes given below.

- a) 1 only
- b) 3 only
- c) 1 and 2 only
- d) None of the above.

Ans: D

Explanation:

- **Statement 1 is correct:** An important function that a Constitution plays in a democracy is to ensure that a dominant group does not use its power against other, less powerful people or groups.
- **Statement 2 is correct:** The Constitution usually contains rules that ensure that minorities are not excluded from anything that is routinely available to the majority. Another reason why we have a Constitution is precisely to prevent this tyranny or domination by the majority of a minority. This can refer to one community dominating another, i.e. inter-community domination,

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or members of one community dominating others within the same community, i.e. intra-community domination.

- **Statement 3 is correct:** The Constitution contains lists that detail the **issues that each tier of government can make laws on**. In addition, the Constitution also specifies where each tier of government can get the money from for the work that it does. Under federalism, the states are not merely agents of the federal government but draw their authority from the Constitution as well.
- **Thus, option D is correct.**

○ **Consider the following statements regarding Overseas Citizenship of India (OCI) and Non-Resident Indians (NRI):**

1. Both NRI and OCI holders have the right to vote in Indian elections.
2. OCI holders are not eligible to hold constitutional public offices in India but NRI's are eligible to hold constitutional and public offices in India.
3. NRIs are permitted to own real estate in India, while OCI holders are not.

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) 2 only

Ans: D

Explanation:

Feature	OCI (Overseas Citizen of India)	NRI (Non-Resident Indian)
Definition	A foreign national of Indian origin (or spouse of Indian citizen/OCI)	Indian citizen residing outside India for employment, etc.
Citizenship Status	Not a citizen of India; holds OCI card	Indian citizen with full rights of citizenship
Right to Vote	No voting rights	Full voting rights in Indian elections (must be physically present)
Eligibility for Public Office	Cannot hold constitutional or high public offices	Eligible to hold constitutional and public offices in India
Property Ownership	Can own residential and commercial property, but not agricultural land	Can own all types of property, including agricultural land
Passport and Travel	Uses a foreign passport with OCI endorsement; multiple entry, lifelong visa for India	Holds an Indian passport
Taxation	Taxed only on income earned in India	Taxed based on residency status (global income taxed if resident)
Employment in India	Can work in India in private sector, but not in government jobs	Can work in India, including government jobs

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○ The Preamble of the Indian Constitution is considered the "soul" of the document because it:

1. Reflects the aspirations of the framers for a just, inclusive, and democratic society.
2. Declares that the Constitution derives its authority from the people of India.
3. Acts as a guiding framework for interpreting fundamental rights and constitutional amendments without being justiciable in itself.
4. Enshrines the values of justice, liberty, equality, and fraternity.

Select the correct answer using the codes given below:

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

Ans: D

Explanation:

- **Statement 1 is Correct:** The Supreme Court in *Kesavananda Bharati vs. State of Kerala* (1973) case held that the **Preamble** reflects the philosophy and intent of the framers of the Constitution. It was affirmed that the **basic structure doctrine** includes the vision of justice, equality, liberty, and fraternity, as outlined in the Preamble, which cannot be amended.
- **Statement 2 is Correct:** The Preamble begins with the words "**We, the people of India,**" emphasizing that the **sovereignty** of the nation resides with its citizens. This shows that the ultimate source of power is the people, and it is through their will that the Constitution comes into existence. It is a cornerstone of **democratic governance**.
- **Statement 3 is Correct:** The Supreme Court in *Kesavananda Bharati vs. State of Kerala* (1973) case held that the Preamble is part of the Constitution and can be used to interpret constitutional provisions. However, it is not enforceable in itself but acts as a guiding light for interpreting laws and rights.
- **Statement 4 is Correct:** The core principles in the Preamble — justice (social, economic, and political), liberty of **thought**, expression, belief, faith, and worship, equality of status and opportunity, and fraternity — represent the essence of the Indian constitutional framework. These principles are mirrored in various parts of the Constitution.
- **Thus, option D is correct.**

○ Which of the following statements ensure "the Republic" nature of Indian constitution?

1. The President of India is directly elected by an Electoral College for a fixed term.
2. The President of India holds real executive power and is the chief decision-maker.
3. The Republic status of India reflects the principle that the ultimate sovereignty rests with the people, and all public offices, including the head of state, are thrown open to all citizens.

Select the answer using the codes given below:

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

Ans: C

Explanation:

- **Statement 1 is Incorrect.** As per **Article 54**, the President of India is elected **indirectly** by an Electoral College consisting of members of Parliament and the Legislative Assemblies of States and Union Territories. The President serves for a fixed term of five years as provided under **Article 56**.
- **Statement 2 is Incorrect:** In India's parliamentary system, the President (head of state) holds a ceremonial position, while the real executive power lies with the Council of Ministers headed by the Prime Minister. This is affirmed by **Article 74**, which mandates that the President must act on the advice of the Council of Ministers.
- **Statement 3 is Correct:** The term "Republic" indicates that sovereignty rests with the people, and all public offices are filled through elections, rather than being based on hereditary rule. It doesn't specifically guarantee equal participation through universal adult suffrage, but it does ensure that

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positions of authority, such as the President, are elected by the people or their representatives. Thus, the concept of the Republic in India emphasizes elected positions and people's sovereignty.

- Thus, option C is correct.

⊙ Consider the following statements:

1. Parliamentary sovereignty implies that the legislative body holds the supreme power to enact or repeal any law, without being limited by any higher authority, whereas popular sovereignty emphasizes that ultimate power rests with the people.
2. The principle of democracy in the Preamble is directly connected to the idea of popular sovereignty, which reflects the power vested in the people.

Which of the statements given above is/are correct?

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

Ans: C

Explanation:

- **Parliamentary sovereignty:** It refers to the concept where the legislative body (Parliament) holds the supreme power to enact or repeal any law, without being limited by any higher authority (e.g., UK).
- **Popular sovereignty:** The ultimate authority rests with the people, who exercise their power through elected **representatives** (as seen in a democracy like India). The Preamble of India reflects the idea of **popular sovereignty** by beginning with "We, the people of India."
- The Preamble's mention of democracy emphasizes that **power resides with the people**, who elect their **representatives** to govern on their behalf. This concept of **popular sovereignty** is a core principle of a democratic system, ensuring that the government operates with the consent of the governed.
- Thus, option C is correct.

⊙ Under the Foreign Contribution Regulation Act, which of the following are prohibited from receiving foreign funds?

1. Candidates in election.
2. Public sector employees.
3. Any Newspaper company.
4. All Non-governmental Organizations (NGO)

Select the correct answer using the codes given below:

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

Ans: A

Why in news: The Centre for Policy Research (CPR), a leading Indian public policy think tank, had its FCRA license cancelled.

Explanation:

- First enacted in 1976 FCRA regulates foreign donations and ensures that such contributions do not adversely affect internal security.
- The Act ensures that the recipients of foreign contribution use it for the stated purpose for which such contribution has been obtained.
- It is implemented by the Union Home Ministry.
- FCRA is applicable to all associations, groups and NGOs which intend to receive foreign donations.
- It is mandatory for all such NGOs to register themselves under the FCRA every five years.
- The Act prohibits the receipt of foreign funds by candidates for elections, journalists or newspaper and media broadcast companies, judges and government servants, members of legislature and

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political parties or their office-bearers, and organisations of a political nature. **Hence statements 1,2 and 3 are correct.**

- **NGOs are not prohibited from receiving funds.** The FCRA requires every person or NGO seeking to receive foreign donations to be registered under the Act and to open a bank account for the receipt of the foreign funds in State Bank of India, Delhi. **Hence statement 4 is incorrect.**
- FCRA requires to utilise those funds only for the purpose for which they have been received and as stipulated in the Act.
- FCRA requires to file annual returns and not to transfer the funds to another NGO
- Source: <https://indianexpress.com/article/india/fcra-licence-of-think-tank-centre-for-policy-research-cancelled-9112869/>

- ⊙ **Border Security Force's (BSF) annual operation launched to prevent unwanted border incidents, such as cross-border intrusions during low temperatures and dense fog is called:**

- a) Operation Sankalp
- b) Operation Sard Hawa
- c) Operation Madad
- d) Operation Maitri

Ans: B

Why in news: Operation Sard Hawa: BSF issues high alert along Indo-Pak border

Explanation:

- Ahead of this year's Republic Day, the Border Security Forces (BSF) has sounded a 15-day special alert along the India-Pakistan border named '**Operation Sard Hawa**'. **Hence option-b is correct.**
- The central security forces have issued an alert along the borders of Jammu and Kashmir, Punjab, Rajasthan and Gujarat.
- The alert has been sounded to deal with any type of terrorist attack.
- Every year around Republic Day, a special alert is sounded along the border for about 10 days. However, due to the Ram Mandir consecration on January 22, this year, it has been issued for 15 days.
- Operation Sard Hawa is part of the BSF's annual winter exercise launched to prevent unwanted border incidents, such as cross-border intrusions during low temperatures and dense fog.
- Officials aware of the matter said that during winter, there is a higher likelihood of intrusion from across the border due to cold and dense fog.
- Infiltrators often take advantage of dense fog to cross the border. Considering this, the BSF remains on high alert during the winter season.
- Source: <https://www.indiatoday.in/india/story/operation-sard-hawa-bsf-15-day-special-alert-along-india-pakistan-border-ahead-of-republic-day-ram-mandir-consecration-2489153-2024-01-16>

- ⊙ **With reference to Coalition of Epidemic Preparedness Innovations Network (CEPI), consider the following statements:**

1. It was launched at Oslo in 2017 as the result of a consensus that a coordinated, international, and intergovernmental plan was needed to develop and deploy new vaccines to prevent future epidemics.
2. Headquarters of the coalition is located at Davos.
3. India was not a member of the consortium that founded the coalition.

How many of the above given statements are not correct?

- a) None
- b) Only One
- c) Only Two
- d) All Three

Ans: C

Why in news: The Serum Institute of India (SII) is joining the Coalition of Epidemic Preparedness Innovations Network (CEPI).

Explanation:

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- CEPI is an innovative global partnership between public, private, philanthropic, and civil society organisations to develop vaccines to stop future epidemics.
- The Coalition for Epidemic Preparedness Innovations (CEPI) **was launched at Davos 2017** as the result of a consensus that a coordinated, international, and intergovernmental plan was needed to develop and deploy new vaccines to prevent future epidemics.
- **Headquarters: Oslo, Norway. Hence statements 1 and 2 are incorrect.**
- Founded by a consortium that included the governments of Norway, Japan, and Germany, The Wellcome Trust, and the Gates Foundation. India joined a short time afterwards. **Hence statement 3 is correct.**
- CEPI is focused on the World Health Organization's (WHO) "blueprint priority diseases", which include: the Middle East respiratory syndrome-related coronavirus (MERS-CoV), the Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the Nipah virus, the Lassa fever virus, and the Rift Valley fever virus, as well as the Chikungunya virus and the hypothetical, unknown pathogen "Disease X".
- Source: <https://www.thehindu.com/business/Industry/serum-institute-of-india-joins-global-network-to-boost-production-of-affordable-outbreak-vaccines/article67769714.ece>

⊙ One of the following regions is the home to hundreds of stingless bee species, which pollinate much of the region's native flora and are a creative way to fight deforestation:

- a) Congo
- b) Amazon
- c) Kikori
- d) Rio de la Plata Basin

Answer: B

Why in news: In Peru, a Mission to Save the Stingless Bee

Explanation:

- Stingless bees are native to the Amazon, unlike the more familiar but invasive honey bees from Africa and Europe that have spread through the Americas.
- The most obvious difference, perhaps, is that stingless bees don't sting. Their honey, which is runny enough to be drunk like a liquid and is said to have a citrusy aftertaste, is used by many Indigenous Peruvians as a natural medicine.
- The Amazon is home to hundreds of species of stingless bee, but as deforestation converts the tropical landscape into farms and ranches, these and other native pollinators are in danger of disappearing. **Hence option-b is correct.**
- Pesticides, climate change and competition with the honeybee, which is better adapted to agricultural areas than the stingless bee, introduces more strain.
- Building an economy around stingless bees, which pollinate much of the Amazon's native flora, is a creative way to fight deforestation.
- The Amazon is one of the most biodiverse regions in the world. But widespread deforestation threatens the protection of Indigenous communities as well as the animals and plants that live there, and it reduces the habitat's function as a major carbon sink amid Earth's growing climate crisis.
- Source: <https://www.nytimes.com/2024/01/30/science/amazon-stingless-bees-honey.html>

⊙ Consider the following statements regarding World Employment and Social Outlook released by International Labour Organisation's (ILO):

1. Both the number of workers living in extreme poverty and those living in moderate poverty went up.
2. The global unemployment rate had reduced compared to the previous year.
3. Only India, China and the Russian Federation enjoyed positive real wage growth among the G20 countries.

Which of the statements given above is/are correct?

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

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- c) 2 and 3 only
- d) 1 and 2 only

Ans: D

Why in news: ILO sees structural imbalances in global labour market

Explanation:

- Global unemployment rate is set to increase in 2024 while growing social inequalities remain a concern, said the International Labour Organisation's (ILO) World Employment and Social Outlook: Trends 2024
- 2024 (WESO Trends) revealed that the global unemployment rate hit 5.1% in 2023, lower than the 5.3% in 2022. Hence statement 2 is correct.
- In 2023, the number of workers living in extreme poverty grew by about one million, while those living in moderate poverty went up by 8.4 million. Hence statement 1 is correct.
- The jobs gap rate was also higher for lower-income nations with 20.5% in 2023, while it was at 8.2% higher-income countries.
- Real wage declined in the majority of G20 countries as wage increase was not proportionate to inflation growth. **Only China, the Russian Federation, and Mexico enjoyed positive real wage growth in 2023. India did not enjoy positive growth. Hence statement 3 is incorrect.**
- The number of workers earning less than US\$2.15 per day in purchasing power parity (PPP) terms grew by about one million globally
- Source: <https://www.thehindu.com/business/Economy/ilo-sees-structural-imbalances-in-global-labour-market/article67727676.ece>

- ⊙ It is a hot, dry wind that originates in the Sahara Desert and blows across the Mediterranean Sea towards Southern Europe. This wind is known for its ability to carry fine dust and sand particles, significantly impacting air quality and weather conditions in the regions it affects. It is particularly notable for its influence on the weather in countries such as Italy and Greece. The rainfall from this wind is also known as "blood rain".

Which one of the following is the wind described in the above paragraph?

