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T.B.C.: DFGT-S-HTG

Serial No.

TEST BOOKLET

Roll No.

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Time Allowed: 120 Min. Maximum Marks: 200





I N S T R U C T I O N S

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET *DOES NOT* HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission / discrepancy will render the Answer Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. *DO NOT* write anything else on the Test Booklet.
4. This test Booklet contains **100** items (questions). Each item is printed both in English. Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose *ONLY ONE* response for each item.
5. You have to mark all your responses *ONLY* on the separate Answer Sheet provided. See directions in the Answer Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator *only the Answer Sheet*. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. Penalty for wrong answers:
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one-third of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above to that question.
 - (iii) If a question is left blank. i.e., no answer is given by the candidate, there will be no penalty for that question.

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**Give Your Test Anywhere
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How to Self-Analyze Prelim Tests Effectively?

S.no.	Types of Mistakes	Total Questions	Subject:
1.	Read the question in a hurry or wrong reading.		Marks Questions Attempt Iteration  100% Sure  50-50  Less than 50%  Tukka
2.	Mistake due to lack of Revision.		
3.	Completely new questions / unknown - Static.		
4.	Completely new questions / unknown - Current affairs.		
5.	Eliminated at least two options but made a mistake.		
6.	Left/wrong/mistake due to lack of time management (lengthy paper).		
7.	Wrong Marking in OMR Sheet.		
8.	Intelligent guess - attempted (Right v/s Wrong Number).		
9.	Due to an error in the question paper (Printing Or Interpretation).		
10.	Miscellaneous reasons (specify).		

Wrong reading: True/False; Numerical Error, Strong keyword (All, Only, NOT...), Pre-notion (missing word)

KPI Score

Kalam Performance Index will be provided by institute after every test.

Rank

Student Performance Index (SPI)

Mark Your Performance (✓)

KPI Plus 30	Excellent
KPI Plus 20	Very good
KPI Plus 10	Good
Equal to KPI	Average
Less than KPI	Need Improvement

Subject Themes : Improvement Needed (ITN)

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

SAR Based Performance Analysis: Test

1. When women are paid less than men for the same amount of work, which of the following under the Constitution of India gets violated:

1. Right against Exploitation.
2. Directive Principles of State policy
3. Right to reputation

How many of the statements given above are correct?

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

2. Consider the following statement with reference to the Parliamentary terminologies:

1. Naming a Member is a ceremonial tradition honouring a member for exemplary service.
2. Leave of the House is sought by a member wishing to obtain permission for absence from sittings.
3. Crossing the Floor refers to shifting of members from the ruling party side to the opposition party side.
4. Valedictory remarks involve the Chairman alerting the House to a member's misconduct for potential suspension.
5. Expunction is a process for officially removing a parliamentarian from their position due to misconduct or corruption.

How many of the statements given above are correct?

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

3. Consider the following statements:

1. Directive Principles of State Policy are constitutional guidelines issued to the State for ensuring individual welfare.
2. It is mandatory upon States to provide these rights immediately.
3. The Directive Principles resemble the 'Instrument of Instructions' enumerated in the Government of India Act of 1919.

How many of the statements given above are *not* correct?

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

4. Consider the following statements:

1. The First Information Report is a formal document of accusation prepared by law-enforcement agencies after the completion of investigation of a crime.
2. The Chargesheet is the initial report that is made to police in India to initiate an investigation into a criminal matter.
3. Both FIR and Chargesheet are considered as a 'public document' in dealing with legal affairs.

How many of the statements given above are *not correct*?

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



5. With reference to the One Nation, One Subscription (ONOS) scheme, Consider the following statements:

1. The ONOS scheme is coordinated by the Information and Library Network (INFLIBNET), an autonomous body under the Ministry of Electronics and Information Technology.
2. It aims to provide universal access to scientific research and academic journals for all educational institutions under both the Central and State Governments.
3. ONOS enhances equitable access to research by benefiting institutions in Tier-2 and Tier-3 cities, thereby bridging the knowledge gap.

Which of the statements given above is/are correct?

