

UPSC PRELIMS 2024

Complete Analysis

ANSWER KEY & EXPLANATIONS

GS PAPER 1



Answer Key 2024 SET D

1. D	2. A	3. B	4. D	5. C
6. D	7. D	8. C	9. A	10. C
11. D	12. A	13. C	14. C	15. B
16. D	17. A	18. C	19. D	20. A
21. C	22. D	23. C	24. B	25. B
26. D	27. B	28. A	29. C	30. D
31. A	32. C	33. D	34. B	35. B
36. A	37. B	38. B	39. A	40. C
41. A	42. D	43. A	44. B	45. C
46. C	47. D	48. D	49. B	50. B
51. D	52. A	53. D	54. A	55. C
56. B	57. A	58. B	59. A	60. B
61. C	62. A	63. D	64. A	65. A
66. A	67. D	68. A	69. C	70. A
71. A	72. A	73. D	74. C	75. D
76. B	77. D	78. B	79. C	80. D
81. D	82. D	83. D	84. D	85. B
86. C	87. B	88. C	89. B	90. A
91. B	92. D	93. A	94. B	95. D
96. B	97. D	98. C	99. D	100. C

Q1. How many Delimitation Commissions have been constituted by the Government of India till December 2023?

- A. One
- B. Two
- C. Three
- D. Four

Answer - D

Explanation - Correct Answer is D. Delimitation commissions have been set up four times in the past — 1953, 1962, 1972 and 2002 — under Delimitation Commission Acts of 1952, 1962, 1972 and 2002.

Q2. The Constitution (71st Amendment) Act, 1992 amends the Eighth Schedule to the Constitution to include which of the following languages?

1. Konkani
2. Manipuri
3. Nepali
4. Maithili

Select the correct answer using the code given below:

- A. 1, 2 and 3
- B. 1, 2 and 4
- C. 1, 3 and 4
- D. 2, 3 and 4

Answer - A

Explanation - Correct Answer is A. The Constitution (71st Amendment) Act, 1992 added Konkani,

Manipuri and Nepali languages to the Eighth Schedule of the Indian Constitution. Maithili was added later, along with Bodo, Dogri and Santhali, by the Constitution (92nd Amendment) Act, 2003.

Q3. Consider the following pairs :

Party	Its Leader
1. Bharatiya Jana Sangh	Dr. Shyama Prasad Mukherjee
2. Socialist Party	C. Rajagopalachari
3. Congress for Democracy	Jagjivan Ram
4. Swatantra Party	Acharya Narendra Dev

How many of the above are correctly matched?

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer - B

Explanation - Let's analyse each pair:

1. **Bharatiya Jana Sangh | Dr. Shyama Prasad Mukherjee:** This is correctly matched. Dr. Shyama Prasad Mukherjee was the founder and first president of the Bharatiya Jana Sangh (BJS), the forerunner of the Bharatiya Janata Party (BJP).
2. **Socialist Party | C. Rajagopalachari:** This is incorrect. C. Rajagopalachari founded the Swatantra Party, advocating free-market principles.

The Socialist Party was formed earlier and had leaders like Acharya Narendra Dev and Jayaprakash Narayan.

3. **Congress for Democracy | Jagjivan Ram:** This is correctly matched. Jagjivan Ram, a prominent Dalit leader, formed the Congress for Democracy in 1977. It later merged with the Janata Party.
4. **Swatantra Party | Acharya Narendra Dev:** This is incorrect. As mentioned earlier, Acharya Narendra Dev was a prominent socialist leader associated with the Socialist Party. C. Rajagopalachari founded the Swatantra Party.

Therefore, only two pairs are correctly matched.

Q4. Which of the following statements are correct about the Constitution of India?

1. Powers of the Municipalities are given in Part IX A of the Constitution.
2. Emergency provisions are given in Part XVIII of the Constitution.
3. Provisions related to the amendment of the Constitution are given in Part XX of the Constitutions

Select the answer using the code given below:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer - D

Explanation - Let's analyze each statement:

1. **Powers of the Municipalities are given in Part IX A of the Constitution.** - This statement is correct. Part IXA of the Indian Constitution (added by the 74th Amendment Act, 1992) deals with Municipalities and provides for their powers and functions.
2. **Emergency provisions are given in Part XVIII of the Constitution.** - This statement is correct. Part XVIII of the Indian Constitution (Articles 352 to 360) deals with 'Emergency Provisions' outlining situations like national emergency, state emergency, and financial emergency.
3. **Provisions related to the amendment of the Constitution are given in Part XX of the Constitution** - This statement is correct. Part XX of the Indian Constitution contains only Article 368, which deals with the power of the Parliament to amend the Constitution and the procedure for it.

Therefore, all three statements are correct.

Q5. Which one of the following statements is correct as per the Constitution of India?

- A. Inter-State trade and commerce is a State subject under the State List.
- B. Inter-State migration is a State subject under the State List.
- C. Inter-State quarantine is a Union subject under the Union List.
- D. Corporation tax is a State subject under the State List.

Answer - C

Explanation - Correct Option: C, Inter-State quarantine is a Union subject under the Union List.

- Inter-State quarantine falls under the purview of the Union List (List I) in the Seventh Schedule of the Indian Constitution. This is because matters of inter-state significance, especially those related to health and disease control, are best handled by the central government to ensure uniformity and prevent the spread of diseases across state borders.

Let's examine why the other options are incorrect:

- Inter-State trade and commerce is a State subject under the State List. This is incorrect. Inter-State trade and commerce is explicitly mentioned in the Union List (List I), giving the central government the power to regulate commerce that transcends state boundaries.
- Inter-State migration is a State subject under the State List. This is also incorrect. While individual states have some powers related to internal migration, the Constitution doesn't explicitly categorize inter-state migration. However, aspects like the right to freedom of movement and residence (Article 19) are fundamental rights, limiting the restrictions states can impose.
- Corporation tax is a State subject under the State List. This is incorrect. Corporation tax, levied on the net income of companies, is a subject under the Union List (List I). However, the Constitution allows for the sharing of corporation tax revenue with states.

In essence, the Constitution designates subjects of national importance, like inter-state quarantine and trade, to the Union List, while matters of local governance fall under the State List.

Q6. Under which of the following Articles of the Constitution of India, has the Supreme Court of India placed the Right to Privacy?

- A. Article 15
- B. Article 16
- C. Article 19
- D. Article 21

Answer - D

Explanation - The Supreme Court of India, in its landmark judgment in Justice K.S. Puttaswamy (Retd.) vs Union of India (2017), declared that the Right to Privacy is a fundamental right enshrined in the Constitution of India.

The court held that this right is protected under Article 21 of the Constitution, which guarantees the Right to Life and Personal Liberty.

- **Article 21:** States that 'No person shall be deprived of his life or personal liberty except according to the procedure established by law.' The court interpreted 'personal liberty' broadly to include various aspects of privacy.

While the other options are fundamental rights, they are not directly where the Right to Privacy is placed:

- **Article 15:** Prohibits discrimination on grounds of religion, race, caste, sex or place of birth.
 - **Article 16:** Guarantees equality of opportunity in matters of public employment.
 - **Article 19:** Guarantees certain freedoms like speech and expression, assembly, etc.
-

Q7. What are the duties of the Chief of Defence Staff (CDS) as Head of the Department of Military Affairs?

1. Permanent Chairman of Chiefs of Staff Committee
2. Exercise military command over the three Service Chiefs
3. Principal Military Advisor to Defence Minister on all tri-service matters

Select the correct answer using the code given below:

- A. 1, 2 and 3
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1 and 3 only

Answer - D

Explanation - Analyzing the statements:

1. **Permanent Chairman of Chiefs of Staff Committee:** This is correct. The CDS is designated as the Permanent Chairman of the Chiefs of Staff Committee (COSC), which includes the chiefs of the Army, Navy, and Air Force.
2. **Exercise military command over the three Service Chiefs:** This is incorrect. The CDS does not have direct operational command authority over the three service chiefs. The service chiefs continue to exercise operational command over their respective services. The CDS acts as a coordinator and advisor, promoting jointness and integration among the services.
3. **Principal Military Advisor to Defence Minister on all tri-service matters:** This is correct. The CDS acts as the single-point military advisor to the Defence Minister on matters related to all three services. This ensures streamlined and integrated military advice to the political leadership.

Therefore, the correct statements are 1 and 3.

Q8. Operations undertaken by the Army towards upliftment of the local population in remote areas to include addressing of their basic needs is called:

- A. Operation Sankalp
- B. Operation Maitri
- C. Operation Sadbhavana
- D. Operation Madad

Answer - C

Explanation - The correct answer is C - Operation Sadbhavana

Here's why:

- Operation Sadbhavana is a unique initiative undertaken by the Indian Army in Jammu & Kashmir and the North East regions. It focuses on winning the hearts and minds of the local

population through various developmental activities and assistance. This includes providing education, healthcare, infrastructure development, and promoting skill development initiatives.

Let's look at the other options:

- Operation Sankalp was launched by the Indian Navy to ensure maritime security in the Persian Gulf and the Gulf of Oman.
- Operation Maitri refers to the Indian Armed Forces' humanitarian assistance and disaster relief operations to assist friendly countries. A notable example was the aid provided to Nepal during the 2015 earthquake.
- Operation Madad is the Indian Navy's effort to provide humanitarian assistance and disaster relief during natural calamities, both within India and to neighboring countries.

Q9. The longest border between any two countries in the world is between :

- A. Canada and the United States of America
- B. Chile and Argentina
- C. China and India
- D. Kazakhstan and Russian Federation

Answer - A

Explanation - The longest international border in the world is between Canada and the United States. It stretches for 8,891 kilometres (5,525 miles) and spans across land and water.

Q10. Which of the following statements about the Ethics Committee in the Lok Sabha are correct?

1. Initially it was an ad-hoc Committee.
2. Only a Member of the Lok Sabha can make a complaint relating to unethical conduct of a member of the Lok Sabha.
3. This Committee cannot take up any matter which is sub-judice.

Select the answer using the code given below :

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer - C

Explanation - Statement 1: Correct

The Ethics Committee of Lok Sabha was initially an ad-hoc committee formed in 1952. It became a standing committee in 1997.

Statement 2: Incorrect

Any person can make a complaint to the Ethics Committee of Lok Sabha against a Member of Parliament for unethical conduct. It doesn't necessarily have to be another Member of Parliament.

Statement 3: Correct

The Ethics Committee of Lok Sabha cannot take up any matter that is sub-judice, meaning a matter that is currently under consideration by a court or other judicial authority.

Therefore, only statements 1 and 3 are correct.

Q11. Who was the Provisional President of the Constituent Assembly before Dr. Rajendra Prasad took over?

- A. C. Rajagopalachari
- B. Dr. B.R. Ambedkar
- C. T.T. Krishnamachari
- D. Dr. Sachchidananda Sinha

Answer - D

Explanation - Dr. Sachchidananda Sinha was elected as the Provisional President of the Constituent Assembly on December 9, 1946. This was a temporary position. He served as the Chairman for two days, after which Dr. Rajendra Prasad was elected as the President of the Constituent Assembly on December 11, 1946.

Here's why the other options are incorrect:

- **C. Rajagopalachari:** He was the last Governor-General of India and played a significant role in the Indian independence movement.
 - **Dr. B.R. Ambedkar:** He was the Chairman of the Drafting Committee of the Constitution.
 - **T.T. Krishnamachari:** He was a prominent member of the Constituent Assembly and later served as the Finance Minister of India.
-

Q12. With reference to the Government of India Act, 1935, consider the following statements:

1. It provided for the establishment of an All India Federation based on the union of the British Indian Provinces and Princely States.
2. Defence and Foreign Affairs were kept under the control of the federal legislature.