- a) Mistral
- b) Sirocco
- c) Harmattan
- d) Bora

Ans: B

Explanation:

- Sirocco is a Mediterranean wind that comes from the Sahara and reaches hurricane speeds in North Africa and Southern Europe.
- It arises from a warm, dry, tropical air mass that is pulled northward by low-pressure cells moving eastward across the Mediterranean Sea, with the wind originating in the Arabian or Sahara deserts. The hotter, drier continental air mixes with the cooler, wetter air of the maritime cyclone, and the counter-clockwise circulation of the low propels the mixed air across the southern coasts of Europe.
- The Sirocco causes dusty dry conditions along the northern coast of Africa, storms in the Mediterranean Sea, and cool wet weather in Europe.
- The amount of red sand is also high along with the sirocco air. When these winds pass through the Mediterranean, they pick up moisture and sometimes provide rainfall in southern Italy. When the red sand starts settling down, it seems that blood rain is happening.
- **So, option B is the answer.**

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⊙ Consider the following statements:

1. During the summer solstice in the Northern Hemisphere, the Northern Hemisphere experiences its longest day and shortest night.
2. During the winter solstice in the Northern Hemisphere, the Southern Hemisphere experiences its longest day and shortest night.

Which of the statement(s) given above is/are *not* correct?

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

Ans: D

Explanation:

- The summer solstice occurs when one of the Earth's poles (North pole) has its maximum tilt toward the Sun.
- The winter solstice occurs when one of the Earth's poles (North Pole) has its maximum tilt away from the Sun.
- The summer solstice brings the longest day in the Northern Hemisphere, as it is tilted towards the sun. Winter solstice brings the longest night in the Northern Hemisphere as it is tilted away from the sun. **Hence, both the statements are correct. So, option D is the answer.**

⊙ Consider the following statements regarding Land breeze:

1. It generally has higher humidity level than sea breeze.
2. It occurs because the land radiates heat faster than water at night, cooling more quickly.

Which of the statement(s) given above is/are *not* correct?

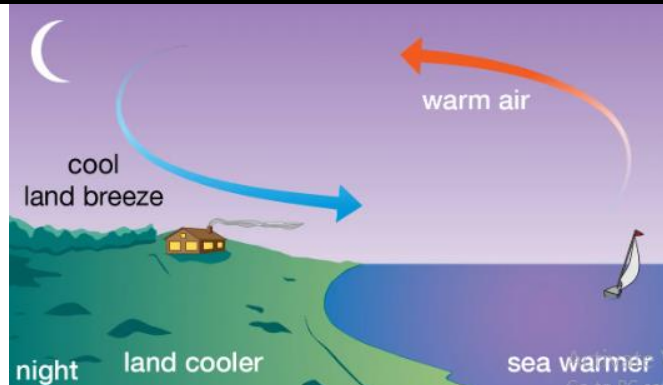
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Ans: A

Explanation:

- Land breezes generally have lower humidity compared to sea breezes. Sea breezes bring moist, humid air from the ocean towards the land, while land breezes, coming from the cooler and drier land, move towards the sea, carrying less moisture. **Hence, statement 1 is not correct.**

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- At night, the land cools down faster than the water, causing the air over the land to cool and become denser, forming a high-pressure zone. The warmer air over the sea rises, creating lower pressure, and this pressure difference drives the cooler land air towards the sea, forming a land breeze. **Hence, statement 2 is correct. So, option A is the answer.**

⊙ Consider the following statements:

- Low-altitude clouds have a high albedo.
- Stratus clouds are low-altitude clouds.

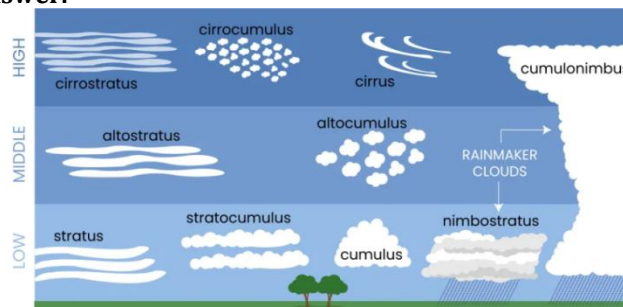
Which of the above given statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- None of the above

Ans: C

Explanation:

- Low-level clouds are clouds that occur below 6,500 feet and are made of liquid water droplets or supercooled droplets
- The two main types of low clouds include stratus, which develop horizontally, and cumulus, which develop vertically.
- Low-altitude clouds have a high albedo because they are thicker and reflect more solar radiation back into space than high cloud. Low-altitude clouds, such as stratus and cumulus clouds having high albedo, reflect a large portion of incoming solar radiation back into space, helping to cool the Earth. **Hence, statement 1 is correct.**
- Stratus clouds are typically found at low altitudes, close to the Earth's surface. They often appear as a uniform layer of grey clouds covering the sky **Hence, statement 2 is correct**
- So, option C is the answer.**



⊙ Consider the following statements:

Statement - I:

Temperate cyclone originates between 30° and 60° latitudes in both the hemispheres.

Statement - II:

Temperate cyclones are fuelled by the release of latent heat from warm ocean waters

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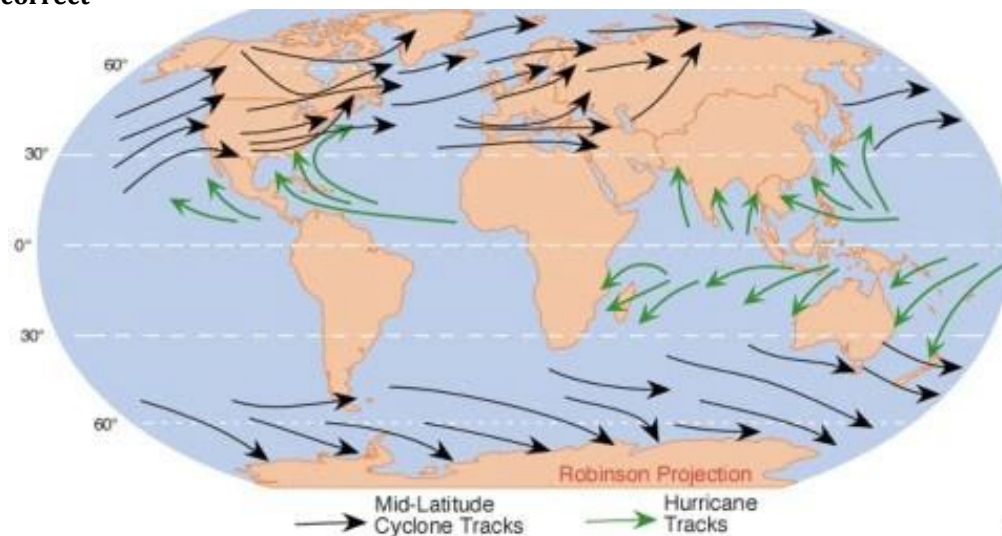
Which one of the following is correct in respect of the above statements?

- a) Both Statement-I and Statement-II are correct, and Statement – II is the correct explanation for Statement-I
- b) Both Statement – I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I
- c) Statement-I is correct, but Statement-II is incorrect
- d) Statement-I is incorrect, but Statement-II is correct

Ans: B

Explanation:

- Temperate cyclones, also referred to as mid-latitude cyclones, typically develop between the latitudes of 30° and 60° in both hemispheres. These cyclones are low-pressure systems that feature cold fronts, warm fronts, and occluded fronts. They form along the polar front, where cold polar air converges with warmer tropical air, creating atmospheric instability. **Hence statement 1 is correct**



- The main factor behind the formation of temperate cyclones is the interaction between cold polar air and warm tropical air, resulting in the creation of a frontal zone. While the release of latent heat from warm ocean waters can enhance the intensity of a temperate cyclone after it has formed, it is not the primary factor driving its formation. **Hence, statement 2 is also correct but Statement 2 does not explain statement 1. So, option B is the answer.**

☉ Which of the following statements is correct with reference to the bifurcation of Jammu & Kashmir into Union Territories?

- a) The bifurcation was done under Article 3 without needing a constitutional amendment.
- b) Article 370 had to be necessarily be fully abrogated before the bifurcation process could be initiated.
- c) The state of Jammu & Kashmir was bifurcated under Article 2 of the Constitution.
- d) Consent of the dissolved Jammu & Kashmir Legislative Assembly was obtained before bifurcation.

Ans: A

Explanation:

- **Statement 1 is correct:** The bifurcation of Jammu & Kashmir into two Union Territories—Jammu & Kashmir, and Ladakh—was carried out using the provisions of **Article 3** of the Indian Constitution. It is outside article 368 and therefore not deemed constitutional amendment.
- **Statement 2:** The Parliament is provided sovereign power to alter the boundary of the state of readjustment of the political map of India. Thus Article 370 is not needed to be abrogated for the bifurcation

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- **Statement 3:** Article 2 is regarding admission of new states into the Union. It has no relevance in the bifurcation of Jammu and Kashmir.
- **Statement 4:** At the event of bifurcation the assembly of Jammu and Kashmir was dissolved and the consent was not obtained.
- **Thus, option A is correct.**

⊙ Which of the following best reflects the difference between equality and equity in the Indian context?

- a) Equality focuses on equal treatment, while equity focuses on fairness justice and addressing disadvantages.
- b) Equality is a constitutional mandate, whereas equity is an administrative policy.
- c) Equality ensures equal outcomes for all, while equity focuses on ensuring equal starting points.
- d) Equality is concerned with political rights, whereas equity is concerned with economic rights.

Ans: A

Explanation:

- **Equality:** The concept of **equality** is primarily enshrined in **Article 14** of the Indian Constitution. This provision guarantees **formal equality**, meaning that all individuals must be treated equally by the law. This principle ensures that every individual, irrespective of caste, religion, or gender, is subject to the same laws, ensuring uniform treatment.
- **Equity:** Equity, on the other hand, focuses on **substantive equality** — the idea of ensuring fairness by addressing **historical disadvantages** and **systemic barriers**. This concept is reflected in the **affirmative action** provisions like e.g., reservations under Articles 15(4) and 16(4), aiming to bring marginalized groups to an equal footing with the rest of society.
- In essence, **equality** gives everyone the same starting line, but **equity** takes into account historical and social disadvantages and provides extra support to bring people to a comparable level, thus ensuring fairness.
- **Thus, option A is correct.**

⊙ Consider the following statements regarding Citizenship (Amendment) Act, 2019 (CAA):

1. The CAA provides a pathway to Indian citizenship for persecuted religious minorities from Afghanistan, Bangladesh, and Pakistan who entered India on or before December 31, 2014.
2. The CAA does not apply to areas covered under the Sixth Schedule of the Constitution, including tribal areas in Assam, Meghalaya, Mizoram, and Tripura.

Which of the statements given above is/are correct?

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

Ans: C

Explanation:

- **Statement 1:** Correct. The Citizenship (Amendment) Act, 2019 (CAA) provides a fast-track path to Indian citizenship for **persecuted religious minorities** (Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians) from **Afghanistan, Bangladesh, and Pakistan**. However, these individuals must have entered India **on or before December 31, 2014**. This amendment specifically excludes Muslims from these countries.
- **Statement 2:** Correct. The CAA does not apply to certain areas in the Northeast. These include the **tribal areas of Assam, Meghalaya, Mizoram, and Tripura** as mentioned in the **Sixth Schedule** of the Constitution. The law also excludes areas that fall under the **Inner Line Permit (ILP)** system, which includes Arunachal Pradesh, Nagaland, and Mizoram.
- **Thus, option C is correct.**

⊙ Which one of the following statements is/are correct regarding amendability of Preamble?

1. It cannot be amended under Article 368 of the Constitution.
2. The Preamble has been amended twice so far.

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3. Preamble can be amended without altering the 'basic features'

Select the correct answer using the code given below.

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

Ans: C

Explanation

- **KesavanandaBharaticase (1973):**The question as to whether the Preamble can be amended under Article 368 of the Constitution arose for the first time in the historic Kesavananda Bharaticase (1973). **Supreme court held that:**
 - ✓ Preamble can be amended; subject to the condition that no amendment is done to the 'basic features'.
 - ✓ But Fundamental features of the Constitution as contained in the Preamble cannot be altered by an amendment under Article 368.
- **42nd Constitutional Amendment Act**
 - ✓ The Preamble has been amended **only once**, in **1976**, by the 42nd Constitutional Amendment Act.
 - ✓ It has added **three new words-Socialist, Secular and Integrity**-to the Preamble. This amendment was held to be valid.
- **Thus, option C is correct**

⊙ Which of the following best defines the concept of Constitutional Morality?

- a) Constitutional Morality refers to adherence to the values, rules, and principles enshrined in the Constitution, even if they conflict with prevailing social customs and traditions.
- b) Constitutional Morality is the practice of upholding societal norms and values, ensuring that all laws are in harmony with the majority's cultural and religious beliefs.
- c) Constitutional Morality ensures that the Legislature and Executive can impose restrictions on Fundamental Rights based on public opinion and morality.
- d) Constitutional Morality emphasizes the unrestricted power of the Judiciary to enforce laws according to societal traditions.

Ans: A

Explanation:

- **Constitutional Morality** emphasizes the importance of upholding the principles of the Constitution, such as liberty, equality, and justice, even when they conflict with societal norms, cultural traditions, or public morality. The doctrine prioritizes the progressive and inclusive nature of the Constitution, ensuring that individual rights are safeguarded, and the rule of law prevails. It often comes into play in judicial decisions when constitutional principles may challenge entrenched social practices (e.g., Sabarimala case, decriminalization of Section 377).
- **Statement 2:** Constitutional morality is neither based on culture or religion nor seek to pacify all religion. It is upholding constitutional norms.
- **Statement 3:** Constitutional morality seeks to bring in constitutionalism and thus restricts the power of legislature and executive.
- **Statement 4:** Constitutional morality is also embodies separation of power and thus goes against the concept of judicial supremacy.
- **Thus, option A is correct.**

⊙ With reference to semiconductor industry in India, which of the following is the main strength and advantage that India currently possesses over other countries?