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

6. Consider the following statements:

1. A writ of Certiorari is only preventive in nature, whereas a writ of Prohibition is both preventive and curative.
2. Both Certiorari and Prohibition can be issued against legislative bodies but not against private individuals.
3. The writ of Prohibition acts as a safeguard of individual liberty against arbitrary detention.

Which of the above statements given above is/are correct?

- (a) 1 and 3 only (b) 1 and 2 only
(c) 2 and 3 only (d) None

7. Consider the following countries:

- | | |
|-------------|----------------|
| 1. Brunei | 2. Indonesia |
| 3. Malaysia | 4. Philippines |
| 5. China | |

How many of above is part of Indo-Pacific Economic Framework for Prosperity (IPEF)

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

8. Which of the following statements is correct with respect to the Fundamental Rights under part III of the Indian Constitution?

- (a) The Fundamental Rights can be suspended during a National Emergency, except those under Articles 19 and 20.
- (b) The Fundamental Rights are sacrosanct in nature.
- (c) The application of Fundamental Rights to the members of the Armed forces can be abrogated by the President.
- (d) None of the above statements a, b and c given above is correct.

9. Consider the following statements regarding the Inter-State Water Disputes Act, 1956:

Statement-I: The Act empowers the Central Government to constitute tribunals for adjudicating disputes between states concerning the waters of inter-state rivers and river valleys.

Statement-II: The decisions of these tribunals are final and binding on the parties, and no court, including the Supreme Court, has jurisdiction over disputes referred to such tribunals.

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

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

10. With reference to the Arabian Sea, consider the following statements:

1. The Arabian Sea is bounded by the Gulf of Oman in the north.
2. Oman and Ethiopia are neighbouring countries of the Arabian sea.
3. The Gulf of Aden connects the Arabian Sea to the Red Sea in the west.

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

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

II. Which of the following option correctly describe the Personal Income (P.I) ?

- (a) $P.I = National\ Income - Undistributed\ profits + Net\ interest\ payments\ made\ by\ households - Corporate\ tax + Transfer\ payments\ to\ the\ households\ from\ the\ government\ and\ firms.$
- (b) $P.I = National\ Income - Undistributed\ profits - Net\ interest\ payments\ made\ by\ households + Corporate\ tax - Transfer\ payments\ to\ the\ households\ from\ the\ government\ and\ firms.$
- (c) $P.I = National\ Income - Undistributed\ profits - Net\ interest\ payments\ made\ by\ households - Corporate\ tax + Transfer\ payments\ to\ the\ households\ from\ the\ government\ and\ firms.$
- (d) $P.I = National\ Income + Undistributed\ profits + Net\ interest\ payments\ made\ by\ households + Corporate\ tax -$

Transfer payments to the households from the government and firms.

12. With reference to the objectives of financial inclusion in the country, consider the following events:

1. Introduction of the Lead Bank scheme
2. Setting up of India Post Payment Bank
3. Launching of Pradhan Mantri Jan Dhan Yojana
4. Introduction of Kisan Credit Card scheme

Which of the following is the correct chronological sequence of the above events?

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

13. Which one of the following best describes the concept of 'Green Shoe Option'?

- (a) Option available to underwriters to sell additional shares during an Initial Public Offering (IPO)
- (b) Letter issued to a lending institution by a stakeholder of the company to support their attempt for financing asked by that company
- (c) Online bill discounting option available to cash-starved MSMEs to raise funds by selling their trade receivables to corporates.
- (d) Resettlement of a large number of people, uprooted from their land due to environmental crisis to settle them in collective farming.

14. Which of the following statements is correct with reference to Off-Budget Borrowing?

- (a) These are loans taken directly by the central government from international markets.
- (b) These borrowings are used for government expenditure.
- (c) This is counted in the fiscal deficit under separate accounts.
- (d) The borrowings form part of the Consolidated Fund of India.

15. Which of the following is *not* one of the roles played by the 'invisible hand' in a free market economy as described by Adam Smith?