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

Answer - A

Explanation - Statement 1 is correct. The Government of India Act, 1935, proposed an All India Federation that would encompass both the British Indian Provinces and the Princely States. However, this federation never fully materialized due to the reluctance of many Princely States to join.

Statement 2 is incorrect. The Act reserved key subjects like Defence and Foreign Affairs under the control of the Governor General, representing the British Crown, and not the federal legislature. This ensured British dominance in these crucial areas.

Q13. Which one of the following is a work attributed to playwright Bhasa?

- A. Kavyalankara
- B. Natyashastra
- C. Madhyama-vyayoga
- D. Mahabhashya

Answer - C

Explanation - The correct answer is C, Madhyama-vyayoga. Here's why:

- Bhasa was an ancient Indian playwright believed to have predated Kalidasa. He is known for his Sanskrit plays, often characterized by their dramatic intensity and focus on emotions.
- Madhyama-vyayoga (meaning 'The Middle One') is one of Bhasa's famous plays. It's part of a trilogy and tells a story from the Mahabharata.

Let's look at the other options:

- Kavyalankara is a work on Sanskrit poetics by the renowned scholar Bhamaha.
- Natyashastra is the foundational text on Indian classical dance and drama, attributed to the sage Bharata Muni.
- Mahabhashya is a comprehensive commentary on the Sanskrit grammar of Patanjali, based on Panini's Ashtadhyayi.

Q14. Sanghabhuti, an Indian Buddhist monk, who travelled to China at the end of the fourth century AD, was the author of a commentary on :

- A. Prajnaparamita Sutra
- B. Visuddhimagga
- C. Sarvastivada Vinaya
- D. Lalitavistara

Answer - C

Explanation - The correct answer is C, Sarvastivada Vinaya.

Here's why:

- Sanghabhuti was a prominent Buddhist scholar known for his work on the Sarvastivada school of Buddhism, particularly their Vinaya texts. Vinaya texts focus on monastic rules and discipline. * He traveled to China to translate these texts, making them accessible to Chinese Buddhists.

Let's look at the other options:

- **Prajnaparamita Sutra:** These sutras are central to Mahayana Buddhism and focus on the concept of 'emptiness' (sunyata). While important, they are not primarily associated with Sanghabhuti's work.
 - **Visuddhimagga:** This text, meaning 'Path of Purification,' is a comprehensive Theravada Buddhist treatise written by Buddhaghosa, not Sanghabhuti.
 - **Lalitavistara:** This Mahayana sutra narrates the life of the Buddha and is not directly linked to Sanghabhuti's scholarship.
-

Q15. Consider the following properties included in the World Heritage List released by UNESCO:

1. Shantiniketan
2. Rani-ki-Vav
3. Sacred Ensembles of the Hoysalas
4. Mahabodhi Temple Complex at Bodhgaya

How many of the above properties were included in 2023?

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer - B

Explanation - Out of the four properties listed, two were included in the World Heritage List (WHS) in 2023: Shantiniketan Sacred Ensembles of the Hoysalas While Rani-ki-Vav was added to the WHS list in 2014 and the Mahabodhi Temple Complex at Bodhgaya in 2002.

Q16. As per Article 368 of the Constitution of India, the Parliament may amend any provision of the Constitution by way of:

1. Addition
2. Variation
3. Repeal

Select the correct answer using the code given below:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer - D

Explanation - Article 368 in the Constitution of India: Power of Parliament to amend the Constitution and procedure therefor

(1) Notwithstanding anything in this Constitution, Parliament may in the exercise of its constituent power amend by way of addition, variation or repeal any provision of this Constitution in accordance with the procedure laid down in this article. As per Article 368 of the Constitution of India, the Parliament may amend any provision of the Constitution by way of:

- Addition
- Variation
- Repeal

Therefore, the correct answer is: All of the above (1, 2, and 3).

Q17. Consider the following countries :

1. Italy
2. Japan
3. Nigeria
4. South Korea
5. South Africa

Which of the above countries are frequently mentioned in the media for their low birth rates, or ageing population or declining population?

- A. 1, 2 and 4
- B. 1, 3 and 5
- C. 2 and 4 only
- D. 3 and 5 only

Answer - A

Explanation - Italy, Japan, and South Korea are frequently highlighted in global media for their demographic challenges, particularly low birth rates, ageing populations, and in some cases, declining populations.

- Italy and Japan are often cited as prime examples of countries with rapidly ageing populations and very low birth rates. Both countries have been grappling with the economic and social consequences of these demographic trends for several years.
- South Korea has also emerged as a country with significant demographic concerns. Its fertility rate is one of the lowest in the world, and its population is projected to start declining in the coming years.

Nigeria and South Africa, while facing their own set of demographic challenges, are generally not highlighted for low birth rates or declining populations. Nigeria, in fact, has a very young and rapidly

growing population. South Africa's population growth has slowed in recent years, but it is not yet experiencing a decline.

Q18. Which of the following statements are correct in respect of a Money Bill in the Parliament?

1. Article 109 mentions special procedure in respect of Money Bills.
2. A Money Bill shall not be introduced in the Council of States.
3. The Rajya Sabha can either approve the Bill or suggest changes but cannot reject it.
4. Amendments to a Money Bill suggested by the Rajya Sabha have to be accepted by the Lok Sabha.

Select the answer using the code given below :

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 1, 3 and 4



Answer - C

Explanation - Analyzing each statement:

1. Article 109 of the Indian Constitution specifically deals with the special procedure for Money Bills. (Correct)
2. Article 109(1) states that a Money Bill shall not be introduced in the Council of States (Rajya Sabha). It can only be introduced in the Lok Sabha (House of the People). (Correct)
3. Article 109(5) states that the Rajya Sabha can't reject a Money Bill. It can only make recommendations within 14 days, which the Lok Sabha may or may not accept. (Correct)

4. The Lok Sabha has the ultimate power regarding Money Bills. It is not bound to accept any amendments suggested by the Rajya Sabha. (Incorrect)

Therefore, statements 1, 2, and 3 are correct.

Q19. Which of the following is/are correctly matched in terms of equivalent rank in the three services of Indian Defence forces?

Army	Airforce	Navy
1. Brigadier	Air Commander	Commodore
2. Major	Air Vice Marshal	Vice Admiral
3. Major	Squadron Leader	Lieutenant Commander
4. Lieutenant Colonel	Group Captain	Captain

Select the correct answer using the code given below:

- A. 1 and 4
- B. 1 and 3
- C. 2, 3 and 4
- D. 3 only

Answer - D

Explanation - The correct equivalent rank in the three services of Indian Defence forces are:

Indian Army	Indian Navy	Indian Air Force
Field Marshal	Admiral of the fleet	Marshal of the Air Force
General	Admiral	Air Chief Marshal
Lt. General	Vice Admiral	Air Marshal
Major General	Rear Admiral	Air Vice Marshal
Brigadier	Commodore	Air Commodore
Colonel	Captain	Group Captain
Lt. Colonel	Commander	Wing Commander
Major	Lt. Commander	Squadron Leader
Captain	Lieutenant	Flight Lieutenant
Lieutenant	Sub Lieutenant	Flying Officer

Thus only pair 3 is correctly matched, hence option D is the correct answer

Q20. The North Eastern Council (NEC) was established by the North Eastern Council Act, 1971. Subsequent to the amendment of NEC Act in 2002, the Council comprises which of the following members?

1. Governor of the Constituent State
2. Chief Minister of the Constituent State
3. Three Members to be nominated by the President of India
4. The Home Minister of India

Select the correct answer using the code given below :

- A. 1, 2 and 3 only
- B. 1, 3 and 4 only
- C. 2 and 4 only
- D. 1, 2, 3 and 4

Answer - A

Explanation - The NEC Act was amended by the Parliament in 2002 (Act No. 68 of 2002).

The 'North Eastern Areas' now means the area comprising the States of Assam, Manipur, Meghalaya, Nagaland, Tripura, Arunachal Pradesh, Sikkim and Mizoram.

The Council now has as its members the Governors of the States mentioned above, the Chief Ministers of the said States and three Members nominated by the President. The President will nominate the Chairman of the Council and he need not be nominated from amongst the other Members.

Hence, option A is the correct answer.

Q21. Consider the following statements regarding 'Nari Shakti Vandan Adhiniyam':

1. Provisions will come into effect from the 18th Lok Sabha.
2. This will be in force for 15 years after becoming an Act.
3. There are provisions for the reservation of seats for Scheduled Castes Women within the quota reserved for the Scheduled Castes.

Which of the statements given above are correct?

- A. 1, 2 and 3
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1 and 3 only

Answer - C

Explanation - There is no specific information available about which Lok Sabha session the provisions will be implemented. Hence statement 1 is incorrect.

The reservation will be provided for a period of 15 years. However, it shall continue till such date as determined by a law made by Parliament.

Hence, statement 2 is correct.

In the seats reserved for SCs/STs, the Bill sought to provide one-third of the seats to be reserved for women on rotational basis. Hence, statement 3 is also correct.

Q22. Which of the following statements about 'Exercise Mitra Shakti-2023' are correct?

1. This was a joint military exercise between India and Bangladesh.
2. It commenced in Aundh (Pune).
3. Joint response during counter-terrorism operations was a goal of this operation.
4. Indian Air Force was a part of this exercise.

Select the answer using the code given below :

- A. 1, 2 and 3
- B. 1, 2 and 4
- C. 1, 3 and 4
- D. 2, 3 and 4

Answer - D

Explanation - The ninth edition of the Joint Military exercise "Exercise MITRA SHAKTI-2023" commenced today in Aundh (Pune). A key focus of the exercise was to enhance interoperability and coordination between the two armies for counter-terrorism operations.

The exercise is being conducted from 16th to 29th November 2023. The Indian contingent, of 120 personnel, is being represented mainly by troops from the MARATHA LIGHT INFANTRY Regiment. The Sri Lankan side is being represented by personnel from the 53 Infantry Division. 15 personnel from the Indian Air Force and five personnel from Sri Lankan Air Force are also participating in the exercise.

Hence, statement 1 is incorrect, while statements 2, 3 and 4 are correct.

Q23. A Writ of Prohibition is an order issued by the Supreme Court or High Courts to :

- A. a government officer prohibiting him from taking a particular action.
- B. the Parliament/Legislative Assembly to pass a law on Prohibition.
- C. the lower court prohibiting continuation of proceedings in a case.
- D. the Government prohibiting it from following an unconstitutional policy.

Answer - C

Explanation - What is a Writ of Prohibition?

A Writ of Prohibition is a legal remedy available to a higher court (like the High Court or Supreme Court) to prevent a lower court or tribunal from exceeding its jurisdiction or acting contrary to law. It's essentially a way to stop a court from proceeding with a case that it shouldn't be hearing.

Q24. Consider the following statements:

1. It is the Governor of the State who recognizes and declares any community of that State as a Scheduled Tribe.
2. A community declared as a Scheduled Tribe in a State need not be so in another State.

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

Answer - B

Explanation - Statement 1 is incorrect: The President of India, not the Governor of a State, has the power to specify a community as a Scheduled Tribe (ST) for a particular state or Union Territory. This is done through a notification in the Official Gazette, after consultation with the concerned State government.