- a) Ability to produce complete chip indigenously
- b) Large talent pool of design engineers.
- c) Raw material source of semiconductors
- d) Both (a) and (b)

Answer: B

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Why in news: India's semiconductor mission focused on designing entire chip: Vaishnaw

Explanation:

- Union minister recently said that "The biggest priority is on design that's where we have a very big strength.
- In design, we are advancing from being a back office to actually producing the complete chip or rather designing the complete chip, two going out to the customers taking the concept and then developing the entire chip. **Hence option-a is incorrect**
- The second big focus for us is to make sure that talent for all parts of the ecosystem gets developed and in that, it's very important to continuously upgrade the course curriculums.
- It is very important to make sure that we are connected with the companies that are working on it.
- Union minister Vaishnaw called India the right place for developing semiconductors as the country has a large pool of talent, which includes close to 300,000 design engineers who practically design every complex chip which is manufactured in the world. **Hence option-b is correct**
- But main challenges to this mission are India does not have semiconductor raw materials in abundance within the country and dependence is on China for most of the raw materials. **Hence option-c is incorrect.**
- Source: https://www.business-standard.com/india-news/india-s-semiconductor-mission-focused-on-designing-entire-chip-vaishnaw-124011800042_1.html

⊙ **The Thirty Meter Telescope (TMT), which will be the world's most advanced and capable ground-based optical, near-infrared, and mid-infrared observatory is a partnership project between how many of the following?**

1. Canada
2. Japan
3. UAE
4. China
5. European Union
6. India.

Select the correct answer using the codes given below:

- a) Only Two
- b) Only Three
- c) Only Four
- d) Only Five

Ans: C

Why in news: Indian delegation visits Hawaii to discuss progress of TMT

Explanation:

- The Thirty Meter Telescope (TMT) will be the world's most advanced and capable ground-based optical, near-infrared, and mid-infrared observatory.
- The TMT project is an international partnership between **CalTech, Universities of California, Canada, Japan, China and India. UAE and EU are not part of the project. Hence option-c is correct.**
- The Aryabhata Research Institute for Observational Sciences (ARIES), Nainital, the Indian Institute of Astrophysics (IIA), Bangalore and the Inter-University Center for Astronomy and Astrophysics (IUCAA), Pune are the three main institutes constituting TMT-India.
- India TMT will be jointly funded by the Departments of Science and Technology and Atomic Energy.
- The Thirty Meter Telescope (TMT) is a planned extremely large telescope (ELT) that has become controversial due to its location on Mauna Kea, on the island of Hawai'i.
- The TMT would become the largest visible-light telescope on Mauna Kea
- Source: <https://ddnews.gov.in/en/indian-delegation-visits-hawaii-to-discuss-progress-of-tmt/>

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⊙ Consider the following:

1. Safe housing
2. Clean drinking water
3. Access to education
4. Road and telecom connectivity
5. Health and nutrition

Which of the above are focus areas of Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN)?

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

Ans: D

Why in news: The Ministry of New and Renewable Energy (MNRE) has introduced a new Solar Power Scheme as part of the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) aimed at Particularly Vulnerable Tribal Groups (PVTG) Habitations/Villages.

Explanation:

- The new Solar Power Scheme focuses on electrifying 1 lakh un-electrified households in PVTG areas across 18 states and the Union Territory of Andaman & Nicobar Islands.
- The scheme involves the provision of off-grid solar systems for households where grid electricity is not feasible.
- The Union Cabinet during November 2023 approved Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) with total outlay of Rs.24,104 crore (Central Share:Rs.15,336 crore and State Share: Rs.8,768 crore)
- The scheme is implemented during FY 2023-24 to 2025-26. This will saturate PVTG households and habitations with basic facilities such as safe housing, clean drinking water and sanitation, improved access to education, health and nutrition, road and telecom connectivity, and sustainable livelihood opportunities. **Hence all statements are correct.**
- An amount of Rs.15,000 crore will be made available to implement the Mission in the next three years under the Development Action Plan for the Scheduled Tribes (DAPST).
- The PM-JANMAN (comprising Central Sector and Centrally Sponsored Schemes) to focus on 11 critical interventions through 9 Ministries including Ministry of Tribal Affairs.
- Source:<https://www.downtoearth.org.in/energy/pm-janman-for-tribal-electrification-beacon-of-hope-or-mirage--93913>

⊙ Consider the following statements:

Statement I:

Solid-state batteries use thin layers of solid electrolytes that carry lithium ions between electrodes

Statement II:

The very low sensitivity of the batteries to moisture and oxygen makes the metal filaments safe from potential short circuits

Statement III:

Due to solid state of electrolyte, the solid-state batteries are more dense and heavier than its lithium-ion competitor.

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

- a) Both Statement-II and Statement-III are correct and both of them explain Statement-I
- b) Both Statement-II and Statement-III are correct, but only one of them explains Statement-I
- c) Only one of the Statements II and III is correct and that explains Statement-I
- d) Neither Statement-II nor Statement-III is correct

Answer: D

Why in news: Toyota fast charges its solid-state battery plans; may spawn 2 BEV ranges

Explanation:

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- Solid-state batteries use thin layers of solid electrolytes that carry lithium ions between electrodes. **Hence statement-I is correct**
- The lithium-ion (li-ion) batteries use liquid electrolytes.
- The focus should be on mass-production of new materials and establishing a supply chain for solid electrolytes, which hold the key to the commercialisation of solid-state batteries
- The electrolyte is solid. This allows ions, which convey electricity, to move faster, thus enabling shorter charging times, increased cruising ranges, and produce higher power output.
- Toyota expects its electric cars powered by them to have a range of 1,200km - over twice that of the current range of electric vehicles (EVs) — and a charging time of 10 minutes or less, far lower than that two-four hours that it takes to fast charge an EV with Li-ion batteries.
- It is highly stable because they are resistant to changes in temperature and can robustly endure high temperatures and high voltages.
- It is much safer than lithium-ion batteries from fire and explosion.
- Crucially, though, **solid electrolytes are less dense, so a solid-state battery can be smaller and lighter than its lithium-ion competitor. Hence statement -III is incorrect**
- Disadvantage: **The extreme sensitivity of the batteries to moisture and oxygen**, as well as the mechanical pressure needed to hold them together to prevent the formation of dendrites, the **metal filaments that can cause short circuits. Hence statement -II is incorrect**
- Source: <https://indianexpress.com/article/business/companies/toyota-fastcharges-its-solid-state-battery-plans-may-spawn-2-bev-ranges-9130753/>

○ Consider the following information:

	Migratory bird	Source region	IUCN status
1	Laughing gull	North America	Least Concern
2	Amur Falcon	Siberia	Vulnerable
3	Greater Flamingo	Australia	Endangered

In how many of the above rows is the given information correctly matched?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Ans: A

Why in news: In a first in the country, laughing gull from North America spotted at Chittari estuary in Kasaragod

Explanation:

- Laughing gull, a migratory bird from North America, has been sighted for the first time in the country at the Chittari estuary in Kasaragod district. IUCN: Least Concern. Hence row 1 is correctly matched
- The Amur falcon (*Falco amurensis*) is a small raptor of the falcon family. It breeds in south-eastern Siberia and Northern China before migrating in large flocks across India and over the Arabian Sea to winter in Southern and East African coasts. **IUCN: Least Concern**
- The greater flamingo (*Phoenicopterus roseus*) is **found in Africa, southern Europe, West Asia, and South Asia**. It has the widest distribution of all flamingo species. IUCN: Least Concern. Hence row 2 and 3 are incorrectly matched.
- Source: <https://www.thehindu.com/news/national/kerala/in-a-first-in-the-country-laughing-gull-from-north-america-spotted-at-chittari-estuary-in-kasaragod/article67786315.ece>

○ A tourist resort in a mountainous region is planning to schedule outdoor events to take advantage of natural cooling. When would be the most advantageous time for the resort to schedule outdoor events to maximize the benefit of mountain breezes for cooling?

- a) Early evening
- b) Midday
- c) Late morning
- d) Late night

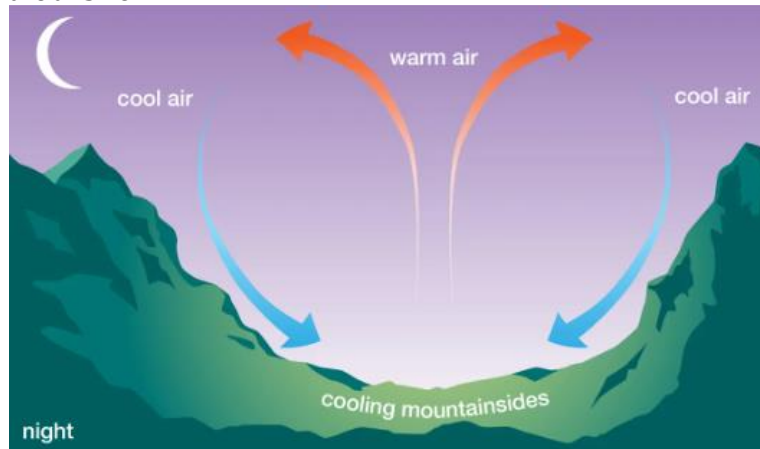
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Ans:A

Explanation:

- Mountain breezes, or katabatic winds, form when cooler, denser air from higher elevations flows down into the valleys. This movement is driven by the temperature contrast between the cooler mountain slopes and the warmer valley areas. They typically occur in the late afternoon or early evening when the slopes of the mountain begin to cool faster than the surrounding air. The cooler, denser air descends into the valleys, creating a natural cooling effect. This makes early evening the best time to experience these breezes.

So, option A is the answer.



⊙ **Consider the following statements:**

1. The Coriolis force is maximum at the poles and is absent at the equator.
2. The Coriolis force acts parallel to the pressure gradient force

Which of the statement(s) given above is/are *not* correct?

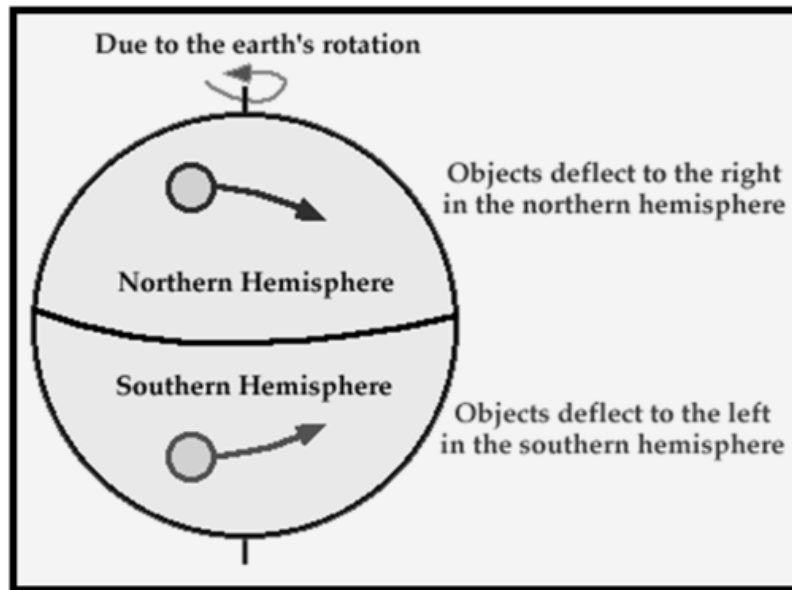
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Ans: B

Explanation:

- The Earth's rotation on its axis influences wind direction, and this effect is known as the Coriolis force. The force is directly related to the latitude, with winds being deflected to the left in the Southern Hemisphere and to the right in the Northern Hemisphere.
- The Coriolis force is maximum at the poles due to the Earth's rotation and is zero at the Equator. The force arises because of the Earth's rotation and is proportional to the rotational velocity, which is highest at the poles and zero at the Equator. **Hence statement 1 is correct**
- The Coriolis force acts perpendicular to the pressure gradient force (pressure gradient force is perpendicular to an isobar) and is directly proportional to the angle of latitude. It is maximum at the poles and is absent at the equator. **Hence statement 2 is not correct. So, option B is the answer.**

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☉ With reference to the structure of the atmosphere, consider the following statements:

1. The stratosphere is characterized by a temperature inversion, where temperature increases with altitude.
2. The thermosphere is the layer where most of the atmospheric weather phenomena occur.
3. The ionosphere, which is part of the thermosphere, plays a key role in radio wave propagation.

Which of the statement(s) given above is/are correct?

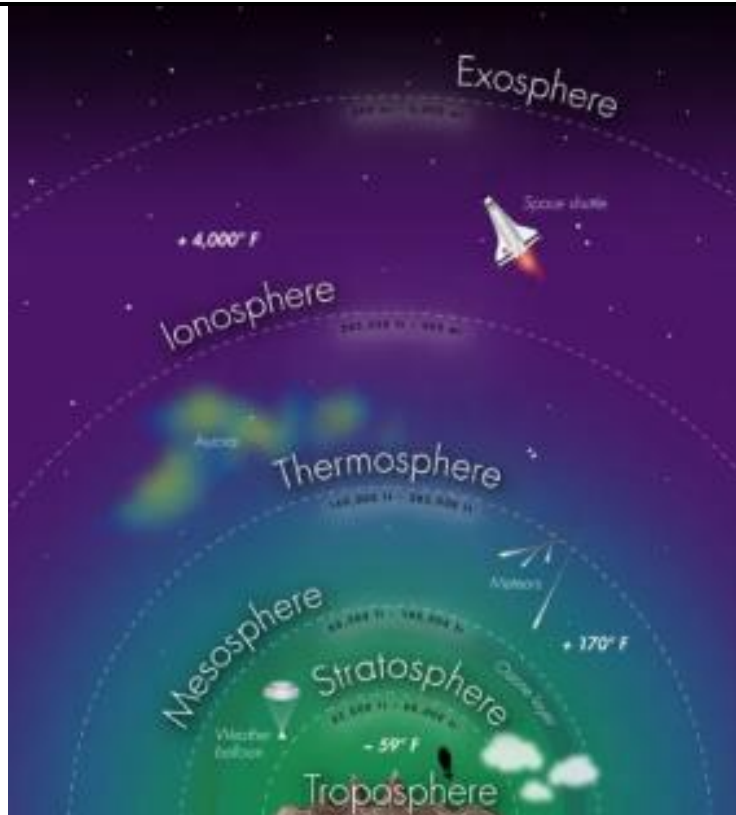
- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2, and 3

Ans: C

Explanation:

- Stratosphere lies beyond troposphere, up to an altitude of 50 km from the earth's surface.
- The temperature in this layer remains constant for some distance but then increases with altitude due to the absorption of ultraviolet (UV) radiation by the ozone layer. This rise is due to the presence of ozone (harmful ultraviolet radiation is absorbed by ozone). **Hence, statement 1 is correct**
- Stratosphere is almost free from clouds and associated weather phenomenon, making conditions most ideal for flying aeroplanes
- In thermosphere temperature rises very rapidly with increasing height. Ionosphere is a part of this layer. It extends between 80-400 km. This layer helps in radio transmission. In fact, radio waves transmitted from the earth are reflected back to the earth by this layer. Most atmospheric weather phenomena occur in the troposphere, not the thermosphere. **Hence statement 2 is not correct but statement 3 is correct. So, option C is correct**

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○ Consider the following statements:

1. The subtropical high-pressure belts are characterized by relatively cooler temperatures compared to the tropical regions.
2. Most of the deserts are present along subtropical high-pressure belts in both the hemispheres.