- (a) Adjusting prices upwards when there is excess demand in the market to reach equilibrium.
- (b) Adjusting prices downwards when there is excess supply in the market to reach equilibrium.
- (c) Facilitating the efficient allocation of resources by market forces without external intervention.
- (d) Determining the optimal levels of import tariffs to be imposed on individual goods.

16. With reference to Consumer Price Index (CPI) and Wholesale Price Index (WPI), consider the following statements:

- 1. CPI includes the effect of indirect taxes, whereas WPI does not.
- 2. An increase in WPI inflation reflects in CPI inflation after a time lag.
- 3. A rise in food prices impacts WPI more than CPI due to the higher weightage of food in the WPI basket compared to the CPI basket.

How many of the statements given above are correct?

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

17. Consider the following statements:

- 1. Recovery of loans from the public sector units
- 2. Grants-in-aid from international organizations
- 3. Loans taken from the National Small Savings Fund
- 4. Surplus profits of the Reserve Bank of India transferred to the Government

How many of the above forms part of revenue receipt in the budget of India?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

18. Consider the following statements regarding Domestic Systemically Important Banks (D-SIBs) in India:

- 1. D-SIBs are banks classified as "Too Big to Fail" due to their potential to cause significant economic disruptions in case of failure.
- 2. The Reserve Bank of India mandates additional Common Equity Tier 1 (CET1) capital requirements for D-SIBs.
- 3. Only Public Sector banks can be classified as D-SIBs in India.
- 4. Only banks with assets exceeding 5% of India's GDP can be considered for D-SIB classification.

Which of the above statements are correct?

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

19. With reference to India-Maldives relations, consider the following statements:

1. India and Maldives have recently adopted the "Comprehensive Economic and Maritime Security Partnership".
2. India is helping in developing a Greater Male Connectivity Project in Maldives.
3. The SAARC Currency Swap Framework has been operational since 2022.

Which of the above statements are correct?

- (a) One only
- (b) Two only
- (c) All three
- (d) None of the above

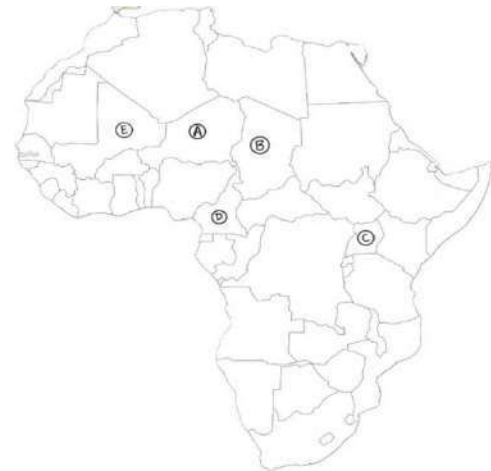
20. With reference to Foreign Currency Non-Resident (FCNR) deposits, consider the following statements:

1. FCNR deposits allow Non-Resident Indians (NRIs) to save in foreign currencies, eliminating the risk of exchange rate fluctuations.
2. The RBI's 2013 FCNR scheme aimed to attract foreign currency inflows by offering banks the option to swap foreign funds into rupees at concessional rates.

How many of the statements given above is/are correct?

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

21. Consider the following pairs with reference to the map of Africa:



- | | |
|----------------|-----------|
| A : Chad | B : Sudan |
| C : Kenya | D : Gabon |
| E : Mauritania | |

How many of the pairs are correctly matched?

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

22. Consider the following statements regarding protected areas in India.

1. The Wildlife Protection Act, 1972, governs the designation of protected areas in India, ensuring legal safeguards for wildlife and their habitats.
2. Unlike National Parks, Wildlife Sanctuaries allow certain recreational activities.
3. The Biosphere Reserve Programme was launched by the Central Government in 1986 and is fully funded by the Centre for conservation efforts.
4. The National Board for Wildlife (NBWL), a statutory body, is chaired by the Ministry of Environment, Forest and Climate Change.

How many of the statement given above are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

23. Match the following species with their functions.

Species	Functions
1. Pneumatophores	A. seeds germinate in the tree itself before failing to the ground
2. Halophytes	B. Stand arching prop roots down into the water
3. Viviparity	C. Salt tolerant
4. Rhizophora	D. blind roots for respiration in the anaerobic soil conditions.