Statement 2 is correct: The specification of Scheduled Tribes is not uniform across the country. A community recognized as an ST in one State may not be recognized as such in another State. This is because the criteria for scheduling are based on social, educational, and economic backwardness, which can vary across regions.

Q25. With reference to Union Budget, consider the following statements :

1. The Union Finance Minister on behalf of the Prime Minister lays the Annual Financial Statement before both the Houses of Parliament.
2. At the Union level, no demand for a grant can be made except on the recommendation of the President of India.

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

Answer - B

Explanation - Statement 1 is incorrect:

While the Union Finance Minister does present the Annual Financial Statement in Parliament, it is not done 'on behalf of the Prime Minister', but the President of India. As Article 112 reads The President shall in respect of every financial year cause to be laid before both the Houses of Parliament a statement of the estimated receipts and expenditure of the Government of India for that year, in this Part, referred to as the annual financial statement.

Statement 2 is correct:

Article 113 of the Indian Constitution explicitly states that no demand for a grant can be made unless it's recommended by the President. This ensures executive control over the legislature in financial matters.

Q26. Who of the following is the author of the books *The India Way* and *Why Bharat Matters*?

- A. Bhupender Yadav
- B. Nalin Mehta
- C. Shashi Tharoor
- D. Subrahmanyam Jaishankar

Answer - D

Explanation - The correct answer is (D) Subrahmanyam Jaishankar.

- Subrahmanyam Jaishankar is an Indian diplomat and politician serving as the Minister of External Affairs of India since 2019. He has authored two prominent books:
 - 'The India Way: Strategies for an Uncertain World' (2020) which provides insights into India's foreign policy approach.
 - 'Why Bharat Matters' is a compilation of his articles and speeches that delve into India's global significance.
-

Q27. Consider the following pairs :

Country	Reason for being in the news
1. Argentina	Worst economic crisis
2. Sudan	War between the country's regular army and paramilitary forces
3. Turkey	Rescinded its membership of NATO

How many of the pairs given above are correctly matched?

- A. Only one pair
- B. Only two pairs
- C. All three pairs
- D. None of the pairs

Answer - B

Explanation - Let's analyze each pair:

1. Argentina - Worst economic crisis: Argentina has been facing a severe economic crisis for a while, marked by high inflation, debt, and poverty. This pair seems correct.
2. Sudan - War between the country's regular army and paramilitary forces: Sudan has been engulfed in a violent conflict between the Sudanese Armed Forces and the paramilitary Rapid Support Forces. This pair is also correct.
3. Turkey - Rescinded its membership of NATO: Turkey has not rescinded its membership of NATO. While there have been tensions between Turkey and other NATO members, it remains a member. This pair is incorrect.

Therefore, only two out of the three pairs are correctly matched.

Q28. Consider the following statements:

Statement-I: Sumed pipeline is a strategic route for Persian Gulf oil and natural gas shipments to Europe.

Statement-II: Sumed pipeline connects the Red Sea with the Mediterranean Sea.

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

Answer - A

Explanation - The answer is A. Both Statement-I and Statement-II are correct and Statement-II explains Statement-I.

- Statement-I: This statement is correct. The Sumed Pipeline is indeed a significant route for transporting oil and natural gas from the Persian Gulf to Europe. It bypasses the Suez Canal, offering an alternative path for these resources.
- Statement-II: This statement is also correct. The Sumed Pipeline physically connects the Red Sea (where oil and gas are loaded onto ships from the Persian Gulf) with the Mediterranean Sea, providing a direct route for them to reach European ports.

The connection between the Red Sea and the Mediterranean Sea established by the Sumed Pipeline directly explains its strategic importance for transporting oil and gas to Europe. Statement-II provides the geographical context for how Statement-I functions.

Q29. Consider the following statements :

1. The Red Sea receives very little precipitation in any form.
2. No water enters the Red Sea from rivers.

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

Answer - C

Explanation - Both statements (1 and 2) are correct.

Statement 1: The Red Sea is located in a desert region with very high temperatures and low humidity. This leads to very little rainfall or any form of precipitation.

Statement 2: Due to its location, there are no major rivers flowing into the Red Sea. The water in the Red Sea comes primarily from the inflow of saltier water from the Gulf of Aden through the Bab el-Mandeb Strait.

Q30. According to the Environmental Protection Agency (EPA), which one of the following is the largest source of sulphur dioxide emissions?

- A. Locomotives using fossil fuels
- B. Ships using fossil fuels
- C. Extraction of metals from ores
- D. Power plants using fossil fuels

Answer - D

Explanation - The largest source of SO₂ in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities.

Q31. Consider the following statements:

Statement-I: If the United States of America (USA) were to default on its debt, holders of US Treasury Bonds will not be able to exercise their claims to receive payment.

Statement-II: The USA Government debt is not backed by any hard assets, but only by the faith of the Government.

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

Answer - A

Explanation - The correct option in respect of the above statements is:

- **Statement-I:** If the United States of America (USA) were to default on its debt, holders of US Treasury Bonds will not be able to exercise their claims to receive payment. This statement is correct because, in the event of a default, the government would not be able to fulfill its debt obligations, meaning bondholders would not receive the payments they are due.
- **Statement-II:** The USA Government debt is not backed by any hard assets, but only by the faith of the Government. This statement is also correct. US Government debt, such as Treasury Bonds, is backed by the full faith and credit of the US Government rather than any specific physical assets.

Statement-II explains Statement-I because the faith and credit of the US Government are the guarantees behind its debt. If this faith is shaken or if the government defaults, bondholders cannot claim any specific assets to recover their investment, hence they would not receive their payments.

Q32. Consider the following statements :

Statement-I: Syndicated lending spreads the risk of borrower default across multiple lenders.

Statement-II: The syndicated loan can be a fixed amount/lump sum of funds, but cannot be a credit line.

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

Answer - C

Explanation - Statement-I: Syndicated lending spreads the risk of borrower default across multiple lenders.

This statement is correct. Syndicated lending, by definition, involves multiple lenders pooling resources to provide a loan to a single borrower. This inherently distributes the risk of default, as no single lender bears the entire burden if the borrower fails to repay.

Statement-II: The syndicated loan can be a fixed amount/lump sum of funds, but cannot be a credit line. This statement is incorrect. Syndicated loans can take various forms, including both fixed-amount term loans (lump sum) and revolving credit facilities (credit lines).

Therefore, the correct option is C: Statement-I is correct, but Statement-II is incorrect.

Q33. Consider the following statements in respect of the digital rupee :

1. It is a sovereign currency issued by the Reserve Bank of India (RBI) in alignment with its monetary policy.
2. It appears as a liability on the RBI's balance sheet.
3. It is insured against inflation by its very design.
4. It is freely convertible against commercial bank money and cash.

Which of the statements given above are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 4 only
- D. 1, 2 and 4

Answer - D

Explanation - Statement 1 is correct. The digital rupee, also known as the e-rupee or Central Bank Digital Currency (CBDC), is indeed a sovereign currency issued by the RBI. It's a digital representation of India's fiat currency and is part of the RBI's monetary policy toolkit.

Statement 2 is correct. Like physical currency, the digital rupee is a liability on the RBI's balance sheet. When you hold digital rupees, it's essentially a claim you have on the RBI, similar to holding physical banknotes.

Statement 3 is incorrect. The digital rupee, by itself, doesn't come with inherent inflation protection. Its value, like physical currency, is subject to inflationary pressures. The RBI manages inflation through its monetary policy measures, not through the inherent design of the digital rupee.

Statement 4 is correct. The digital rupee is designed to be freely convertible. This means you can easily exchange it with bank deposits (commercial bank money) and cash at a 1:1 ratio without any restrictions. Therefore, the correct answer is (D) - 1, 2 and 4.

Q34. With reference to ancient India, Gautama Buddha was generally known by which of the following epithets?

1. Nayaputta
2. Shakyamuni
3. Tathagata

Select the correct answer using the code given below:

- A. 1 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. None of the above are epithets of Gautama Buddha

Answer - B

Explanation - Let's analyse each epithet:

1. Nayaputta: This term means 'the son of Naya' and is not associated with Gautama Buddha rather this epithet is used for Mahavira.
2. Shakyamuni: This epithet means 'Sage of the Shakya clan'. Gautama Buddha belonged to the Shakya clan, making this a correct epithet.
3. Tathagata: This term means 'one who has thus gone' or 'one who has thus come'. It signifies enlightenment and is a common epithet for Gautama Buddha.

Therefore, statements 2 and 3 are correct.

Q35. Consider the following information:

Archaeological Site	State	Description
1. Chandraketugarh	Odisha	Trading Port town
2. Inamgaon	Maharashtra	Chalcolithic site
3. Mangadu	Kerala	Megalithic site
4. Salihundam	Andhra Pradesh	Rock-cut cave shrines

In which of the above rows is the given information correctly matched ?

- A. 1 and 2
- B. 2 and 3
- C. 3 and 4
- D. 1 and 4



Answer - B

Explanation - Let's analyze each statement:

- **Statement 1:** Chandraketugarh (Odisha) - Trading Port town: This is incorrect. Chandraketugarh, located in West Bengal, not Odisha, was an ancient port city known for its extensive trade networks.
- **Statement 2:** Inamgaon (Maharashtra) - Chalcolithic site: This is correct. Inamgaon is a well-known archaeological site in Maharashtra, providing valuable insights into the Chalcolithic period.
- **Statement 3:** Mangadu (Kerala) - Megalithic site: This is correct. Kerala has numerous megalithic sites, The megalithic monuments at Mangadu consisted of 28 hard compact and unhewn laterite blocks within an area of 5 cents of land.

- **Statement 4:** Salihundam (Andhra Pradesh) - Rock-cut cave shrines: This is incorrect. Salihundam, is a village and panchayat in Gara Mandal of Srikakulam district in Andhra Pradesh. It is a historically important Buddhist monument of ancient Kalinga, not rock-cut caves.

Therefore, the correctly matched rows are 2 and 3.

Q36. Who of the following rulers of medieval India gave permission to the Portuguese to build a fort at Bhatkal?

- A. Krishnadevaraya
- B. Narasimha Saluva
- C. Muhammad Shah III
- D. Yusuf Adil Shah

Answer - A

Explanation - Sri Krishnadevaraya in 1510 signed a treaty with the Portuguese. It permitted Albuquerque to construct forts in Bhatkal.

Q37. With reference to revenue collection by Cornwallis, consider the following statements:

1. Under the Ryotwari Settlement of revenue collection, the peasants were exempted from revenue payment in case of bad harvests or natural calamities.
2. Under the Permanent Settlement in Bengal, if the Zamindar failed to pay his revenues to the state, on or before the fixed date, he would be removed from his Zamindari.

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

Answer - B

Explanation - Statement 1 is incorrect: The Ryotwari System, while aiming to establish direct contact with the cultivators (ryots), did not offer blanket exemption from revenue payment during bad harvests or calamities. While some provisions for remission existed, they were not automatic or guaranteed.

Statement 2 is correct: A key feature of the Permanent Settlement was the strict revenue collection timeline. Zamindars were obligated to pay a fixed amount of revenue to the British by a specific date. Failure to do so could result in the auctioning of their Zamindari to recover the dues.