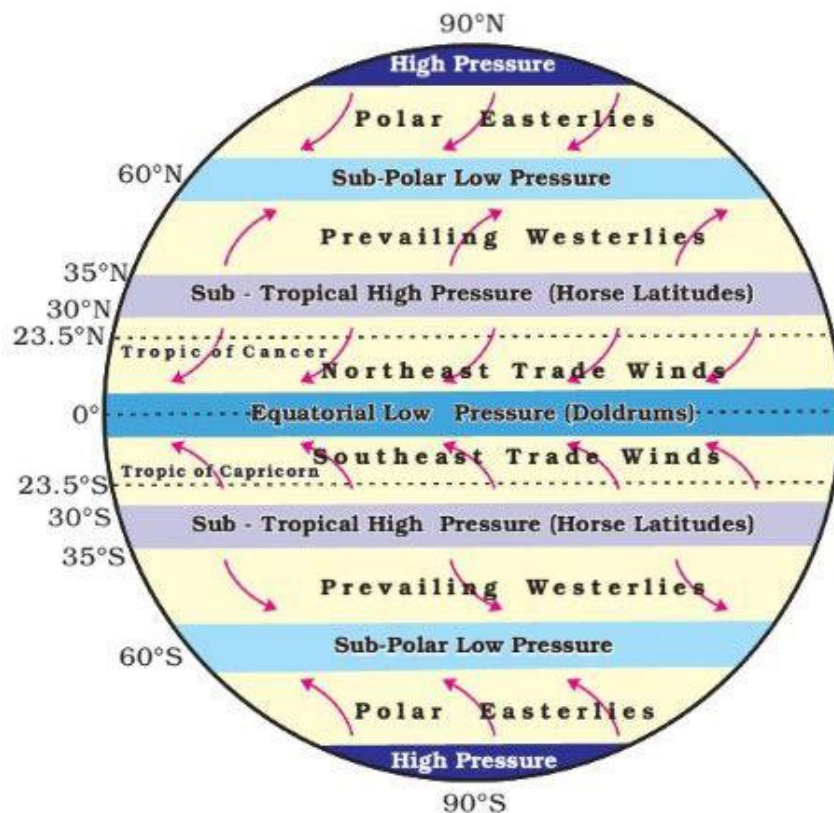
Which of the statements given above is/are correct?

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

Ans: B

Explanation:

- The sub-tropical high-pressure belts extend from near the tropics to about 35°N and S.
- **How it is formed?**
 - ✓ After saturation (complete loss of moisture) at the ITCZ, the air moving away from equatorial low-pressure belt in the upper troposphere becomes dry and cold.
 - ✓ This dry and cold wind subsides at 30°N and S.
 - ✓ So the high pressure along this belt is due to subsidence of air coming from the equatorial region which descends after becoming heavy.
 - ✓ The high pressure is also due to the blocking effect of air at upper levels because of the Coriolis force.
- The subsiding air is warm and dry, therefore, most of the deserts are present along this belt, in both hemispheres. **Hence, statement 2 is correct**
- The subtropical high-pressure belts are characterized by relatively higher temperatures, not cooler. These belts are formed due to descending air from the Hadley cells, which leads to warmer temperatures and dry conditions. **Hence statement 1 is not correct. So, option B is correct**



Major Pressure Belts and Wind System

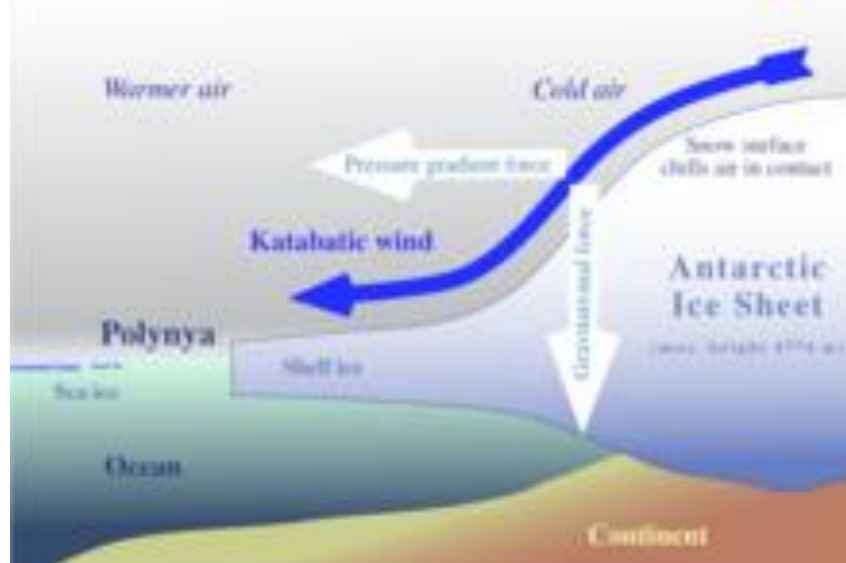
- **Katabatic winds are**
- Winds flowing uphill due to differential heating of the Earth's surface
 - Winds flowing down slopes due to gravity
 - Winds associated with cyclones
 - Winds causing significant temperature rise in desert regions

Ans: B

Explanation:

- Katabatic winds are downslope winds, formed by cold, dense air descending from higher elevations due to gravity. They are often observed at night or during winter when the air near mountain tops cools rapidly. **So, option B is correct.**

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⊙ The 'quasi-federal' nature of the Indian Constitution is most evident in:

- a) The supremacy of the Constitution
- b) The division of powers between Centre and States
- c) The bicameral nature of the Parliament
- d) The independent judiciary

Ans: B

Explanation:

- The 'quasi-federal' nature of the Indian Constitution is most prominently reflected in the division of powers between the Centre and the States. This feature encapsulates the essence of India's unique federal structure, which is neither purely federal nor entirely unitary.
- **Thus, option B is correct.**

⊙ Consider the following statements:

1. Negative liberty tradition argues for an inviolable area of non-interference in which the individual can express himself or herself.
2. Positive liberty is concerned with looking at the conditions and nature of the relationship between the individual and society and of improving these conditions such that there are fewer constraints to the development of the individual personality

Which of the statements given above is/are correct?

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

Ans: C

Explanation:

- **Statement 1:** 'Negative liberty' seeks to define and defend an area in which the individual would be inviolable, in which he or she could 'do, be or become' whatever he or she wished to 'do, be or become'. This is an area in which no external authority can interfere. It is a minimum area that is sacred and in which whatever the individual does, is not to be interfered with. The existence of the 'minimum area of non-interference' is the recognition that human nature and human dignity need an area where the person can act unobstructed by others. How big should this area be, or what should it contain, are matters of discussion, and will continue to be matters of debate since the bigger the area of non-interference the more the freedom.
- **Statement 2:** Positive liberty recognises that one can be free only in society (not outside it) and hence tries to make that society such that it enables the development of the individual whereas

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negative liberty is only concerned with the inviolable area of non-interference and not with the conditions in society, outside this area, as such.

- Thus, option C is correct.

⊙ Which of the following could not be construed as a reason for the lengthiness of the Indian Constitution?

- a) Diversity of the country
- b) Republican Polity
- c) Single Constitution for both the Centre and the states
- d) Dominance of legal luminaries in the Constituent Assembly.

Ans: B

Explanation

- Size of the population does not matter for the provisions of the Constitution. Lesser or larger the population, the law remains the same.
- The Constitution of India is the lengthiest of all the written constitutions of the world. It is a very comprehensive, elaborate and detailed document. Four factors have contributed to the elephantine size of our Constitution. They are:
 - (a) Geographical factors, that is, the vastness of the country and its diversity.
 - (b) Historical factors, e.g., the influence of the Government of India Act of 1935, which was bulky.
 - (c) Single Constitution for both the Centre and the states except Jammu and Kashmir.
 - (d) Dominance of legal luminaries in the Constituent Assembly.
- The republican polity does not need a lengthy constitution as many republican countries have the shortest constitution.
- Thus, option B is correct.

⊙ A foreign national, Mr. John, has been residing in India for the past 14 years on a valid work visa. He has established a successful business and has shown commitment to integrating into Indian society. He is now interested in applying for Indian citizenship.

Based on the Citizenship Act of 1955, which of the following options applies to Mr. John's situation regarding the process of naturalisation or registration for obtaining Indian citizenship?

1. Mr. John is eligible for naturalisation as he has resided in India for more than the required period.
2. Mr. John must renounce his foreign citizenship before applying for Indian citizenship.
3. Mr. John can only apply for citizenship through registration as a person of Indian origin.

Which of the following options is correct?

- a) Only statement 1 is correct
- b) Statements 1 and 2 are correct
- c) Statements 2 and 3 are correct
- d) All statements are correct

Ans: B

Explanation:

- Statement 1 is correct: Under the Citizenship Act, Mr. John is eligible for naturalisation as he has resided in India for more than 12 years.
- Statement 2 is correct: According to the Citizenship Act, a foreign national must renounce their original citizenship upon acquiring Indian citizenship.
- Statement 3 is incorrect: Mr. John cannot apply for citizenship through registration as a person of Indian origin unless he fulfills specific criteria, which may not apply to him.
- Thus, option B is correct.

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○ Consider the following statements:

Statement 1:

The government is one element of the State.

Statement 2:

The State refers to more than just the government and cannot be used interchangeably with it.

Identify the correct statement from the options below:

- a) Statement 1 and statement 2 is correct and statement 2 is the correct explanation of statement 1
- b) Statement 1 and statement 2 is correct and statement 2 is not the correct explanation of statement 1
- c) Statement 1 is correct, statement 2 is incorrect
- d) Statement 1 is incorrect, statement 2 is correct

Ans: A

Explanation:

- Statement 1 is correct as Government is an element of state.
- Statement 2 is also correct as state encompasses wider areas merely Government. Thus government and state is not same.
- However Governance as an element of State is explained by the second statement.
- In political science, the government refers to the organized system of authority that enacts laws, policies, and regulations, and administers public affairs. It is composed of elected officials and public servants who make decisions, implement laws, and govern the populace. The government can change through elections, appointments, or other means, but the State persists over time.
- The State encompasses a broader framework than the government alone. The State is defined as a political entity that consists of several key components:
 1. **Territory:** The geographical area under the jurisdiction of the State.
 2. **Population:** The people residing within that territory, regardless of their citizenship status.
 3. **Sovereignty:** The ultimate authority of the State to govern itself and make decisions without external interference.
 4. **Institutions:** Various organizations and entities that operate within the State, including the judiciary, military, and civil service, in addition to the government.
- Thus, option A is correct.

○ With reference to Nuclear power in India, consider the following statements:

Statement I:

Radioactivity concentrations in air, water and land around the country's existing nuclear power plants are below international discharge limits.

Statement II:

Nuclear power might play an essential role in producing green hydrogen, contributing to global efforts to achieve a cleaner energy transition.

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

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c) Statement-I is correct but Statement-II is incorrect
- d) Statement-I is incorrect but Statement-II is correct

Ans: B

Why in news: Radioactivity concentrations in ecology around India's nuclear power plants minimal, below international limits: BARC study

Explanation:

- In what could reinforce India's commitment to advance nuclear power programme safely as part of its long-term goal to reduce reliance on fossil fuels, a group of scientists from the Bhabha Atomic Research Centre (BARC) has found that the radioactivity concentrations in air, water and land around the country's existing nuclear power plants are not only minimal but also below international discharge limits. **Hence statement-I is correct**

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- Published last week in journal Science Direct, the findings acknowledge that though nuclear power plants release some radioactivity into the environment through various pathways and in different forms, these discharges are carefully managed through planned programmes of dilution and dispersion, adhering to strict radiological and environmental regulatory regimes.
- Though nuclear power plants have been safely operated in many developed countries for a long time, they have encountered significant challenges due to the fear of radiation. Such fears intensified after past incidents at Three Mile Island (USA), Chernobyl (Ukraine) and Fukushima (Japan).
- India's Nuclear Power Corporation of India Limited (NPCIL) is on a mission to commission a nuclear power reactor every year, as nuclear power might play an essential role in producing green hydrogen, contributing to global efforts to achieve a cleaner energy transition. **Hence statement-II is correct, but does not explain statement-I.**
- Source: <https://timesofindia.indiatimes.com/india/radioactivity-concentrations-in-ecology-around-indias-nuclear-power-plants-minimal-below-international-limits-barc-study/articleshow/106865841.cms>

⊙ **Which of the following statements about Operation Sarvashakti is correct?**

- a) The aim of the operation is thwarting Pakistan's attempts to increase terrorist activities in Jammu and Kashmir.
- b) It has been launched the Indian Army.
- c) The operations are expected to be on the lines of Operation Sarpvinash, which was launched in 2003.
- d) All the above statements are correct.

Ans: D

Why in news: Indian Army launching 'Operation Sarvashakti' to counter Pakistan's attempts to revive terrorism in J&K

Explanation:

- In a major step towards thwarting Pakistan's attempts to increase terrorist activities in Jammu and Kashmir, the Indian Army is launching Operation Sarvashakti, where the security forces will be targeting the terrorists operating on both sides of the Pir Panjal mountain ranges in the Union Territory.
- In recent times, Pakistproxy terrorist groups have tried to revive terrorism in the South of Pir Panjal ranges especially in the Rajouri Poonch sector, where around 20 troops have been killed in attacks by terrorists, with the latest being on December 21, when four soldiers were killed in the Dera ki Gali area there.
- "Operation Sarvashakti would be to carry out combined counter-terrorist operations from both sides of the Pir Panjal ranges where the formations of the Srinagar-based Chinar Corps along with the Nagrota-headquartered White Knight Corps would be carrying out simultaneous operations.
- "The Jammu and Kashmir Police, CRPF, Special Operations Group, and the intelligence agencies would be working in close coordination to thwart Pakistani designs to revive terrorist activities in the UT, especially in the Rajouri Poonch sector," they added.
- The operations are expected to be on the lines of Operation Sarpvinash, which was launched in 2003 to eliminate terrorists from the same areas in the South of Pir Panjal range.
- Hence all statements are correct.
- Source: <https://economictimes.indiatimes.com/news/defence/indian-army-launching-operation-sarvashakti-to-counter-pakistans-attempts-to-revive-terrorism-in-jk/articleshow/106815506.cms?from=mdr>

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- A medical professional recommended medical use of cannabis plant to a patient. Which of the following requirements did the patient likely have that made the medical professional recommend the use of plant?