Q38. Consider the following statements:

1. There are no parables in Upanishads.
2. Upanishads were composed earlier than the Puranas.

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

Answer - B

Explanation - Statement 1 is incorrect: Upanishads are known for their philosophical dialogues and teachings, and they often employ allegories and parables to convey complex ideas. For example, the Chandogya Upanishad contains the well-known parable of 'Satyakama Jabala' and his search for truth.

Statement 2 is correct: Upanishads form the concluding part of the Vedas and are known as 'Vedanta' (the end of the Vedas). They are believed to have been composed between 800-500 BCE. Puranas, on the other hand, are a later genre of Hindu texts, composed from around the 3rd century CE onwards.

Q39. Consider the following statements :

1. India is a member of the International Grains Council.
2. A country needs to be a member of the International Grains Council for exporting or importing rice and wheat.

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

Answer - A

Explanation -

Statement 1: Correct

India is indeed a member of the International Grains Council (IGC).

Statement 2: Incorrect

Membership in the IGC is not a prerequisite for engaging in rice and wheat trade. Countries that are not members can still export and import these grains. The IGC primarily serves as a forum for intergovernmental cooperation and policy discussion on grains trade.

Q40. Which one of the following was the latest inclusion in the Intangible Cultural Heritage List of UNESCO ?

- A. Chhau dance
- B. Durga puja
- C. Garba dance
- D. Kumbh mela

Answer - C

Explanation - Garba of Gujarat' has been inscribed in the Representative List of Intangible Cultural Heritage (ICH) of Humanity by UNESCO, under the provisions of the 2003 Convention for the Safeguarding of Intangible Cultural Heritage during the 18th meeting of the Intergovernmental Committee for the Safeguarding of the Intangible Cultural Heritage from 5th -9th December, 2023 in Kasane, Botswana.

Chhau dance - Inscribed on the list in 2010.

Durga puja in Kolkata - Inscribed in December 2021.

Kumbh mela - Inscribed in 2017.

Q41. Consider the following statements :

Statement-I: There is instability and a worsening security situation in the Sahel region.

Statement-II: There have been military takeovers/coups d'état in several countries of the Sahel region in the recent past.

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

- A. Both Statement-I and Statement-II are correct and Statement-I Statement-II explains
- B. Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- C. Statement-I is correct, but Statement-II is incorrect
- D. Statement-I is incorrect, but Statement-II is correct

Answer - A

Explanation - The correct option in respect of the above statements is:

A. Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

- **Statement-I:** There is instability and a worsening security situation in the Sahel region. This statement is correct as the Sahel region has been experiencing significant instability and security challenges, including terrorism, armed conflict, and humanitarian crises.
- **Statement-II:** There have been military takeovers/coups d'état in several countries of the Sahel region in the recent past. This statement is also correct. Several countries in the Sahel region, such as Mali, Burkina Faso, and Chad, have experienced military coups in recent years.
- **Statement-II explains Statement-I** because the military takeovers and coups contribute to the instability and worsening security situation in the Sahel region. The political instability resulting from these coups disrupts governance, exacerbates conflict, and undermines efforts to address security and development challenges in the region.

Q42. Consider the following statements:

Statement-I: India does not import apples from the United States of America.

Statement-II : In India, the law prohibits the import of Genetically Modified food without the approval of the competent authority.

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

Answer - D

Explanation - Statement-I is incorrect: India does import apples from the USA. In fact, the USA is one of the major sources of apple imports for India.

Statement-II is correct: India has stringent regulations regarding the import of Genetically Modified (GM) food. The Genetic Engineering Appraisal Committee (GEAC) is the competent authority responsible for assessing the safety of GM crops and foods. Importing GM food without GEAC approval is illegal.

Q43. With reference to the Speaker of the Lok Sabha, consider the following statements :

While any resolution for the removal of the Speaker of the Lok Sabha is under consideration

1. He/She shall not preside.
2. He/She shall not have the right to speak.
3. He/She shall not be entitled to vote on the resolution in the first instance.

Which of the statements given above is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

Answer - A

Explanation - Statement 1 is correct. According to Article 96(2) of the Indian Constitution, the Speaker cannot preside while a resolution for his/her removal is under consideration. However, they can vote on the resolution.

Statement 2 is incorrect. The Speaker retains the right to speak even during the proceedings of their removal.

Statement 3 is incorrect. The Speaker is entitled to vote on the resolution for their removal. They do not have a casting vote in this instance.

Q44. With reference to the Indian Parliament, consider the following statements:

1. A bill pending in the Lok Sabha lapses on its dissolution.
2. A bill passed by the Lok Sabha and pending in the Rajya Sabha lapses on the dissolution of the Lok Sabha.
3. A bill in regard to which the President of India notified his/her intention to summon the Houses to a joint sitting lapses on the dissolution of the Lok Sabha.

Which of the statements given above is/are correct?

- A. 1 only
- B. 1 and 2
- C. 2 and 3
- D. 3 only



Answer - B

Explanation - With reference to the Indian Parliament, the correct statements regarding the status of bills in the event of the dissolution of the Lok Sabha are:

1. A bill pending in the Lok Sabha lapses on its dissolution.
2. A bill passed by the Lok Sabha and pending in the Rajya Sabha lapses on the dissolution of the Lok Sabha.

Statement 3 is incorrect. If the President of India has notified his/her intention to summon the Houses to a joint sitting to consider a bill, that bill does not lapse on the dissolution of the Lok Sabha.

Therefore, the correct answer is: 1 and 2 only.

Q45. With reference to the Parliament of India, consider the following statements :

1. Prorogation of a House by the President of India does not require the advice of the Council of Ministers.
2. Prorogation of a House is generally done after the House is adjourned sine die but there is no bar to the President of India prorogating the House which is in session.
3. Dissolution of the Lok Sabha is done by the President of India who, save in exceptional circumstances, does so on the advice of the Council of Ministers.

Which of the statements given above is/are correct?

- A. 1 only
- B. 1 and 2
- C. 2 and 3
- D. 3 only

Answer - C

Explanation - With reference to the Parliament of India, let's analyze each statement:

1. Prorogation of a House by the President of India does not require the advice of the Council of Ministers.
 - This statement is incorrect. The President acts on the advice of the Council of Ministers in matters of prorogation, as well as in other functions.
2. Prorogation of a House is generally done after the House is adjourned sine die but there is no bar to the President of India prorogating the House which is in session.
 - This statement is correct. Typically, prorogation follows adjournment sine die, but technically, the President can prorogue a House even while it is in session.
3. Dissolution of the Lok Sabha is done by the President of India who, save in exceptional circumstances, does so on the advice of the Council of Ministers.

- This statement is correct. The President usually dissolves the Lok Sabha based on the advice of the Council of Ministers, except in exceptional circumstances such as a vote of no confidence or other political crises.

Therefore, the correct answer is: 2 and 3 only.

Q46. Consider the following statements:

Statement-I : The European Parliament approved The Net-Zero Industry Act recently.

Statement-II : The European Union intends to achieve carbon neutrality by 2040 and therefore aims to develop all of its own clean technology by that time.

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

- A. Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- B. Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- C. Statement-I is correct, but Statement-II is incorrect
- D. Statement-I is incorrect, but Statement-II is correct

Answer - C

Explanation - Statement-I: Correct

The European Parliament indeed approved the Net-Zero Industry Act in March 2023. This act aims to scale up manufacturing of clean technologies within the EU.

Statement-II: Incorrect

The EU's target for achieving carbon neutrality is 2050, not 2040. Additionally, while the EU aims to bolster its own clean technology production, it doesn't necessarily aim to develop all of its own technology by 2050. Collaboration and some level of imports are likely to remain part of the strategy. Therefore, the correct option is C: Statement-I is correct, but Statement-II is incorrect.

Q47. Consider the following statements:

Statement-I: Recently, Venezuela has achieved a rapid recovery from its economic crisis and succeeded in preventing its people from fleeing/emigrating to other countries.

Statement-II: Venezuela has the world's largest oil reserves.

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

Answer - D

Explanation - Statement-I: Incorrect

Venezuela continues to suffer from a severe economic crisis marked by hyperinflation, shortages of basic goods, and political instability. This crisis has led to a massive exodus of Venezuelans seeking better living conditions in neighboring countries and beyond.

Statement-II: Correct

Venezuela indeed possesses the world's largest proven oil reserves, surpassing even Saudi Arabia. However, despite this vast resource wealth, economic mismanagement, corruption, and international sanctions have crippled its oil industry and hindered its ability to leverage this asset for economic recovery.

Q48. With reference to the Digital India Land Records Modernisation Programme, consider the following statements :

1. To implement the scheme, the Central Government provides 100% funding.
2. Under the Scheme, Cadastral Maps are digitised.
3. An initiative has been undertaken to transliterate the Records of Rights from local language to any of the languages recognized by the Constitution of India.

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

Answer - D

Explanation - The earlier National Land Records Modernization Programme (NILRMP), approved in 2008 as a centrally Sponsored Scheme, has been revamped as the Digital India Land Records Modernization Programme (DILRMP) a Central Sector Scheme with 100% Central Government funding with effect from 1st April 2016.

Hence, statement 1 is correct.

Digitization of cadastral maps is one of the components of the scheme, hence statement 2 is correct.

In order to address the problem of linguistic barriers in land governance, DoLR with the technical support of Centre for Development of Advanced Computing (C-DAC) Pune, has undertaken an initiative to transliterate the Records of Rights available in local language to any of the 22 Schedule VIII languages of the Constitution.

Hence, statement 3 is also correct.

Q49. With reference to the 'Pradhan Mantri Surakshit Matritva Abhiyan', consider the following statements:

1. This scheme guarantees a minimum package of antenatal care services to women in their second and third trimesters of pregnancy and six months post-delivery health care service in any government health facility.
2. Under this scheme, private sector health care providers of certain specialities can volunteer to provide services at nearby government health facilities.

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

Answer - B

Explanation - About Pradhan Mantri Surakshit Matritva Abhiyan

The Pradhan Mantri Surakshit Matritva Abhiyan has been launched by the Ministry of Health & Family Welfare (MoHFW), Government of India.

The program aims to provide assured, comprehensive and quality antenatal care, free of cost, universally to all pregnant women on the 9th of every month.

PMSMA guarantees a minimum package of antenatal care services to women in their 2nd / 3rd trimesters of pregnancy at designated government health facilities. There is no mention of Post pregnancy health care services, hence, statement 1 is incorrect.

The programme follows a systematic approach for engagement with the private sector which includes motivating private practitioners to volunteer for the campaign developing strategies for generating awareness and appealing to the private sector to participate in the Abhiyan at government health

facilities.

Hence, statement 2 is correct.

Q50. With reference to the Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM) Yojana, consider the following statements:

1. The entry age group for enrolment in the scheme is 21 to 40 years.
2. Age specific contribution shall be made by the beneficiary.
3. Each subscriber under the scheme shall receive a minimum pension of ₹ 3,000 per month after attaining the age of 60 years.
4. Family pension is applicable to the spouse and unmarried daughters.

Which of the statements given above is/are correct?

- A. 1,3 and 4
- B. 2 and 3 only
- C. 2 only
- D. 1, 2 and 4

Answer - B

Explanation - With reference to the Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM) Yojana, here's the breakdown of the statements:

Statement 1 is INCORRECT. The entry age group for enrolment is actually 18 to 40 years.

Statement 2 is CORRECT. Beneficiaries contribute a fixed amount monthly based on their age of entry. The government matches the contribution.

Statement 3 is CORRECT. Subscribers receive a minimum pension of ₹ 3,000 per month after reaching 60 years.

Statement 4 is INCORRECT. Family pension is only applicable to the spouse. So, the CORRECT statements are 2 and 3.

Q51. Consider the following statements:

Statement-I: The atmosphere is heated more by incoming solar radiation than by terrestrial radiation.

Statement-II: Carbon dioxide and other greenhouse gases in the atmosphere are good absorbers of long wave radiation.

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

Answer - D

Explanation - Insolation reaches the earth's surface in short waves and heat is radiated from the earth in long waves, Hence energy leaving the earth's surface i.e. terrestrial radiation heats up the atmosphere more than the incoming solar radiation i.e. insolation.

Hence, statement 1 is incorrect.

Greenhouse gases in the atmosphere (such as water vapor and carbon dioxide) absorb most of the Earth's emitted longwave infrared radiation, which heats the lower atmosphere.

Hence, statement 2 is correct.

Q52. Consider the following statements:

Statement-I: Thickness of the troposphere at the equator is much greater as compared to poles.

Statement-II: At the equator, heat is transported to great heights by strong convectional currents.

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

Answer - A

Explanation - Statement-I: Correct

The troposphere is thicker at the equator than at the poles. This is because the equator receives more direct sunlight, leading to warmer temperatures and greater air expansion. This expanded air results in a greater height of the troposphere.

Statement-II: Correct. Convection is a significant mode of heat transfer in the atmosphere. At the equator, intense solar heating causes air to rise rapidly in strong convectional currents. This rising air carries heat to higher altitudes, contributing to the vertical distribution of heat in the troposphere.

Explanation: Statement-II directly explains Statement-I. The strong convectional currents mentioned in Statement-II are the primary reason for the greater thickness of the troposphere at the equator, as explained in Statement-I. The rising air due to convection leads to the expansion and increased height of the troposphere in equatorial regions.

Q53. Consider the following:

1. Pyroclastic debris
2. Ash and dust
3. Nitrogen compounds
4. Sulphur compounds

How many of the above are products of volcanic eruptions?

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer - D

Explanation - All of the above (1, 2, 3, and 4) are products of volcanic eruptions.

- **Pyroclastic debris:** This is a general term for fragmental material ejected from a volcano during an eruption. It includes ash, pumice, cinders, and volcanic bombs.
Ash and dust: These are fine-grained particles of volcanic rock and glass that can be carried long distances by wind.
 - **Nitrogen compounds:** Nitrogen is a common gas released by volcanoes, and it can react with other elements in the atmosphere to form compounds such as ammonia and nitrogen oxides.
 - **Sulphur compounds:** Sulphur dioxide (SO₂) is one of the main gases released by volcanoes. It can irritate the respiratory system and contribute to acid rain. Other sulphur compounds, such as hydrogen sulphide (H₂S), can also be released in smaller amounts.
-

Q54. Which of the following is/are correct inference/inferences from isothermal maps in the month of January?.

1. The isotherms deviate to the north over the ocean and to the south over the continent.
2. The presence of cold ocean currents, Gulf Stream and North Atlantic Drift make the North Atlantic Ocean colder and the isotherms bend towards the north.

Select the answer using the code given below :

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer - A

Explanation - Understanding Isotherms and their Behavior

- Isotherms are lines on a map connecting points with the same temperature.
- January is a winter month in the Northern Hemisphere.
- Land and Water Heating Differences: Land heats up and cools down faster than water. This leads to significant temperature differences between continents and oceans in winter.

Analyzing the Statements

- Statement 1: Correct
 - In January, continents are colder than oceans in the Northern Hemisphere.
 - Isotherms bend northward over oceans, indicating warmer temperatures.
 - Isotherms bend southward over continents, indicating colder temperatures.
- Statement 2: Incorrect
 - The Gulf Stream and North Atlantic Drift are warm ocean currents, not cold.

- These currents bring warm water from the tropics towards Europe, making the North Atlantic relatively warmer in winter.
- Isotherms bend northward over the North Atlantic due to these warm currents.

Conclusion: Only statement 1 is a correct inference from isothermal maps in January.

Q55. Which of the following countries are well known as the two largest cocoa producers in the world?

- A. Algeria and Morocco
- B. Botswana and Namibia
- C. Côte d'Ivoire and Ghana
- D. Madagascar and Mozambique

Answer - C

Explanation - The Ivory Coast and Ghana are by far the two largest producers of cocoa, accounting for more than 50 percent of the world's cocoa

Q56. With reference to the Himalayan rivers joining the Ganga downstream of Prayagraj from West to East, which one of the following sequences is correct?

- A. Ghaghara - Gomati - Gandak - Kosi
- B. Gomati - Ghaghara - Gandak - Kosi
- C. Ghaghara - Gomati - Kosi - Gandak
- D. Gomati - Ghaghara - Kosi - Gandak

Answer - B

Explanation - The correct sequence of Himalayan rivers joining the Ganga downstream of Prayagraj from West to East is:

B. Gomati - Ghaghara - Gandak - Kosi

Here's the breakdown of the sequence:

- Gomati: The Gomti River originates in the Central Himalayas and joins the Ganga near Varanasi, Uttar Pradesh.
- Ghaghara: The Ghaghara River, also known as the Ghagra-Rapti River, is the largest tributary of the Ganga. It originates in the Nepal Himalayas and joins the Ganga near Chhapra, Bihar.
- Gandak: The Gandak River originates in the Nepal Himalayas and joins the Ganga near Patna, Bihar.
- Kosi: The Kosi River, also known as the Koshi River, is known for its erratic behavior and floods. It originates in the Nepal Himalayas and joins the Ganga near Katihar, Bihar.

Therefore, the correct sequence is Gomati - Ghaghara - Gandak - Kosi.

Q57. Consider the following statements :

Statement-I: Rainfall is one of the reasons for weathering of rocks.

Statement-II: Rain water contains carbon dioxide in solution.

Statement-III: Rain water contains atmospheric oxygen.

Which one of the following is correct in respect of 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 - A

Explanation - Let's analyze each statement:

- **Statement-I:** Rainfall is one of the reasons for weathering of rocks.
This statement is true. Rainwater can cause both physical and chemical weathering. Physical weathering occurs due to the impact of raindrops, especially during heavy downpours. Chemical weathering happens when rainwater reacts with minerals in rocks, leading to their breakdown.
- **Statement-II:** Rainwater contains carbon dioxide in solution.
This statement is true. Rainwater absorbs carbon dioxide from the atmosphere, forming weak carbonic acid (H_2CO_3). This slightly acidic nature of rainwater contributes to chemical weathering.
- **Statement-III:** Rainwater contains atmospheric oxygen.
This statement is true. Rainwater dissolves atmospheric gases, including oxygen. The dissolved oxygen in rainwater plays a role in the oxidation of certain minerals in rocks, which is a form of chemical weathering.

Therefore, both Statement-II and Statement-III are correct, and both explain Statement-I. Rainwater's acidity (due to dissolved carbon dioxide) and dissolved oxygen content contribute to the chemical weathering of rocks.

Q58. Consider the following countries :

1. Finland
2. Germany
3. Norway
4. Russia

How many of the above countries have a border with the North Sea?

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer - B

Explanation - Let's analyze each country:

- Finland: Finland borders the Baltic Sea, not the North Sea.
- Germany: Germany shares a border with the North Sea.
- Norway: Norway has a long coastline along the North Sea.
- Russia: Russia does not border the North Sea.

Therefore, only Germany and Norway border the North Sea.

Q59. Consider the following information:

Waterfall - Region - River

1. Dhuandhar - Malwa - Narmada
2. Hundru - Chota Nagpur - Subarnarekha
3. Gersoppa - Western Ghats - Netravati

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

- A. Only one
- B. Only two
- C. All three
- D. None

Answer - A

Explanation - Dhuandhar: This waterfall is located on the Narmada River, but the region is not Malwa. It is in Madhya Pradesh Mahakoshal region.

Hence, pair 1 is incorrectly matched.

Hundru: This waterfall is indeed located on the Subarnarekha River within the Chota Nagpur Plateau.

Hence, pair 2 is correctly matched.

Gersoppa (also known as Jog Falls): This waterfall is on the Sharavati River in the Western Ghats, not the Netravati River.

Hence, pair 3 is incorrectly matched.

Q60. Consider the following information :

Region - Name of the mountain range - Type of mountain

1. Central Asia - Vosges - Fold mountain
2. Europe - Alps - Block mountain
3. North America - Appalachians - Fold mountain
4. South America - Andes - Fold mountain

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

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer - B

Explanation - Let's analyze each row:

1. Central Asia - Vosges - Fold mountain: This is incorrect. The Vosges mountains are located in Europe, not Central Asia. They are indeed fold mountains.
2. Europe - Alps - Block mountain: This is incorrect. The Alps, located in Europe, are a classic example of fold mountains, formed due to the collision of the African and Eurasian tectonic plates.
3. North America - Appalachians - Fold mountain: This is correct. The Appalachian Mountains in North America are old fold mountains.
4. South America - Andes - Fold mountain: This is correct. The Andes, running along the western edge of South America, are the longest continental mountain range in the world and are fold mountains formed due to the convergence of the Nazca and South American plates.

Therefore, only two rows have the information correctly matched.

Q61. The organisms Cicada, Froghopper and Pond skater are:

- A. Birds
- B. Fish
- C. Insects
- D. Reptiles

Answer - C

Explanation - Let's break down each organism:

- Cicada: Known for their loud buzzing sounds, cicadas are insects.
- Froghopper: Also known as spittlebugs, they are small, jumping insects.
- Pond Skater: These insects are known for their ability to walk on the surface of water.

All three organisms are classified as insects.

Q62. Consider the following statements :

Statement-I: Many chewing gums found in the market are considered a source of environmental pollution.

Statement-II: Many chewing gums contain plastic as gum base.

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

Answer - A**Explanation - Statement-I: Correct**

Chewing gums are a source of environmental pollution due to several factors:

- Non-biodegradable gum base: Traditional chewing gums often contain polymers like polyisobutylene, polyvinyl acetate, or polyethylene, which do not decompose easily in the environment.
- Littering: Discarded chewing gum remains on sidewalks, streets, and other public spaces, creating an eyesore and requiring significant resources for removal.

Statement-II: Correct and explains Statement-I

The plastic-like polymers used as gum bases in many chewing gums are the primary reason they are difficult to biodegrade. These polymers contribute significantly to the environmental persistence of chewing gum litter.

Therefore, the correct option is (A): Both Statement-I and Statement-II are correct and Statement-II explains Statement-I.

Q63. Consider the following pairs:

Country - Animal found in its natural habitat

1. Brazil - Indri
2. Indonesia - Elk
3. Madagascar - Bonobo

How many of the pairs given above are correctly matched ?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer - D

Explanation - Let's analyze each pair:

1. Brazil - Indri: Indris are lemurs found only in Madagascar, not Brazil. So, this pair is incorrect.
2. Indonesia - Elk: Elks are found in North America, Europe, and Asia, but not in Indonesia. This pair is incorrect.
3. Madagascar - Bonobo: Bonobos are found in the Democratic Republic of Congo, not Madagascar. This pair is also incorrect.

Therefore, none of the pairs are correctly matched.

Q64. Consider the following statements regarding World Toilet Organization :

1. It is one of the agencies of the United Nations.
2. World Toilet Summit, World Toilet Day and World Toilet College are the initiatives of this organization, to inspire action to tackle the global sanitation crisis.
3. The main focus of its function is to grant funds to the least developed countries and developing countries to achieve the end of open defecation.