1. Antibiotic
2. Chronic pain
3. Crohn's disease
4. Post-traumatic stress disorder

Select the correct answer using the codes given below:

- a) 1,2 and 3 only
- b) 1, 3 and 4 only
- c) 1, 2 and 4 only
- d) All the above

Ans: D

Why in news: Jammu CSIR lab finds cannabis plant compound has antibiotic effects

Explanation:

- CSIR-IIIM Jammu researchers have found a compound, THCBD which has a potent **antibiotic effect** against Staphylococcus aureus bacterium. It is responsible for the second most number of deaths due to anti-microbial resistance.
- Staphylococcus aureus is a gram-positive bacterium that causes a wide variety of clinical diseases.
- The cannabis plant contains more than 100 different chemicals called cannabinoids. Each one has a different effect on the body. Delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD) are the main chemicals used in medicine.
- States where medical marijuana is legal have approved it for a varying list of conditions. Depending on where you live, these might include: **Severe and chronic pain**, Multiple sclerosis and muscle spasms, Severe nausea and vomiting caused by cancer treatment, Epilepsy and seizures, Irritable bowel syndrome, **Post-traumatic stress disorder**, **Crohn's disease**.
- **Hence all statements are correct.**
- Source: <https://www.thehindu.com/sci-tech/science/csir-iiim-jammu-tetrahydrocannabinol-antibiotic-effects-explained/article67729896.ece>

- Consider the following:

1. For the first time in history, more females have enrolled in the Science, Technology, Engineering, and Mathematics (STEM) than men.
2. Arts or Humanities stream is the most preferred choice for the students in the 14-18 age group.
3. Less than half of Indian youth have access to a smartphone, with male having more access than female
4. Girls are more familiar with online safety settings than boys despite usage of social media among girls being lower.

How many of the above given statements are correct?

- a) All the above
- b) Only One
- c) Only Two
- d) Only Three

Ans: B

Why in news: Expert Explains: ASER's 2023 survey results show gaps in learning; tech access is an avenue beyond schools

Explanation:

- Since 2005, the NGO Pratham's Annual Status of Education Report (ASER) has been recording trends in school enrollment, attendance, and reading and arithmetic abilities among children ages 6-14 years in rural areas of the country.
- The 2023 survey focused on an older group of 14-to-18-year-old children, specifically on their ability to apply reading and math skills to everyday situations, and their aspirations.
- Overall, 86.8% of 14-18-year-olds are enrolled in an educational institution.

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- However, there are notable differences visible by age, with 3.9% of 14-year-olds and 32.6% of 18-year-olds not enrolled.
- Overall (of those aged 14-18), a quarter (26.5%) could not read a Class 2-level textbook in their regional language, and a little less than half (42.7%) could not read sentences in English.
- Of those who can read these sentences, over a quarter (26.5%) did not understand the meaning of what they were reading.
- Basic mathematics remains the big challenge. More than half of the surveyed students (56.7%) could not solve a simple 3-digit by 1-digit division problem.
- Most students in the 14-18 age group are enrolled in the Arts/Humanities streams, with more than half (55.7%) in Class XI or higher studying in this stream. **Hence statement 2 is correct.**
- There are gender differences, with fewer females (28.1%) enrolled in the Science, Technology, Engineering, and Mathematics (STEM) stream compared to males (36.3%). **Hence statement 1 is incorrect.**
- Around 89% of those surveyed had a smartphone in the household and 92% said they knew how to use it - signalling a shift that has gathered force in the pandemic years and after. **Hence statement 3 is incorrect.**
- However, males were more than twice as likely to own their own smartphone than females, and therefore were likely spending far more time using the device for a wider variety of tasks.
- Interestingly, the survey found that 90.5% of the youths in this age group reported having used social media in the reference week, with a slightly higher proportion of males (93.4%) than females (87.8%).
- Boys are more familiar with online safety settings compared to girls. **Hence statement 4 is incorrect.**
- Source: <https://indianexpress.com/article/explained/expert-explains-gaps-in-learning-persist-but-access-to-tech-offers-avenues-beyond-physical-school-9114524/>

- X is a country with capital city at Baku. The 'Ateshgah' fire temple in X has wall inscriptions in Devanagiri and Gurmukhi showing strong cultural ties with India since past. Indian company ONGC Videsh, in the Azeri-Chirag-Gunashli oil field and the Baku-Tbilisi-Ceyhan pipeline in X. X in the above passage refers to which of the following country?

- a) Armenia
- b) Azerbaijan
- c) Iran
- d) Georgia

Answer: B

Why in news: EAM Jaishankar highlights global solidarity, cooperation at NAM summit at Azerbaijan

Explanation:

- External Affairs Minister S Jaishankar emphasised India's unwavering commitment as "Vishwa Mitra" to global solidarity and cooperation in an address at the 19th Non-Aligned Movement (NAM) Summit in Kampala.
- "I recognise Azerbaijan for leading NAM during a difficult period. I also welcome South Sudan as a new member," he said.
- India and Azerbaijan have friendly relations, based on civilisational linkages, cultural affinities and shared values of understanding and respect for other cultures.
- India is the seventh largest trading partner for Azerbaijan, with bilateral trade at US\$ 1.435 billion, in 2023
- In 2023, India was the third largest destination for Azerbaijan's crude oil.
- ONGC Videsh Ltd has invested more than US\$ 1.2 billion in acquiring stakes in the Azeri - Chirag - Gunashli (ACG) oil and gas fields and the Baku - Tbilisi - Ceyhan (BTC) pipe line.
- The 'Ateshgah' fire temple in the vicinity of Baku is a fine example of the age-old historical relations and cultural exchanges between India and Azerbaijan.
- This 18th century monument, with a much older history, has wall inscriptions in Devanagiri and Gurmukhi, and is a surviving proof of the trade links and hospitality that Indian merchants on the Silk Route to Europe enjoyed in Azerbaijani cities such as Baku and Ganja.

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- India recognized Azerbaijan as an independent country in December 1991, soon after it proclaimed its independence from the USSR.
- Diplomatic relations with Azerbaijan were established on 28 February 1992. The resident Indian Mission was opened in Baku in March 1999. Azerbaijan opened its resident Mission in New Delhi in October 2004.
- Source: <https://www.business-standard.com/world-news/eam-jaishankar-highlights-global-solidarity-cooperation-at-nam-summit-124011901178 1.html>

○ Consider the following statements regarding the occurrence of Auroras:

1. Auroras occur mainly in the polar regions due to the concentration of Earth's magnetic field lines.
2. Auroras can only be observed during periods of solar flares.

Which of the statement(s) given above is/are correct?

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

Ans:A

Why in news?

TH The Hindu

Strong solar storm to produce Northern Lights in U.S.

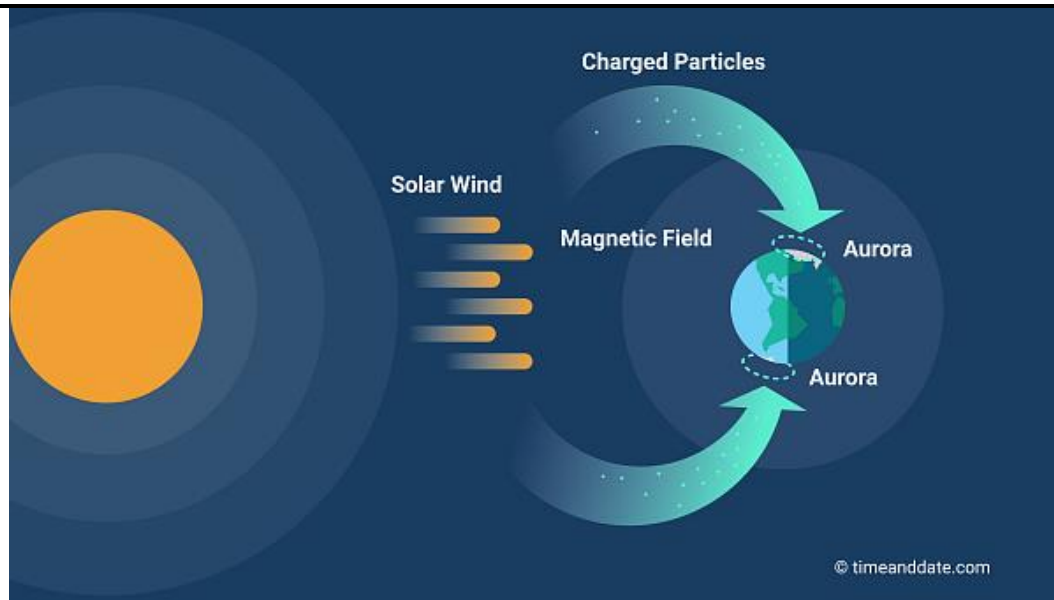
The storm could produce northern lights as far south in the U.S. as Alabama and Northern California, according to NOAA. But it was hard to...

11 May 2024

Explanation:

- Aurora are captivating natural lights, known for their bright, swirling curtain-like appearance in the night sky, display a spectrum of colors such as blue, red, yellow, green, and orange.
- While they predominantly occur near the poles in both the northern and southern hemispheres, they occasionally extend to lower latitudes.
- Referred to as the aurora borealis in the northern hemisphere and aurora australis in the southern hemisphere, these lights can be observed throughout the year.
- The phenomenon occurs due to solar activity. The Sun continuously emits charged particles, primarily electrons and protons, along with magnetic fields, in what is known as the solar wind. **Hence statement 1 is correct**
- As this solar wind nears Earth, the planet's magnetic field deflects most of it, acting as a protective barrier. However, some charged particles become trapped in the magnetic field and travel along its lines towards the Earth's north and south poles, entering the upper atmosphere.
- When these particles interact with atmospheric gases, they create tiny flashes that illuminate the night sky. Collisions with oxygen result in green light, while interactions with nitrogen produce blue and purple hues.
- Auroras are not limited to solar flares; they can occur during regular solar wind activity, though they are more intense during solar storms. **Hence statement 2 is not correct. So option A is correct**

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☉ Which of the following is unlikely to be a reason for reduced rainfall in North Eastern India?

- a) The changes in the Indian Ocean temperature
- b) Reduction in the vegetation area in northeast India
- c) Increase in cropland Area
- d) None of the above

Ans:D

Why in news?



 Down To Earth

Cherrapunjee Now a wet desert

When Sted Syiemlieh was a little boy, people in his mountain village, Tyrna, a few km from Cherrapunjee in Meghalaya, could predict when the skies would...

2 Jul 2024

Explanation:

Factors contributing to the decreasing trend in rainfall include:

- Temperature Variations: Fluctuations in the temperature of the Indian Ocean significantly influence rainfall patterns in the Northeast region.
- Decline in Vegetation Cover: Analysis of satellite data indicates a decrease in vegetation cover in Northeast India, leading to altered rainfall patterns.
- Expansion of Agricultural Land and Deforestation: Practices such as jhum cultivation (shifting cultivation) have resulted in deforestation and an increase in cropland area, further affecting rainfall.
- So, all are reasons, Hence, option D is the answer.

☉ Consider the following statements:

1. A cloudburst is a sudden, intense rainfall event where a significant amount of precipitation often more than 100 mm occurs in a short period, typically less than an hour, over a localized area.
2. In India, cloudbursts often occur during the monsoon season.
3. Cloudburst events are associated with cumulonimbus clouds.

Which of the above given statement(s) is/are not correct?

- a) 1 and 2 only
- b) 2 and 3 only

- c) 1 and 3 only
- d) None of the above

Ans: D

Why in news?



India World Movies Technology e-Paper

TH FREE TRIAL

Kochi cloudburst puts question mark on capability of IMD to forecast severe weather events

Published - June 06, 2024 07:44 pm IST - THIRUVANANTHAPURAM

Explanation:

- A cloudburst is an extreme amount of precipitation, sometimes with hail and thunder, which normally lasts no longer than a few minutes but is capable of creating flood conditions.
- A cloudburst is an extreme weather event characterized by an intense and sudden downpour of rainfall in a very short duration, usually within an hour or less. During a cloudburst, the amount of rainfall can exceed 100 millimeters (mm) over a very small, localized area, making it significantly more concentrated than regular rain showers.
- There is no satisfactory technique for anticipating the occurrence of cloud bursts because they develop over a small period of time. Since they are not predictable and take place over a small area, it is advisable to take necessary precautions before the cloudburst **Hence statement 1 is correct**
- In India, cloudburst occurs in states like Himachal Pradesh, Uttarakhand, Jammu and Kashmir. It is a common phenomenon in Himalayan areas, especially in Garhwal and Kumaon Himalayas. It is during the monsoons that they hit the hardest. **Hence statement 2 is correct**
- Cloudburst events are often associated with cumulonimbus clouds that cause thunderstorms and occasionally due to monsoon wind surges. Cloudburst occurs when moisture-rich air travels up a mountainous region, forming a vertical column of clouds known as Cumulonimbus clouds. These clouds usually cause rain, thunder and lightning. **Hence statement 3 is correct. So, option D is the answer.**

- ☉ These are colourful clouds featuring clusters of small white flakes or round particles, organized in a distinct wavelike formation known as a mackerel sky. They typically resemble ripples, similar to sand ripples found in deserts.

In this context, which type of clouds best fits the description provided above?