Which of the statements given above is/are correct?

- A. 2 only
- B. 3 only
- C. 1 and 2
- D. 2 and 3

Answer - A

Explanation -

Statement 1 is incorrect. The World Toilet Organization (WTO) is not an agency of the United Nations. It is an international non-profit organization.

Statement 2 is correct. The WTO is known for its initiatives like World Toilet Summit, World Toilet Day, and World Toilet College, all aimed at addressing the global sanitation crisis.

Statement 3 is incorrect. While the WTO advocates for improved sanitation and hygiene, its primary function is not to grant funds. It focuses on advocacy, education, and capacity building to achieve its goals.

Therefore, only statement 2 is correct.

Q65. Consider the following statements :

1. Lions do not have a particular breeding season.
2. Unlike most other big cats, cheetahs do not roar.
3. Unlike male lions, male leopards do not proclaim their territory by scent marking.

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

Answer - A

Explanation - Let's examine each statement:

Statement 1: Lions do not have a particular breeding season.

This statement is correct. Lions can breed throughout the year, but they do show some seasonal preferences depending on their location and environmental factors like rainfall.

Statement 2: Unlike most other big cats, cheetahs do not roar.

This statement is correct. Cheetahs have a different vocal structure compared to lions, tigers, leopards, and jaguars, preventing them from roaring. They purr, chirp, and make other bird-like sounds.

Statement 3: Unlike male lions, male leopards do not proclaim their territory by scent marking.

This statement is incorrect. Both male lions and male leopards use scent marking extensively to define their territories. They spray urine and scrape the ground, leaving both olfactory and visual signals for other cats.

Therefore, only statements 1 and 2 are correct.

Q66. Which one of the following is the correct description of 100 Million Farmers?

- A. It is a platform for accelerating the transition towards food and water systems that are net-zero (carbon), nature-positive and that aims to increase farmer resilience.
- B. It is an international alliance and a network of individuals and farming organisations interested in supporting and strengthening the development of the organic animal husbandry.
- C. It is a digital platform fully integrated with service providers and built on blockchain that lets buyers, sellers and third parties trade fertilizers quickly and securely.
- D. It is a platform with the mission of encouraging the farmers to form Farmer Product Organisations or Agribusiness Consortiums, thus facilitating the access to global open markets to sell their products.

Answer - A

Explanation - Correct Answer: A

- **100 Million Farmers:** This initiative aims to transition towards sustainable food and water systems. It focuses on achieving net-zero carbon emissions, enhancing nature positivity, and improving farmers' resilience to climate change and market fluctuations.

Let's look at why the other options are incorrect:

- **Option B:** This describes organizations promoting organic animal husbandry, not the '100 Million Farmers' initiative.
 - **Option C:** This refers to a blockchain-based platform for fertilizer trading, which is not the core focus of '100 Million Farmers.'
 - **Option D:** While farmer collectives are important, '100 Million Farmers' has a broader scope encompassing sustainable practices and climate resilience.
-

Q67. Consider the following:

1. Battery storage
2. Biomass generators
3. Fuel cells
4. Rooftop solar photovoltaic units

How many of the above are considered Distributed Energy Resources?

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer - D

Explanation - Distributed Energy Resources (DERs) are small-scale units of power generation or storage that are situated closer to the end-users. Let's analyze each option:

1. **Battery storage:** These store energy and can be deployed within the distribution network or at the consumer end, making them DERs.
2. **Biomass generators:** These can be small-scale and located near the biomass source, making them suitable for distributed generation.
3. **Fuel cells:** Similar to biomass generators, fuel cells can be deployed in a decentralized manner, qualifying as DERs.
4. **Rooftop solar photovoltaic units:** These are a classic example of DERs, generating power at the point of consumption.

Therefore, all four options are considered Distributed Energy Resources.

Q68. Which one of the following shows a unique relationship with an insect that has coevolved with it and that is the only insect that can pollinate this tree?

- A. Fig
- B. Mahua
- C. Sandalwood
- D. Silk cotton

Answer - A

Explanation - Fig (A) exhibits a unique relationship with fig wasps.

- **Fig-Wasp Mutualism:** Figs and fig wasps share an obligate mutualistic relationship, meaning they are entirely dependent on each other for survival and reproduction. Fig wasps are the only insects that can pollinate fig trees, and fig trees are the sole source of food and shelter for developing fig wasps.
- **Highly Specialized Pollination:** The fig fruit (technically a syconium) has its flowers enclosed within. Female fig wasps enter the syconium through a tiny opening called the ostiole. They lay eggs inside and pollinate the flowers in the process.
- **Coevolution:** This intricate relationship is a classic example of coevolution, where two species have evolved together over millions of years, with each species' adaptations influencing the other's.

The other options are incorrect:

- Mahua B: Pollinated by various insects and even bats.
- Sandalwood C: Primarily pollinated by bees and flies.
- Silk cotton D: Pollinated by bats and birds.

Q69. Consider the following:

1. Butterflies
2. Fish
3. Frogs

How many of the above have poisonous species among them?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer - C

Explanation - Butterflies: Some butterfly species, like the Monarch butterfly, are poisonous. They consume milkweed during their larval stage, which makes them toxic to predators.

Fish: Many fish species are poisonous, such as pufferfish, lionfish, and stonefish. They possess venom as a defense mechanism.

Frogs: Poison dart frogs are a well-known example of poisonous frogs. Their skin secretes toxins that can be deadly.

Therefore, all three groups have poisonous species.

Q70. Consider the following :

1. Cashew
2. Papaya
3. Red sanders

How many of the above trees are actually native to India?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer - A

Explanation - Let's analyze each option:

1. **Cashew:** Originally native to Brazil, cashew was brought to India by Portuguese traders in the 16th century.
2. **Papaya:** Papaya also originated in the Americas, specifically in southern Mexico and Central America.
3. **Red Sanders:** This tree, known for its valuable reddish wood, is endemic to India. It is found in the Eastern Ghats, particularly in Andhra Pradesh.

Therefore, only Red Sanders is native to India.

Q71. Consider the following airports:

1. Donyi Polo Airport
2. Kushinagar International Airport
3. Vijayawada International Airport

In the recent past, which of the above have been constructed as Greenfield projects?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer - A

Explanation - Let's analyze each airport:

- Donyi Polo Airport (Itanagar, Arunachal Pradesh): This is a newly constructed airport, inaugurated in 2022. It was built on undeveloped land, making it a greenfield project.
- Kushinagar International Airport (Uttar Pradesh): This airport was inaugurated in 2021. It was also built as a new entity on undeveloped land, qualifying as a greenfield project.
- Vijayawada International Airport (Andhra Pradesh): This airport has existed for several decades. While it has undergone significant expansion and modernization, it wasn't built from scratch on undeveloped land. Therefore, it's not a greenfield project.

Therefore, only Donyi Polo Airport and Kushinagar International Airport are greenfield projects.

Q72. With reference to water vapour, which of the following statements is/are correct?

1. It is a gas, the amount of which decreases with altitude.
2. Its percentage is maximum at the poles.

Select the answer using the code given below :

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer - A

Explanation - Statement 1: Correct - Water vapor is indeed a gas, and its concentration generally decreases with altitude. This is because the air gets colder as we go higher, and colder air has a lower capacity to hold moisture.

Statement 2: Incorrect - The percentage of water vapor in the atmosphere is highest near the equator and decreases as we move towards the poles. This is because the tropics receive the maximum solar radiation, leading to higher temperatures and more evaporation, which in turn increases the amount of water vapor in the air.

Q73. Consider the following description:

1. Annual and daily range of temperatures is low.
2. Precipitation occurs throughout the year.
3. Precipitation varies between 50 cm - 250 cm.

What is this type of climate?

- A. Equatorial climate
- B. China type climate
- C. Humid subtropical climate
- D. Marine West coast climate

Answer - D

Explanation - The climate described by these characteristics is most likely a Marine West Coast Climate (Cfb) according to the Köppen climate classification system.

Annual and daily range of temperatures is low: Marine west coast climates are known for their mild temperatures year-round. The influence of the nearby ocean moderates both summer highs and winter lows, resulting in a smaller range of temperatures compared to continental climates at similar latitudes.

Precipitation occurs throughout the year: These regions experience frequent precipitation due to prevailing westerly winds carrying moist air from the ocean. The cyclones associated with these winds bring rain or snowfall throughout the year.

Precipitation varies between 50 cm - 250 cm: The amount of precipitation in marine west coast climates can vary depending on factors like latitude, topography, and proximity to the ocean. The range of 50 cm to 250 cm falls within the typical range observed in these regions.

Q74. With reference to Coriolis force”, which of the following statements is/are correct?

1. It increases with increase in wind velocity.
2. It is maximum at the poles and is absent at the equator.

Select the answer using the code given below :

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer - C

Explanation - Understanding Coriolis Force:

The Coriolis force is an inertial force that acts on objects in motion within a rotating frame of reference. On Earth, this force causes moving objects (like air masses or ocean currents) to deflect to the right in the Northern Hemisphere and to the left in the Southern Hemisphere.

Analyzing the Statements:

1. It increases with an increase in wind velocity. (TRUE)
 - The magnitude of the Coriolis force is directly proportional to the speed of the moving object. Faster winds experience a stronger Coriolis deflection.
2. It is maximum at the poles and is absent at the equator. (TRUE)
 - The Coriolis force is strongest at the poles because the Earth’s rotation is fastest at these points. At the equator, the Earth’s surface moves parallel to the axis of rotation, resulting in zero Coriolis effect.

Therefore, both statements 1 and 2 are correct.

Q75. On June 21 every year, which of the following latitude(s) experience(s) a sunlight of more than 12 hours?

1. Equator
2. Tropic of Cancer
3. Tropic of Capricorn
4. Arctic Circle

Select the correct answer using the code given below :

- A. 1 only
- B. 2 only
- C. 3 and 4
- D. 2 and 4

Answer - D

Explanation - On June 21st, the Summer Solstice, the Earth's tilt positions the North Pole at its maximum inclination towards the Sun. Let's analyze each option:

1. **Equator:** The equator receives 12 hours of daylight throughout the year, regardless of the season.
2. **Tropic of Cancer:** On June 21st, the Sun is directly overhead at the Tropic of Cancer. Locations at and north of this latitude experience their longest day of the year, with more than 12 hours of daylight.
3. **Tropic of Capricorn:** This latitude is in the Southern Hemisphere, experiencing its shortest day of the year on June 21st with less than 12 hours of daylight.
4. **Arctic Circle:** On June 21st, the Arctic Circle experiences 24 hours of daylight.

Therefore, both the Tropic of Cancer and the Arctic Circle experience more than 12 hours of daylight on June 21st.

Q76. One of the following regions has the world's largest tropical peatland, which holds about three years worth of global carbon emissions from fossil fuels; and the possible destruction of which can exert detrimental effects on the global climate. Which one of the following denotes that region?

- A. Amazon Basin
- B. Congo Basin
- C. Kikori Basin
- D. Rio de la Plata Basin

Answer - B

Explanation - The correct answer is B. Congo Basin. Here's why:

- Congo Basin Peatlands: The Congo Basin in Central Africa is home to the world's largest tropical peatland complex. This vast peatland stores an immense amount of carbon, estimated to be equivalent to about three years of global fossil fuel emissions.
- Importance of Peatlands: Peatlands are a critical carbon sink. They store more carbon than all the world's forests combined. When peatlands are drained or degraded, this stored carbon is released into the atmosphere, contributing to climate change.
- Other Options:
 - Amazon Basin: While the Amazon is known for its vast rainforests, it is not the primary location of the world's largest tropical peatland.
 - Kikori Basin: The Kikori Basin is located in Papua New Guinea and contains significant peatlands, but not the largest tropical peatland complex.
 - Rio de la Plata Basin: This basin in South America is primarily known for its grasslands and is not associated with major peatland areas.

Q77. With reference to perfluoroalkyl and polyfluoroalkyl substances (PFAS) that are used in making many consumer products, consider the following statements :

1. PFAS are found to be widespread in drinking water, food and food packaging materials.
2. PFAS are not easily degraded in the environment.
3. Persistent exposure to PFAS can lead to bioaccumulation in animal bodies.

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

Answer - D

Explanation - Let's analyze each statement:

Statement 1: PFAS are found to be widespread in drinking water, food and food packaging materials. This statement is TRUE. PFAS are used in a wide range of consumer products, and due to their persistence, they can leach into the environment and contaminate water sources, food, and packaging materials.

Statement 2: PFAS are not easily degraded in the environment.

This statement is TRUE. PFAS are known as 'forever chemicals' because the strong carbon-fluorine bond makes them highly resistant to natural degradation processes. This persistence leads to their accumulation in the environment.

Statement 3: Persistent exposure to PFAS can lead to bioaccumulation in animal bodies.

This statement is TRUE. Because PFAS don't break down easily, they can build up in the tissues of animals and humans over time, leading to potential health concerns. Therefore, all three statements are correct.

Q78. Consider the following:

1. Carabid beetles
2. Centipedes
3. Flies
4. Termites
5. Wasps

Parasitoid species are found in how many of the above kind of organisms?

- A. Only two
- B. Only three
- C. Only four
- D. All five

Answer - C

Explanation - Let's analyze each organism:

1. Carabid beetles: Many carabid beetles are predatory, and some species are known to be parasitoids, particularly of other insects.
2. Centipedes: Centipedes are predatory arthropods and not parasitoids. They hunt and kill their prey.
3. Flies: The order Diptera (flies) includes a large number of parasitoid species. For example, Tachinid flies are parasitoids of various insects.
4. Termites: Termites are not parasitoids. They are social insects that primarily feed on wood and other plant matter.
5. Wasps: The order Hymenoptera (wasps, bees, ants) has numerous parasitoid species. Many wasp species are parasitoids, laying their eggs on or in other insects.

Therefore, parasitoid species are found in Carabid beetles, Flies, and Wasps.

Q79. Consider the following plants:

1. Groundnut
2. Horse-gram
3. Soybean

How many of the above belong to the pea family?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer - C

Explanation - The pea family is botanically known as Fabaceae or Leguminosae.

Let's analyze each option:

1. Groundnut (Peanut): Belongs to the Fabaceae family.
2. Horse-gram: Belongs to the Fabaceae family.
3. Soybean: Belongs to the Fabaceae family.

All three plants are legumes, characterized by their pod-like fruit and ability to fix nitrogen from the atmosphere through a symbiotic relationship with bacteria in their root nodules.

Q80. Consider the following statements:

Statement-I: The Indian Flying Fox is placed under the vermin category in the Wild Life (Protection) Act, 1972.

Statement-II: The Indian Flying Fox feeds on the blood of other animals.

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

Answer - C

Explanation -

Let's evaluate the statements about the Indian Flying Fox:

Statement-I: The Indian Flying Fox is placed under the "vermin" category in the Wild Life (Protection) Act, 1972.

- This statement is incorrect. The Indian Flying Fox (*Pteropus giganteus*) is not classified as vermin under the Wild Life (Protection) Act, 1972. Instead, it is a protected species under Schedule V of the act.
 - Statement-II: The Indian Flying Fox feeds on the blood of other animals.
 - This statement is incorrect. The Indian Flying Fox is a frugivore, meaning it primarily feeds on fruits, nectar, and flowers, not on the blood of other animals.
 - Given that both statements are incorrect, the correct answer is: D. Statement-I is incorrect, but Statement-II is correct
-

Q81. The total fertility rate in an economy is defined as:

- A. the number of children born per 1000 people in the population in a year.
- B. the number of children born to a couple in their lifetime in a given population.
- C. the birth rate minus death rate.
- D. the average number of live births a woman would have by the end of her child-bearing age.

Answer - D

Explanation - Here's the breakdown of the options and why the correct answer is (D):

- **Statement 1:** the number of children born per 1000 people in the population in a year. This describes the crude birth rate, not the total fertility rate.
- **Statement 2:** the number of children born to a couple in their lifetime in a given population. This is close but not quite accurate. Total fertility rate is calculated for women, not couples.
- **Statement 3:** the birth rate minus death rate. This defines the rate of natural increase, which indicates population growth, not fertility.
- **Statement 4:** the average number of live births a woman would have by the end of her child-bearing age. This is the correct definition of Total Fertility Rate (TFR). It's a hypothetical measure assuming a woman lives through her childbearing years and experiences the age-specific fertility rates of a given period.

In simple terms, TFR tells us the average number of children a woman would have if current birth trends continued.

Q82. Consider the following statements:

1. In India, Non-Banking Financial Companies can access the Liquidity Adjustment Facility window of the Reserve Bank of India.
2. In India, Foreign Institutional Investors can hold the Government Securities (G-Secs).
3. In India, Stock Exchanges can offer separate trading platforms for debts.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 3 only
- C. 1, 2 and 3
- D. 2 and 3 only

Answer - D

Explanation - Statement 1 is incorrect: Non-Banking Financial Companies (NBFCs) in India do not have direct access to the Liquidity Adjustment Facility (LAF) window of the Reserve Bank of India (RBI). The LAF is a tool used by RBI to manage short-term liquidity in the banking system.

Statement 2 is correct: Foreign Institutional Investors (FIIs) are permitted to invest in Government Securities (G-Secs) in India, subject to certain regulations and limits set by the Securities and Exchange Board of India (SEBI) and RBI.

Statement 3 is correct: Stock exchanges in India can offer separate trading platforms for debt securities. For instance, the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) have dedicated platforms for trading in corporate bonds and government securities.

Q83. In India, which of the following can trade in Corporate Bonds and Government Securities?

1. Insurance Companies
2. Pension Funds
3. Retail Investors

Select the correct answer using the code given below:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer - D

Explanation - Let's analyze each statement:

1. Insurance Companies: Insurance companies have large funds that they need to invest securely for long-term returns. Corporate bonds and government securities fit this investment profile. Hence, this statement is correct.
2. Pension Funds: Similar to insurance companies, pension funds manage retirement savings and need safe, long-term investment avenues like corporate bonds and government securities. Hence, this statement is correct.
3. Retail Investors: Retail investors can also invest in corporate bonds and government securities, though the process might be slightly more complex than investing in stocks. Various platforms and brokers facilitate such investments. Hence, this statement is correct.

Therefore, all three statements are correct.

Q84. Consider the following:

1. Exchange-Traded Funds (ETF)
2. Motor vehicles
3. Currency swap

Which of the above is/are considered financial instruments?

- A. 1 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 1 and 3 only

Answer - D

Explanation - Let's analyze each option:

1. Exchange-Traded Funds (ETFs): ETFs are baskets of securities (like stocks) that are traded on stock exchanges, similar to individual stocks. They represent a financial instrument.
2. Motor vehicles: Motor vehicles are tangible assets, not financial instruments. Financial instruments represent claims to assets or cash flows.
3. Currency swap: A currency swap is a derivative contract where two parties exchange principal and interest payments in different currencies. It is a type of financial instrument.

Therefore, only ETFs and currency swaps are considered financial instruments.

Q85. With reference to the sectors of the Indian economy, consider the following pairs:

Economic activity	Sector
1. Storage of agricultural produce	Secondary
2. Dairy farm	Primary
3. Mineral exploration	Tertiary
4. Weaving cloth	Secondary

How many of the pairs given above are correctly matched?

- A. Only one
- B. Only two
- C. Only three
- D. All four



Answer - B

Explanation - Let's analyze each pair:

1. Storage of agricultural produce | Secondary (Incorrect) - Storage is a tertiary activity. It falls under the service sector, facilitating the smooth flow of goods from producers to consumers.
 2. Dairy farm | Primary (Correct) - Dairy farming involves the direct extraction of raw materials (milk) from natural resources (animals). Hence, it's a primary activity.
 3. Mineral exploration | Tertiary (Incorrect) - Mineral exploration is a primary activity. It involves extracting raw materials from the earth.
 4. Weaving cloth | Secondary (Correct) - Weaving cloth transforms raw materials (cotton, silk, etc.) into a finished product (cloth). This transformation signifies a secondary activity.
- Therefore, only two pairs are correctly matched.

Q86. Consider the following materials:

1. Agricultural residues
2. Corn grain
3. Wastewater treatment sludge
4. Wood mill waste

Which of the above can be used as feedstock for producing Sustainable Aviation Fuel ?

- A. 1 and 2 only
- B. 3 and 4 only
- C. 1, 2, 3 and 4
- D. 1, 3 and 4 only

Answer - C

Explanation - Let's analyze each option:

1. **Agricultural residues:** These include materials like crop stalks, husks, and leaves. They are a viable source of biomass that can be converted into biofuels, including Sustainable Aviation Fuel (SAF).
2. **Corn grain:** Corn grain is a source of sugars that can be fermented to produce ethanol, a biofuel. While ethanol is primarily used in gasoline blends, it can also be further processed into SAF.
3. **Wastewater treatment sludge:** This sludge is rich in organic matter. Through processes like anaerobic digestion, it can produce biogas, which can be further converted into SAF.
4. **Wood mill waste:** This includes sawdust, wood chips, and bark. These lignocellulosic materials can be converted into biofuels through various thermochemical or biochemical processes, ultimately leading to SAF production.

Therefore, all four materials can be used as feedstock for producing Sustainable Aviation Fuel.

Q87. With reference to physical capital in Indian economy, consider the following pairs:

Items	Category
1. Farmer's plough	Working capital
2. Computer	Fixed capital
3. Yarn used by the weaver	Fixed capital
4. Petrol	Working capital

How many of the above pairs are correctly matched?

- A. Only one
- B. Only two
- C. Only three
- D. All four

Answer - B

Explanation - Let's evaluate each pair to determine if they are correctly matched with the categories of working capital or fixed capital:

1. Farmer's plough - Working capital

- Incorrect: A farmer's plough is a long-term asset used repeatedly over time, making it fixed capital.

2. Computer - Fixed capital

- Correct: A computer is a long-term asset used over a period of time, making it fixed capital.

3. Yarn used by the weaver - Fixed capital

- Incorrect: Yarn is consumed in the production process and needs to be replaced regularly, making it working capital.

4. Petrol - Working capital

- Correct: Petrol is consumed in the production process and needs to be replenished regularly, making it working capital.

Based on this evaluation:

- Farmers plough is fixed capital (incorrectly matched).
- Computer is fixed capital (correctly matched).
- Yarn used by the weaver is working capital (incorrectly matched).
- Petrol is working capital (correctly matched).

Therefore, only two pairs are correctly matched.

The correct answer is: B. Only two

Q88. Which one of the following words/phrases is most appropriately used to denote “an interoperable network of 3D virtual worlds that can be accessed simultaneously by millions of users, who can exert property rights over virtual items?”