- a) Cirrocumulus clouds
- b) Stratocumulus clouds
- c) Altocumulus clouds
- d) Cirrostratus clouds

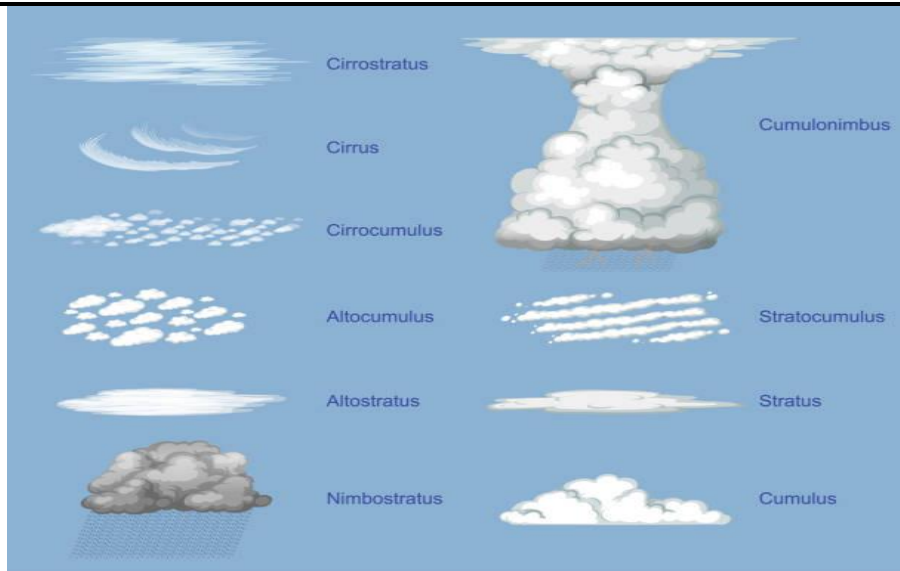
Ans: A

Explanation:

Cirrocumulus clouds

- They are thin, white patch, sheet, or layered of clouds without shading and they are composed of very small elements in the form of more or less regularly arranged grains or ripples.
- Cirrocumulus clouds are coloured clouds having patches of small white flakes or small round particles and these are arranged in a distinct group for wave like form called mackerel sky. **Hence, option A is correct**

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High clouds:

- High clouds occur above about 20,000 feet and are given the prefix “cirro.” Due to cold tropospheric temperatures at these levels, the clouds primarily are composed of ice crystals, and often appear thin, streaky, and white (although a low sun angle, e.g., near sunset, can create an array of color on the clouds).
- The three main types of high clouds are cirrus, cirrostratus, and cirrocumulus.
- Cirrus clouds are wispy, feathery, and composed entirely of ice crystals. They often are the first sign of an approaching warm front or upper-level jet streak. Unlike cirrus, cirrostratus clouds form more of a widespread, veil-like layer (similar to what stratus clouds do in low levels).
- When sunlight or moonlight passes through the hexagonal shaped ice crystals of cirrostratus clouds, the light is dispersed or refracted (similar to light passing through a prism) in such a way that a familiar ring or halo may form.
- As a warm front approaches, cirrus clouds tend to thicken into cirrostratus, which may, in turn, thicken and lower into altostratus, stratus, and even nimbostratus.
- Finally, cirrocumulus clouds are layered clouds permeated with small cumuliform lumpiness. They also may line up in “streets” or rows of clouds across the sky denoting localized areas of ascent (cloud axes) and descent (cloud-free channels).

☉ Which of the following conditions are necessary for the formation of a tropical cyclone?

1. Sea surface temperature above 26.5°C
2. Presence of Coriolis force
3. A high-pressure system at the surface
4. A small vertical wind shear

Select the correct answer using the codes given below:

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

Ans: A

Explanation:

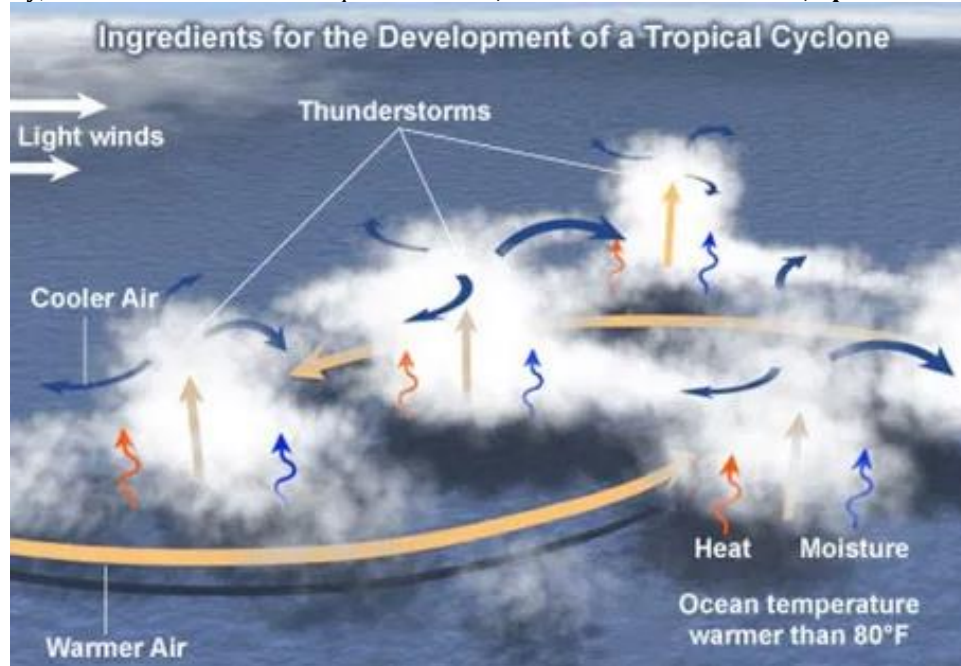
- Tropical cyclones are intense storms that form over tropical ocean waters and move toward coastal regions, causing widespread devastation due to powerful winds (squalls), heavy rainfall (torrential rains), and storm surges.
- These storms involve irregular wind patterns with air circulating around a low-pressure center in a closed system. This whirling motion is driven by the rapid upward movement of warm air influenced by the Coriolis effect, which contributes to the high wind speeds at the center.

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- Cyclonic wind patterns rotate counterclockwise in the northern hemisphere and clockwise in the southern hemisphere, due to the Coriolis force.
- Cyclones are often accompanied by an anticyclone located between two cyclonic systems.

Conditions Favourable for Tropical Cyclone Formation:

- Large sea surface with temperature higher than 27° C. **Hence condition 1 is correct.**
- Presence of the Coriolis force is enough to create a cyclonic vortex. **Hence condition 2 is correct.**
- Small variations in the vertical wind speed,
- A pre-existing weak low-pressure area or low-level-cyclonic circulation, **Hence condition 3 is not correct.**
- Upper divergence above the sea level system
- Wind shear i.e., difference in wind speed or direction with height can disrupt the organized structure of a developing cyclone by tilting or weakening it. For a tropical cyclone to form and intensify, minimal wind shear is required. **Hence, condition 4 is correct. So, option A is correct**



- Match the following concepts of federalism in India with their corresponding countries or origins.

Column A	Column B
A. Unitary features	1. Australia
B. Cooperative federalism	2. United States
C. Structure	3. Canada
D. Dual polity	4. GOI act, 1935
E. Asymmetrical federalism	5. Germany

Select the correct answer using the codes given below

	A	B	C	D	E
a)	3	1	4	2	5
b)	1	2	3	4	5
c)	4	3	2	5	1
d)	2	5	1	3	4

Ans: A

Explanation:

- Unitary features - C. Canada
- Cooperative federalism - A. Australia
- Structure - D. the Government of India Act

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- Dual polity - B. United States
- Asymmetrical federalism - E. Germany
- **Thus, option A is correct.**

⊙ **Consider the following statement**

Statement I:

Preamble in itself is not justiciable

Statement II:

Preamble cannot be utilized by the judiciary to check the constitutionality of an Amendment or law.

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

- a) Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I
- b) Both Statement I and Statement II are correct and Statement II is not the correct explanation for Statement I
- c) Statement I is incorrect but Statement II is the correct.
- d) Statement I is correct and statement II is incorrect.

Ans: D

Explanation:

- **Statement 1: Preamble in itself is not justiciable.**

This statement is **correct**. The Preamble to the Indian Constitution serves as an introduction that outlines the fundamental values and principles upon which the Constitution is based. While it provides context and guidance for interpreting the Constitution, it does not confer any rights or impose any obligations that can be enforced by the judiciary. As such, the Preamble is considered non-justiciable, meaning it cannot be the basis for a legal claim in court.

- **Statement 2: Preamble cannot be utilized by the judiciary to check the constitutionality of an Amendment or law.**

This statement is **incorrect**. While the Preamble itself may not be justiciable, it can still be used by the judiciary as a guiding principle when interpreting the Constitution and assessing the constitutionality of amendments or laws. The Supreme Court of India has acknowledged the Preamble's significance in several landmark judgments. For instance:

- **Kesavananda Bharati Case (1973):** The Supreme Court held that the Preamble reflects the basic structure of the Constitution. The principles enshrined in the Preamble, such as justice, liberty, equality, and fraternity, serve as essential guidelines for constitutional interpretation and the assessment of legislative and executive actions.
- **Minerva Mills Case (1980):** The Supreme Court reiterated that the Preamble is important in determining the scope and interpretation of the Constitution and can be referred to while examining the constitutionality of laws.
- Thus, while the Preamble itself is not justiciable, it plays a crucial role in the judicial interpretation of the Constitution and can influence the evaluation of the constitutionality of laws and amendments.
- **Thus, option D is correct.**

⊙ **Consider the following statements regarding "Representational Legitimacy":**

1. The multiplicity of Political parties combined with the first past the post system results in a vast Majority of Parliamentarians and legislators getting elected in a minority vote.
2. It is said that the system of First Past of Post has the merit of preponderance of 'decisiveness' over 'representativeness'.

Which of the statements given above is/are correct?

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

Ans: C

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Explanation:

- The multiplicity of political parties combined with the first past the post system results in a vast majority of parliamentarians and legislators getting elected on a minority vote. The percentage of polling is itself quite low and those who win usually obtain less than 50 percent of votes cast, i.e. more votes cast against them than in their favour and the votes secured by them being a fraction of the electorate. A candidate is returned even if he gets less than one-third of the votes polled. There are extreme cases of some candidates who won on the basis of 18 percent of the votes polled. On an average over 60 percent of the parliamentarians have won on a minority vote. It is said that the present Lok Sabha has 68 percent of its members elected on a minority vote. The votes secured by a successful candidate in the Assembly sectors on an average is 25 percent of the votes polled. On an average only 50 per cent to 55 per cent of the voters turn up for voting. This means in effect a winning candidate gets about 6 per cent of the votes of the electorate in the constituency.
- **Thus, option C is correct.**

⊙ Consider the following statements regarding the federal structure of the Indian Constitution:

1. The Indian Constitution established a dual polity with distinct powers for the Union and the States.
2. According to the Indian Constitution, Union laws take precedence over state laws in conflicts arising from the Concurrent List.
3. The Union Parliament has the right to change the boundaries of any state without the permission of the legislature of the state.

Which of the statements given above is/are correct?

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

Ans: D

Explanation:

- All three statements are correct. The Constitution of India is federal, with Article 246 dividing powers between the Union and the States. In the Concurrent List, the law of the union takes precedence over state law in case of conflict. (Article 254). The Parliament has the authority to change state boundaries (Article 3) without the consent of the State Legislature, but it must seek its advice.
- **Thus, option D is correct.**

⊙ The Concept of Social Justice has been enshrined in the Preamble. This enables the court to uphold which of the following kind of legislation?

1. Legislation enacted to remove economic inequalities.
2. Legislation enacted to provide a decent standard of living to the working people.
3. Legislation enacted to protect the interest of the weaker section of the society.

Select the correct answer using the codes given below:

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

Ans: D

Explanation:

- Social justice is the view that everyone deserves equal economic, political and social rights and opportunities. It is enshrined in the Preamble of the Constitution. Social Justice in Preamble enables the courts to uphold legislation:
 - a. to remove economic inequalities.
 - b. to prove a decent standard of living to the working people

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- c. to protect the interests of the weaker section of the society.
- Thus, option D is correct.

⊙ Consider a person involved in agriculture and applied for PM-KISAN Scheme. But later the application was rejected. In this context, which of the following is not the likely reason for the application being rejected?

- a) The applicant's family had land holding size of more than 2 hectares.
- b) Farmer who applied was an institutional land holder.
- c) The applicant paid Income Tax in last assessment year.
- d) Both (a) and (b)

Ans: A

Why in news: Every fourth beneficiary added under PM-Kisan over past 2 months is a woman

Explanation:

- Every fourth beneficiary added under the Pradhan Mantri Kisan Samman Nidhi (PM-Kisan) scheme over the past two months is a woman, according to the data available with the Ministry of Agriculture and Farmers' Welfare.
- The new beneficiaries were added to the scheme under the Viksit Bharat Sankalp Yatra (VBSY), the Centre's flagship initiative to raise awareness on its schemes.
- Launched on November 15, 2023, around six months before the 2024 Lok Sabha elections, VBSY aims to achieve beneficiary saturation under government schemes.
- In the beginning when the PM-Kisan Scheme was launched on 24 February, 2019, its benefits were admissible only to Small & Marginal Farmers' (SMF) families, with combined landholding up to 2 hectare. The Scheme was later on revised w.e.f. 1.6.2019 and extended to all farmer families irrespective of the size of their landholdings. **Hence option-a is correct.**
- The following category of farmers are not eligible to get the benefits of the PM-Kisan:
 - ✓ All Institutional Land holders
 - ✓ Former and present holders of constitutional posts.
 - ✓ All serving or retired officers and employees of Central/ State Government.
 - ✓ All superannuated/retired pensioners Rs.10,000/-or more
 - ✓ All Persons who paid Income Tax in last assessment year
 - ✓ Professionals like Doctors, Engineers' Lawyers, Chartered Accountants, and Architects registered with Professional bodies and carrying out profession by undertaking practices.
- Source: <https://indianexpress.com/article/india/fourth-beneficiary-added-pm-kisan-woman-9112174/>

⊙ Despite the promise of climate-smart agriculture (CSA), most sustainable farming practices and technologies have not been widely adopted across South Asia. What can be the potential reasons for this?

1. Weak organisational capacities
2. Inadequate targeted incentives
3. Inequities in information dissemination
4. Limited post-adoption follow-up

How many of the above given statements are correct explanation?