- A. Big data analytics
- B. Cryptography
- C. Metaverse
- D. Virtual matrix

Answer - C

Explanation - The correct answer is C Metaverse. Here's why:

- **Metaverse:** This term accurately describes a network of interconnected, persistent 3D virtual spaces. Key characteristics of the metaverse often include:
 - **Interoperability:** Users can move between different virtual worlds seamlessly.
 - **User-Generated Content:** Users can create, own, and trade virtual assets.
 - **Social Interaction:** The metaverse facilitates social experiences and interactions.

Let's look at why the other options are incorrect:

- **Big data analytics:** This involves analyzing large and complex datasets to uncover patterns and insights. It's not directly related to virtual worlds.
- **Cryptography:** This focuses on secure communication and data protection techniques. While relevant to security within a metaverse, it doesn't define the concept itself.
- **Virtual matrix:** This term is not commonly used to describe the concept outlined in the question. The term 'matrix' is often associated with a grid-like structure or a virtual reality environment, but not the broader interconnected network the question describes.

Q89. With reference to the rule/rules imposed by the Reserve Bank of India while treating foreign banks, consider the following statements:

1. There is no minimum capital requirement for wholly owned banking subsidiaries in India.
2. For wholly owned banking subsidiaries in India, at least 50% of the board members should be Indian nationals.

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

Answer - B

Explanation - Let's examine the two statements about the rules imposed by the Reserve Bank of India (RBI) for foreign banks operating as wholly owned subsidiaries in India:

1. There is no minimum capital requirement for wholly owned banking subsidiaries in India.
 - This statement is incorrect. The Reserve Bank of India requires foreign banks operating as wholly owned subsidiaries to maintain a minimum capital requirement. As of current regulations, the RBI mandates that these subsidiaries must have a minimum paid-up voting equity capital of ₹5 billion (₹500 crore).
2. For wholly owned banking subsidiaries in India, at least 50% of the board members should be Indian nationals.
 - This statement is correct. The RBI has set guidelines that require at least 50% of the board members of wholly owned banking subsidiaries in India to be Indian nationals. This measure ensures that there is adequate local representation in the governance of these banks.

Given this analysis, the correct answer is: B. 2 only

90. With reference to Corporate Social Responsibility (CSR) rules in India, consider the following statements:

1. CSR rules specify that expenditures that benefit the company directly or its employees will not be considered as CSR activities.
2. CSR rules do not specify minimum spending on CSR activities.

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

Answer - A

Explanation - Let's examine the statements regarding Corporate Social Responsibility (CSR) rules in India:

1. CSR rules specify that expenditures that benefit the company directly or its employees will not be considered as CSR activities.
 - This statement is correct. CSR activities should be aimed at community development and not at benefiting the company or its employees directly.
2. CSR rules do not specify minimum spending on CSR activities.
 - This statement is incorrect. As per the Companies Act, 2013, companies meeting certain criteria (like net worth, turnover, or net profit thresholds) are required to spend at least 2% of their average net profits of the last three financial years on CSR activities.

So, the correct answer is: A. 1 only

Q91. With reference to radioisotope thermoelectric generators (RTGs), consider the following statements:

1. RTGs are miniature fission reactors.
2. RTGs are used for powering the onboard systems of spacecrafts.
3. RTGs can use Plutonium-238, which is a by-product of weapons development.

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

Answer - B

Explanation - The correct answer is B. 2 and 3 only.

Here's why: **Statement 1** - Incorrect: RTGs (Radioisotope Thermoelectric Generators) are not miniature fission reactors. Fission reactors use nuclear fission, a process of splitting atoms to release a tremendous amount of energy. RTGs, on the other hand, utilize the natural radioactive decay of isotopes to generate heat, which is then converted to electricity through a process called thermoelectricity.

Statement 2 - Correct: RTGs are indeed a reliable power source for spacecraft, especially those venturing far from the sun where solar panels become ineffective. They provide consistent, low-level electric power for extended periods, making them ideal for probes, satellites, and rovers in deep space.

Statement 3 - Correct: Plutonium-238 is a common isotope used in RTGs due to its long half-life (the time it takes for half of the material to decay) and its ability to generate a steady heat output from its decay process. While it can be a byproduct of weapons development, there are also alternative ways to produce Plutonium-238 specifically for peaceful applications like RTGs.

Q92. Consider the following statements:

Statement-I: Giant stars live much longer than dwarf stars.

Statement-II: Compared to dwarf stars, giant stars have a greater rate of nuclear reactions.

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

Answer - D

Explanation - The correct answer is:

D. Statement-I is incorrect, but Statement-II is correct

- **Statement-I:** Giant stars do not live much longer than dwarf stars. In fact, giant stars have shorter lifespans compared to dwarf stars because they burn through their nuclear fuel at a much faster rate.
- **Statement-II:** Compared to dwarf stars, giant stars have a greater rate of nuclear reactions. This is correct as giant stars are more massive and have higher pressures and temperatures in their cores, leading to faster nuclear fusion rates.

Q93. Which one of the following is synthesised in the human body that dilates blood vessels and increases blood flow ?

- A. Nitric oxide
- B. Nitrous oxide
- C. Nitrogen dioxide
- D. Nitrogen pentoxide

Answer - A

Explanation - The correct answer is: A. Nitric oxide

Here's why:

Nitric oxide (NO) is a molecule produced by the inner lining of blood vessels in the human body. It acts as a vasodilator, meaning it relaxes the smooth muscle cells in the blood vessel walls, causing the vessels to widen and increasing blood flow. This helps to regulate blood pressure and ensure proper delivery of oxygen and nutrients throughout the body.

Nitrous oxide (B), also known as laughing gas, is a recreational inhalant with some medical uses as an anesthetic. However, it doesn't have the same vasodilatory effect as nitric oxide.

Nitrogen dioxide C and Nitrogen pentoxide (D) are air pollutants and not involved in blood vessel dilation in the human body.

Q94. Consider the following activities:

1. Identification of narcotics on passengers at airports or in aircraft
2. Monitoring of precipitation
3. Tracking the migration of animals

In how many of the above activities can the radars be used?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer - B

Explanation - Radars can be used in the following activities:

1. Identification of narcotics on passengers at airports or in aircraft: This is typically done using X-ray scanners or advanced imaging technologies like millimeter wave scanners, not traditional radar.
2. Monitoring of precipitation: Radars, specifically weather radars, are commonly used to monitor precipitation. They can detect rain, snow, and other weather conditions by bouncing radio waves off precipitation particles.
3. Tracking the migration of animals: Radars can be used to track the migration of birds and other animals. They are often used in ornithological studies to monitor bird migration patterns.

So, radars can be used in activities 2 and 3.

The correct answer is: B. Only two

Q95. Consider the following aircraft:

1. Rafael
2. MiG-29
3. Tejas MK-1



How many of the above are considered fifth generation fighter aircraft?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer - D

Explanation - Fifth-generation fighter aircraft are characterized by advanced stealth, superior agility, advanced avionics, and integrated computer systems. Let's consider the aircraft listed:

1. **Rafael (Rafale)**: This is a 4.5 generation multirole fighter aircraft developed by Dassault Aviation.
2. **MiG-29**: This is a fourth-generation multirole fighter aircraft developed by Mikoyan in the Soviet Union.
3. **Tejas MK-1**: This is a fourth-generation light multirole fighter aircraft developed by Hindustan Aeronautics Limited (HAL) in India.

None of the above aircraft are considered fifth-generation fighter aircraft.

The correct answer is: D. None

Q96. In which of the following are hydrogels used ?

1. Controlled drug delivery in patients
2. Mobile air-conditioning systems
3. Preparation of industrial lubricants



Select the correct answer using the code given below:

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

Answer - B

Explanation - Hydrogels are used in the following applications:

1. **Controlled drug delivery in patients**: Hydrogels are commonly used in biomedical applications, including controlled drug delivery systems, due to their ability to absorb and release drugs in a controlled manner.

2. Mobile air-conditioning systems: Hydrogels can be used in evaporative cooling systems, including mobile air-conditioning systems, where they help in the absorption and release of water to enhance cooling.
3. Preparation of industrial lubricants: Hydrogels are not typically used in the preparation of industrial lubricants. Lubricants generally require materials with specific viscosity and stability properties that hydrogels do not provide.

Based on this information, the correct answer is: B. 1 and 2 only

Q97. Which one of the following is the exhaust pipe emission from Fuel Cell Electric Vehicles, powered by hydrogen?

- A. Hydrogen peroxide
- B. Hydronium
- C. Oxygen
- D. Water vapour



Answer - D

Explanation - The exhaust pipe emission from Fuel Cell Electric Vehicles, powered by hydrogen, is:

D. Water vapour

Fuel cell electric vehicles (FCEVs) powered by hydrogen produce water vapour as the primary byproduct, as hydrogen reacts with oxygen in the fuel cell to generate electricity, with water being the only emission.

Q98. Recently, the term pumped-storage hydropower is actually and appropriately discussed in the context of which one of the following?

- A. Irrigation of terraced crop fields
- B. Lift irrigation of cereal crops
- C. Long duration energy storage
- D. Rainwater harvesting system

Answer - C

Explanation - The term pumped-storage hydropower is actually and appropriately discussed in the context of: C. Long duration energy storage

Pumped-storage hydropower is a type of hydroelectric power generation used for storing energy. During periods of low electricity demand, excess energy is used to pump water from a lower elevation reservoir to a higher elevation reservoir. During periods of high electricity demand, the stored water is released back down to the lower reservoir through turbines to generate electricity. This technology provides a way to balance supply and demand and store energy for long durations.

Q99. Membrane Bioreactors are often discussed in the context of:

- A. Assisted reproductive technologies
- B. Drug delivery nanotechnologies
- C. Vaccine production technologies
- D. Wastewater treatment technologies

Answer - D

Explanation - Membrane Bioreactors are often discussed in the context of: D. Wastewater treatment technologies.

Membrane Bioreactors (MBRs) combine a membrane process like microfiltration or ultrafiltration with a biological wastewater treatment process. They are used to improve the quality of treated wastewater and are known for their efficiency in removing contaminants.

Q100. With reference to the Indian economy, Collateral Borrowing and Lending Obligations are the instruments of :

- A. Bond market
- B. Forex market
- C. Money market
- D. Stock market

Answer - C

Explanation - Collateral Borrowing and Lending Obligations (CBLO) are instruments of the: C. Money market

CBLO is a money market instrument that facilitates borrowing and lending operations on a collateralized basis. It is used by banks, financial institutions, and other entities to manage their short-term liquidity requirements.





Have any doubt regarding any topic?

Just scan the QR code and message your
Super Mentor on WhatsApp.

Scan QR now



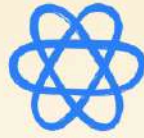
backed by



Combinator



for Startups



SuperKalam is always there for you **24x7**

Practice unlimited questions

Get **in-depth analysis & explanations** of your attempt with strong & weak areas to improve

Instantly evaluate MAINS Answer

Attempt any GS or essay questions and get it evaluated instantly with marks & detailed feedback.

Ask concepts or doubts anytime

Learn any concept and ask your questions **24x7** on any topic and get instant resolution.

[Ask Now](#)

superkalam.com

YOUR PERSONAL SUPER MENTOR IS ALWAYS WITH YOU!

Contact us for any queries: ask@kalam.in



[@superkalam_](https://www.youtube.com/@superkalam_)



[superkalam.com](https://www.superkalam.com)



[superkalam](https://www.telegram.com/superkalam)