- a) Only One
- b) Only Two
- c) Only Three
- d) All Four

Ans: D

Why in news: What ails climate-smart agriculture in South Asia? Limited state resources & incentives, unequal tech dissemination

Explanation:

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- Despite the promise of climate-smart agriculture (CSA), most sustainable farming practices and technologies have not been widely adopted across South Asia and are struggling to gain momentum despite their proven effectiveness
- Although some practices and technologies like crop diversification and green manure have been used for a long time, others like zero tillage, alternative wetting and drying had low adoption in South Asia.
- By 2050, South Asia will be one of the largest food-deficit regions and thus requires a substantial increase in production to meet growing food demand. "As one potential solution to this impending crisis, CSA has been widely advocated for by governments, researchers and food and agriculture organisations
- The scientists listed four major reasons for low adoption of CSA practices among farmers.
 - ✓ Weak organisational capacities: government agricultural extension departments that are primarily responsible for CSA information dissemination and adoption in South Asia were often inadequately staffed with poorly trained people to disseminate information.
 - ✓ Inadequate targeted incentives: While on one hand, chemical fertilisers, pesticides and electricity- and diesel-based irrigation were largely subsidised across most of South Asia, the adoption of locally appropriate CSA practices and technologies had not been adequately incentivised.
 - ✓ The third barrier that the paper highlighted was less emphasis on post adoption follow up, with most work to increase access to CSA practices and technologies in South Asia focussing largely on adoption initiation.
 - ✓ CSA information and technology dissemination in South Asia was often marred by inequity. "For instance, farmers with more wealth and greater social networks are often prioritised for CSA demonstrations and provisioning, perpetuating existing societal inequities and marginalisation," it said.
- **Hence all statements are correct.**
- Source: <https://www.downtoearth.org.in/agriculture/what-ails-climate-smart-agriculture-in-south-asia-limited-state-resources-incentives-unequal-tech-dissemination-94033>

⊙ **Consider the following statements regarding International Organization for Migration (IOM):**

1. It is part of the United Nations system, as a related organization and was established in the year 1951.
2. Its headquarters is in the same city where World Trade organization (WTO) headquarters is located.
3. India and all its neighbours sharing land borders are member countries of the organization.

Which of the statements given above is/are correct?

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

Ans: C

Why in news: Global Forum on Migration and Development Addresses Impacts of Climate Change on Human Mobility

Explanation:

- Established in 1951, the International Organization for Migration (IOM) is the leading intergovernmental organization in the field of migration and is committed to the principle that humane and orderly migration benefits migrants and society.
- IOM is part of the United Nations system, as a related organization. **Hence statement 1 is correct.**
- Headquarters is located in Geneva, which is also the location where other global headquarters like WTO, UNCTAD, etc is located. **Hence statement 2 is correct.**
- IOM supports migrants across the world, developing effective responses to the shifting dynamics of migration and, as such, is a key source of advice on migration policy and practice.

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- The organization works in emergency situations, developing the resilience of all people on the move, and particularly those in situations of vulnerability, as well as building capacity within governments to manage all forms and impacts of mobility.
- The Organization is guided by the principles enshrined in the Charter of the United Nations, including upholding human rights for all. Respect for the rights, dignity and well-being of migrants remains paramount.
- The broader scope of activities has been matched by rapid expansion from a relatively small agency into one with an annual operating budget of an estimated USD 3 billion and more than 19,500 staff working in 171 countries worldwide. IOM currently has 175 Member States and a further 8 states holding Observer status.
- Bhutan is an observer in IOM. India and all other neighbouring countries are members. **Hence statement 3 is incorrect.**
- IOM has become the point of reference in the heated global debate on the social, economic and political implications of migration in the 21st century.
- Source: <https://www.iom.int/news/global-forum-migration-and-development-addresses-impacts-climate-change-human-mobility>

○ A country in north eastern part Africa has been in middle of political crisis recently, which saw ethnic violence killing upto to 15000 people in Darfur region of the country according to UN report. Which of the following is the India's mission to evacuate Indians from the country last year?

- a) Ganga
- b) Indravati
- c) Kaveri
- d) Ajay

Ans: C

Why in news: Ethnic killings in one Sudan city left up to 15,000 dead: UN report

Explanation:

- Between 10,000 and 15,000 people were killed in one city in Sudan's West Darfur region last year in ethnic violence by the paramilitary Rapid Support Forces (RSF) and allied Arab militia, according to a United Nations report seen by Reuters.
- In the report to the U.N. Security Council, independent U.N. sanctions monitors attributed the toll in El Geneina to intelligence sources and contrasted it with the U.N. estimate that about 12,000 people have been killed across Sudan since war erupted on April 15, 2023, between the Sudanese Army and the RSF.
- The monitors also described as "credible" accusations that the United Arab Emirates had provided military support to the RSF "several times per week" via Amdjarass in northern Chad
- Sudan is a country in Northeast Africa. It borders the Central African Republic to the southwest, Chad to the west, Libya to the northwest, Egypt to the north, the Red Sea to the east, Eritrea and Ethiopia to the southeast, and South Sudan to the south.
- The ongoing conflict represents the latest crisis in the North African nation, which has contended with numerous coups and periods of civil strife since becoming independent in 1956.
- The area comprising present-day Sudan and South Sudan was subject to conquest and colonization for millennia.
- Operation Kaveri was an operation conducted by the Indian Armed Forces to evacuate Indian citizens and foreign nationals from Sudan during the 2023 Sudan conflict. **Hence option-c is correct.**
- Operation Ajay was launched to facilitate the return of Indian citizens from Israel. Special charter flights and other arrangements were put in place to help Indians return to the country safely.
- Operation Ganga was launched this operation to evacuate Indian citizens, mostly students, from Ukraine.
- Operation Indravati was launched this operation to evacuate Indian nationals from Haiti due to civil unrest

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- Source: <https://www.thehindu.com/news/international/ethnic-killings-in-one-sudan-city-left-up-to-15000-dead-un-report/article67760055.ece>

⊙ **Consider the following statements regarding India Meteorological Department:**

1. It is one of the oldest functioning organizations in India, which was established before the formation of Indian National Congress.
2. India was the first developing country in the world to have its own geostationary satellite, INSAT, for continuous weather monitoring of this part of the globe.
3. IMD's cyclone forecasts now serve up to 13 countries in the neighbourhood.

Which of the statements given above is/are correct?

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

Ans: D

Why in news: India Meteorological Department celebrates 150th Year of its establishment and service to the nation

Explanation:

- In the year 1875, the Government of India established the India Meteorological Department, bringing all meteorological work in the country under a central authority. Mr. H. F. Blanford was appointed Meteorological Reporter to the Government of India. INC was formed in 1885.
- The first Director General of Observatories was Sir John Eliot who was appointed in May 1889 at Calcutta headquarters. The headquarters of IMD were later shifted to Shimla, then to Poona (now Pune) and finally to New Delhi.
- IMD has always used contemporary technology. In the telegraph age, it made extensive use of weather telegrams for collecting observational data and sending warnings.
- Later IMD became the first organisation in India to have a message switching computer for supporting its global data exchange. One of the first few electronic computers introduced in the country was provided to IMD for scientific applications in meteorology.
- India was the first developing country in the world to have its own geostationary satellite, INSAT, for continuous weather monitoring of this part of the globe and particularly for cyclone warning.
- IMD has partnered to contribute to the United Nations' 'Early Warning for All' programme, for which 30 countries have been identified.
- IMD's cyclone forecasts now serve not just India but the entire neighbourhood, with as many as 13 countries in the region operating their cyclone management systems using these forecasts.
- **Hence all statements are correct.**
- Source: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1996364>

⊙ **The Intertropical Convergence Zone (ITCZ) shifts seasonally due to:**

1. The Earth's axial tilt.
2. Variation in solar radiation received at different latitudes.
3. Seasonal shifts in the sub-polar jet stream.

Select the correct answer using the code(s) given below:

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

Ans: A

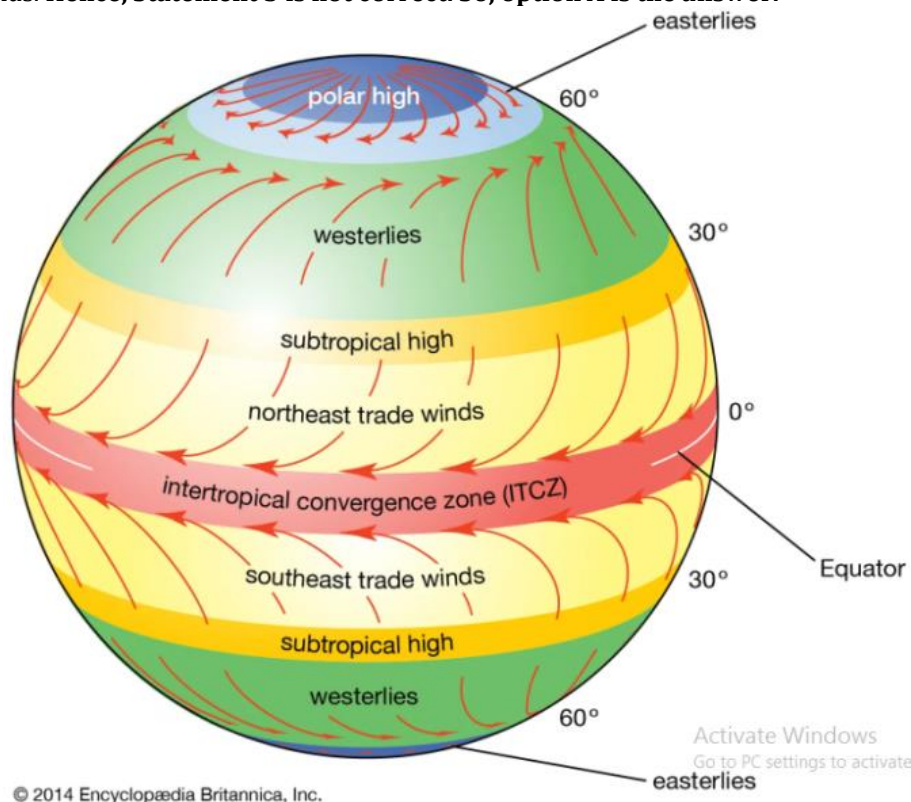
Explanation:

- The Intertropical Convergence Zone (ITCZ) is a low-pressure area where the northeast and southeast trade winds meet. Typically situated near the equator and running almost parallel to it, the ITCZ shifts north or south depending on the apparent movement of the sun.
- The axial tilt of the Earth is the primary reason for the changing seasons. As the Earth orbits the Sun, different latitudes receive varying amounts of solar energy, causing the ITCZ to shift north

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and south with the seasons. This tilt causes the position of the Sun to move between the Tropic of Cancer and the Tropic of Capricorn, influencing the location of the ITCZ. **Hence, Statement 1 is correct.**

- The ITCZ follows the region of maximum solar heating, which changes with the seasons. During summer in either hemisphere, solar radiation is more intense, causing the ITCZ to shift towards that hemisphere. **Hence, Statement 2 is correct.**
- The sub-polar jet stream primarily affects weather patterns in higher latitudes and does not directly control the movement of the ITCZ, which is driven more by tropical solar heating and trade winds. **Hence, Statement 3 is not correct. So, option A is the answer.**



⊙ In the context of the Hadley cell circulation, which of the following statements is correct?

- a) It leads to heavy rainfall in the subtropical high-pressure zones.
- b) It explains the trade winds flowing from the equator towards the poles.
- c) It creates dry, desert-like conditions around 30° latitude due to descending air.
- d) It is responsible for temperate cyclone formation at higher latitudes.

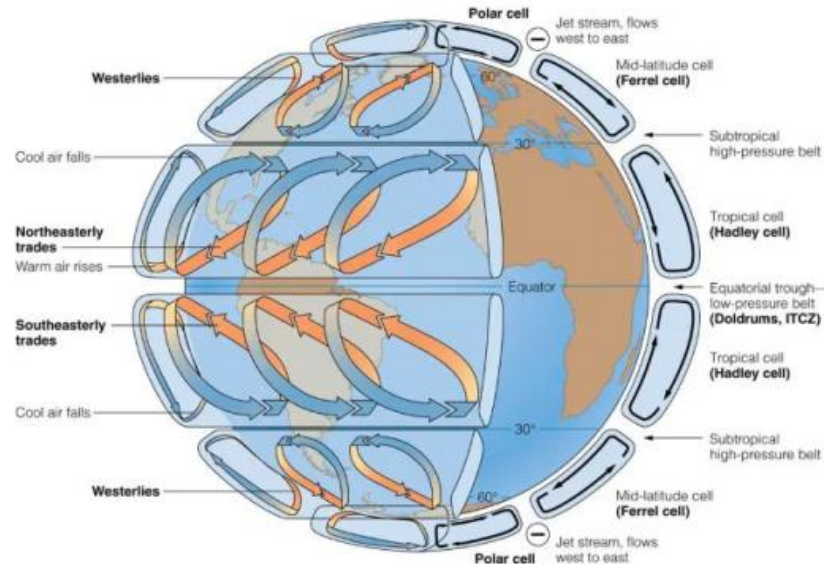
Ans:C

Explanation:

- The Hadley cell is a large-scale atmospheric circulation in which air rises near the equator, flows poleward at a high altitude, descends in the subtropics, and then flows equatorward near the surface
- Subtropical high-pressure zones are characterized by descending air, which is dry. This does not favor heavy rainfall but instead leads to arid conditions. **Hence, Statement A is incorrect.**
- Trade winds actually flow from the subtropical high-pressure zones towards the equator, not towards the poles. **Hence, Statement B is incorrect.**
- Temperate cyclones are primarily associated with the Ferrel cell, not the Hadley cell. They occur in the mid-latitudes where cold polar air meets warmer tropical air. **Hence, Statement D is incorrect**

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- As part of the Hadley cell circulation, air descends around 30° latitude, creating high-pressure zones and arid conditions. This is why many of the world's deserts are found at these latitudes. **Hence, Statement C is correct.**



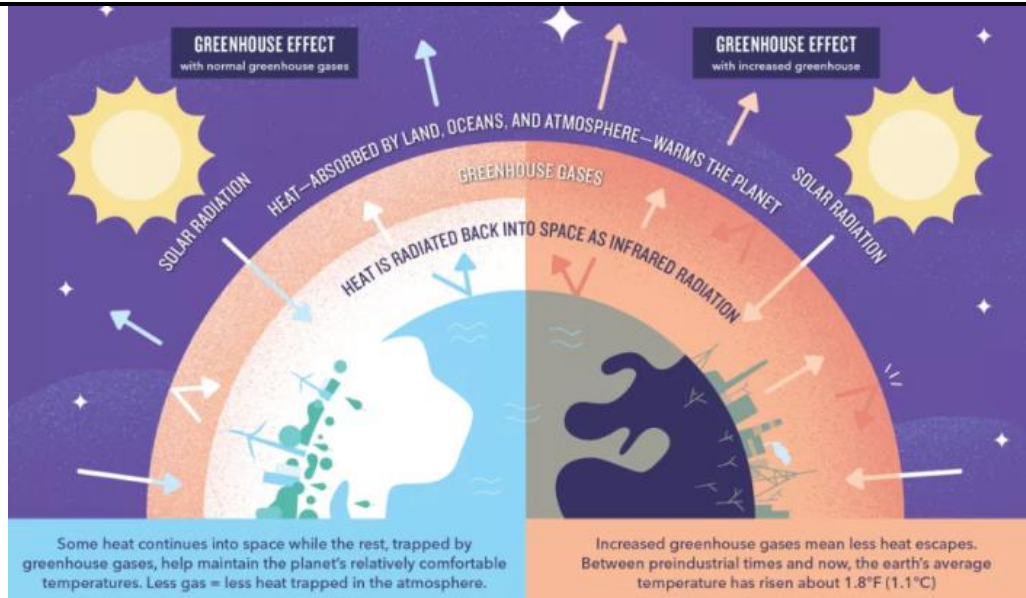
- Consider the following statements regarding the Greenhouse Effect:
- Water vapor is a more significant greenhouse gas than carbon dioxide.
 - Greenhouse gases trap the Earth's long-wave radiation, leading to warming.
 - Without the greenhouse effect, Earth's surface temperature would be around -18°C.
- Which of the statements given above are correct?
- 1 and 2 only
 - 2 and 3 only
 - 1 and 3 only
 - 1, 2, and 3

Ans: D

Explanation:

- The greenhouse effect is the natural warming of the earth that results when gases in the atmosphere trap heat from the sun that would otherwise escape into space
- While carbon dioxide (CO₂) is a critical greenhouse gas, water vapor is actually the most abundant and significant one in terms of its contribution to the natural greenhouse effect. It amplifies warming because warmer air holds more moisture, which in turn traps more heat. **Hence, Statement 1 is correct.**
- Greenhouse gases like carbon dioxide, methane, and water vapor trap infrared radiation (long-wave radiation) emitted by the Earth's surface. This trapped heat leads to warming of the atmosphere, a fundamental mechanism behind the greenhouse effect. **Hence, Statement 2 is correct.**
- The greenhouse effect is crucial for maintaining Earth's temperature. Without it, the planet's average surface temperature would drop to around -18°C, making it uninhabitable for most life forms. **Hence, Statement 3 is correct. So, option D is correct**

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⊙ Consider the following statements regarding Anticyclones:

1. Winds move clockwise in the Northern Hemisphere.
2. They are associated with stormy weather and precipitation.
3. Air descends in an anticyclone, leading to clear skies.

Which of the statements given above are correct?

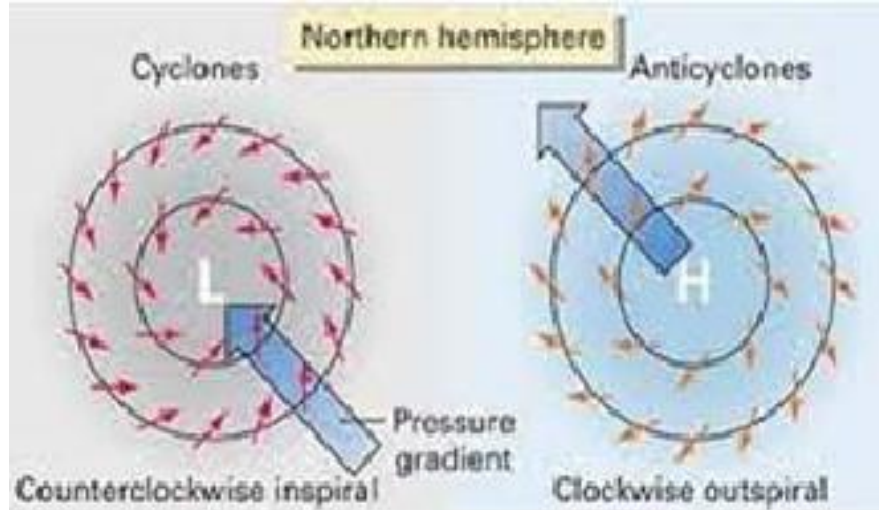
- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2, and 3

Ans: C

Explanation:

- An anticyclone is a weather phenomenon defined as a large-scale circulation of winds around a central region of high atmospheric pressure.
- It rotates clockwise in the Northern Hemisphere and counter clockwise in the Southern Hemisphere **Hence statement 1 is correct**
- Effects of surface-based anticyclones include clearing skies as well as cooler, drier air. Fog can also form overnight within a region of higher pressure. **Hence statement 2 is not correct**
- In an anticyclone, the air descends, which compresses and warms, leading to clear skies and stable weather conditions. **Hence statement 3 is correct. So, option C is correct**

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☉ Which of the following regions experiences a Mediterranean climate?

1. Southern California
2. South Western Australia
3. Chilean coast

Select the correct answer using the codes given below:

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

Ans: D

Explanation:

- Mediterranean climate is predominantly found in the western regions of continental landmasses, situated between 30° and 45° north and south of the equator. The primary cause of this climate is the shifting of wind belts. The area surrounding the Mediterranean Sea has the largest expanse of this climate, while its most developed form occurs in central Chile. **So, option D is correct**
- Other regions with a Mediterranean climate include:
 - ✓ Southern California (near San Francisco)
 - ✓ The southwestern tip of Africa (around Cape Town)
 - ✓ Southern and South Western Australia (in southern Victoria and around Adelaide, adjacent to St. Vincent and Spencer Gulfs)

☉ The Indian Constitution is often described as a "living document." Which of the following characteristics best explains this feature?

1. The Constitution provides for a flexible amendment procedure under Article 368.
2. Judicial interpretation, through doctrines such as the Doctrine of Basic Structure, has ensured the adaptability of the Constitution.
3. The Constitution allows for automatic updates based on social changes without formal amendments.

Select the correct answer using the codes provided below:

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

Ans: A

Explanation:

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- The Constitution is considered "living" due to its flexible amendment procedure (Article 368) and the dynamic judicial interpretations. (like the Basic Structure Doctrine). However, there is no provision for automatic updates without formal amendments, so Statement 3 is incorrect.
- Thus, option A is correct.

⊙ Consider the following statements regarding Parliamentary form of Government:

Statement1:

The Indian Constitution establishes a parliamentary form of government in which the executive is accountable to the legislature.

Statement 2:

The Prime Minister, as head of government, has enormous powers, although they are subject to the confidence of the Lok Sabha.

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

- a) Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I
- b) Both Statement I and Statement II are correct and Statement II is not the correct explanation for Statement I
- c) Statement I is incorrect but Statement II is the correct.
- d) Statement I is correct and statement II is incorrect.

Ans: B

Explanation:

- In India's parliamentary system, the administration is accountable to the legislature, and the Prime Minister relies on the confidence of the Lok Sabha. Both statements provide a comprehensive view of the parliamentary system. But Statement II does not explain Statement I as both the statement is description of Parliamentary System of Government.
- Collective responsibility and accountability to legislature is cardinal features of Parliamentary System of Government.
- Thus, option B is correct.

⊙ Which of the following fulfils the objective of Political Justice?

- a) Independent Election Commission
- b) Universal Adult Suffrage
- c) Independent Judiciary
- d) Political Parties.

Ans: B

Explanation:

- Political Justice means the absence of any arbitrary distinction between man and man in the political sphere. In order to ensure the 'political' justice held out by the Preamble, it was essential that every person in the territory of India, irrespective of his proprietary of educational qualifications, should be allowed to participate in the political system like any other person. Universal adult suffrage was adopted with this object in view. This mean that every five years, the member of the Legislatures of the Union and of each State Shall be elected by the vote of the entire adult population, according to the principle – 'one man, one vote'.
- Thus, option B is correct.

⊙ Consider the following pairs:

Type of Justice	Constitutional Provision
1. Social Justice	Article 39(a)- Free legal aid to the poor
2. Economic Justice	Article 326 - Election
3. Political Justice	Article 16(4) - Reservation

How many of the above are correctly matched?

- a) Only one
- b) Only two

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- c) Only three
- d) None

Ans:C

Explanation:

- **Social Justice (Article 16(4)):** Ensures reservations in public employment for backward classes. Although it is a social justice it contains within it the fundamentals of political justice
- **Economic Justice (Article 39(a)):** Promotes equal distribution of material resources. This includes aspect of social justice.
- **Political Justice (Article 326):** Relates to adult suffrage and electoral participation. Election does not discriminate the rich and poor and thus also economic justice.
- **Thus, option C is correct.**

- ⊙ **The Indian Constitution has been characterised as a combination of rigidity and flexibility. Which of the following amendment procedures exemplifies this characteristic?**

1. Certain constitutional provisions can be modified by a simple majority in Parliament.
2. Certain clauses require a special majority in both chambers of Parliament and ratification by at least half of the state legislatures.
3. Constitutional amendments require a referendum.

Select the correct answer using the code provided below.

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

Ans: A

Explanation:

- The Indian Constitution allows for amendments by a simple majority (for example, changing the names of states), while more significant clauses require a special majority and the ratification of the states. There is no provision for a referendum on constitutional amendments.
- **Thus, option A is correct.**

- ⊙ **The SEAMA Eco-region often seen in news is located in?**

- a) Europe
- b) Africa
- c) Asia
- d) Latin America

Ans:B

Why in news?



Down To Earth

<https://www.downtoearth.org.in> > Africa

Southern Africa's new ecoregion brimming with ...

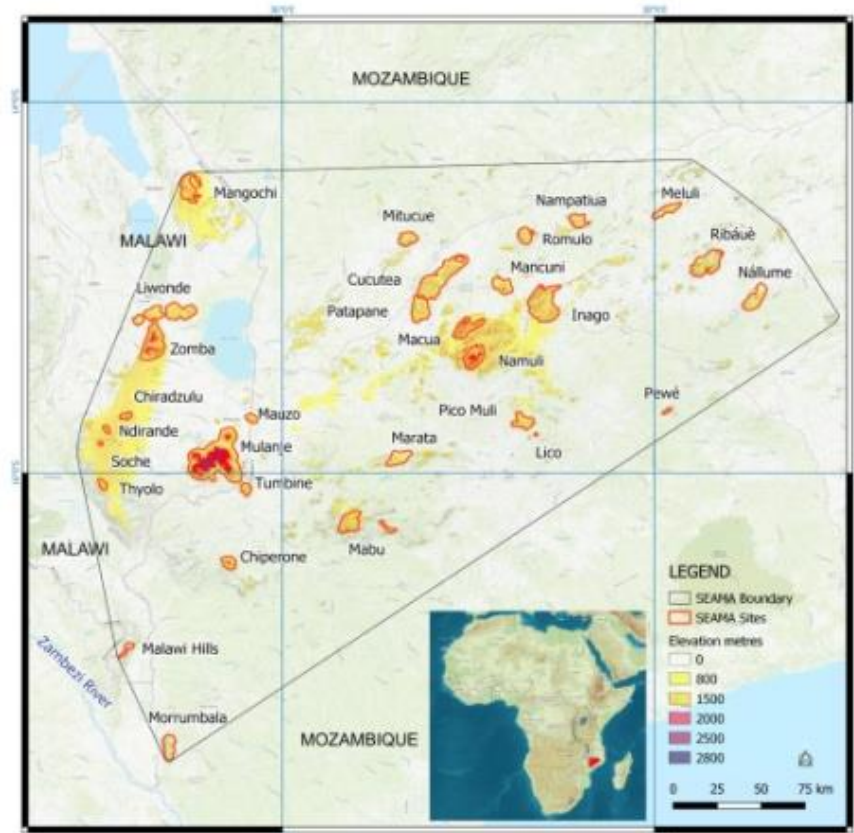
27 Mar 2024 — Despite its ecological significance, **SEAMA** has one of the highest deforestation rates in Africa.

Explanation:

- The SEAMA is a newly recognized ecoregion in Southern Africa, extending across northern Mozambique and including Mount Mulanje in Malawi. Known for its mountainous landscape, SEAMA features a variety of habitats, including montane forests, grasslands, and rocky cliffs. Although it was identified only recently, SEAMA is recognized as a biodiversity hotspot, home to a wide range of plant, vertebrate, and invertebrate species.

So, option B is correct

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© How many of the following countries are without a coastline?

1. Zambia
2. Chad
3. Niger
4. Gabon
5. Sudan

Select the correct option from the codes given below:

- a) Only two
- b) Only three
- c) Only four
- d) All five

Ans:B

Explanation:

- There are 16 landlocked countries in Africa namely Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Eswatini (former Swaziland), Lesotho, Malawi, Mali, Niger, Rwanda, South Sudan, Uganda, Zambia and Zimbabwe whereas Nigeria and Kenya has a coastline.

So, option B is the answer.

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⊙ Arrange the following European countries from west to east:

1. France
2. Germany
3. Belarus
4. Poland
5. Spain

Select the correct code using the options given below:

- a) 5 - 2 - 3 - 4 - 1
- b) 5 - 1 - 3 - 4 - 2
- c) 5 - 4 - 3 - 1 - 2
- d) 5 - 1 - 2 - 4 - 3

Ans:D

Explanation:

- The European countries from west to east are Spain, France , Germany, Poland , and Belarus. So, option D is correct



- This country is situated on the eastern coast of the Mediterranean Sea, bordered by the Mediterranean to the west, Israel to the south. It experiences a Mediterranean climate, with mild, wet winters and hot, dry summers.

Which of the following country is described in the above paragraph?

- a) Syria
- b) Jordan
- c) Lebanon
- d) Iraq

Ans: C

Why in news?

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TH India World Movies Technology e-Paper

TH FREE TRIAL

Israel-Lebanon conflict, stagnant unemployment in India, and more | The week in 5 charts

Here are five charts that will help you understand some of the key stories from last week

Published - September 30, 2024 12:59 pm IST

Explanation:

- Lebanon is a country in Western Asia, located along the eastern coast of the Mediterranean Sea.
- Its capital is Beirut.
- Borders: Lebanon shares its borders with the Mediterranean Sea to the west, Syria to the north and east, and Israel to the south. Despite being a small sovereign state with a narrow stretch of land, Lebanon is diverse. The majority of its population is Arab, with smaller communities of Armenians and Kurds.
- Lebanon experiences a Mediterranean climate, characterized by mild, wet winters and hot, dry summers.
- So, option C is correct

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○ Which of the following country has no coastline along the Mediterranean Sea?

- a) Egypt
- b) Libya
- c) Algeria
- d) Mali

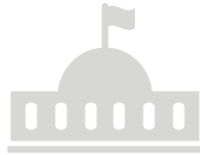
Ans: D

Explanation:

- Egypt, Libya, and Algeria are all North African countries with coastlines along the Mediterranean Sea.
- Mali is a landlocked country in West Africa and has no coastline. **So, option D is correct.**



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அறம் செய்ப் படுத..