Select the correct answer using the code given below:

- (a) 1-A 2-D 3-C 4-B
- (b) 1-C 2-A 3-B 4-D
- (c) 1-D 2-C 3-A 4-B
- (d) 1-B 2-D 3-C 4-A

24. In the realm of environmental and ecological practices, Surangam and Zing refers to:

- (a) Living root bridges constructed by the Khasi and Jaintia tribes in Meghalaya.
- (b) Traditional water harvesting practices used in the Western Ghats and Ladakh.
- (c) Shifting cultivation practices in Manipur and Nagaland.
- (d) Terracing methodologies employed in the mountainous regions of the Shiwaliks.

25. Which of the following is *not* a bird?

- (a) Black Francolin
- (b) Himalayan Quail
- (c) Malabar Civet
- (d) Common Emerald Dove

26. Consider the following statements:

Statement I: Tantalum is the most corrosion resistant metal in common use today.

Statement II: When exposed to air, Tantalum forms an oxide layer.

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

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

27. Consider the following statements:

Statement-I: In the entire regions across the world the oceans appear blue in colour.

Statement-II: Oceans appear blue due to the absorption and scattering of sunlight.

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

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

28. Consider the following statements about additive manufacturing:

1. Additive manufacturing is a technique where objects are fabricated layer by layer, using material based on precise digital models.
2. The first post office structure in India created using additive manufacturing is located in Karnataka.
3. It can create complex geometries that are often unachievable with traditional subtractive manufacturing methods.

How many of the above statements are correct?

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

29. Which of the following statements regarding "radiation sterilization technology" that is often mentioned in the news, is/are correct?

1. It is a physical process of irradiation of medical products through use of gamma-rays or electron accelerators.
2. Its applications extend beyond medical sterilization, including applications in agriculture, waste management, and the petrochemical industry.
3. While India permits radiation sterilization of medical devices and municipal solid waste, it currently prohibits its use for food preservation.

How many of the statements given above are correct?

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

30. With reference to Deep fake technology, consider the following statements:

1. It uses Deep Learning technology which is a type of machine learning that learns from large amounts of data to create fake content.
3. Deepfakes contravene the fundamental right to privacy as delineated in Article 21 of the Constitution.

Which of the statements given above are correct?

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

31. Consider the following pairs

List I	List II
1. Cirrus clouds	These are thin clouds having a feathery appearance and are always white in colour.
2. Nimbus clouds	These are extremely dense and opaque to the rays of the sun.
3. Stratus Clouds	These are layered clouds covering large portions of the sky.
4. Cumulus Clouds	These look like cauliflower-shaped clouds and generally formed at a height of 4,000 -7,000 m.

How many of the pairs given above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

32. Consider the following pairs:

1. Eight Degree Channel	:	Separates Andaman Islands and Nicobar Islands.
2. Nine Degree Channel	:	Separates the Minicoy Island and Maldives.
3. Ten Degree Channel	:	Separates Minicoy from the Lakshadweep archipelago.

How many of the pairs given above are correct?

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

33. Which of the following best describes the significance of the Ekman Spiral in oceanography?

- (a) The Ekman Spiral explains the formation of hurricanes in the Atlantic Ocean.
- (b) The Ekman Spiral influences the migration patterns of marine mammals.
- (c) The Ekman Spiral is crucial for understanding the vertical movement of water and oceanic circulation.
- (d) The Ekman Spiral primarily affects the formation of coral reefs in tropical regions.

34. Which of the following statements regarding the distribution of mineral resources in India is correct?

- (a) The alluvial plains of northern India are mineral-rich.

- (b) Coal reserves are uniformly distributed across all regions of India.
- (c) New petroleum reserves have been discovered in the Krishna-Godavari and Kaveri basins.
- (d) None of the above statements are correct.

35. Consider the following statements:

Statement I: The Standard Meridian of India is located at 82°30" East longitude.

Statement II: The 82°30' East longitude approximately divides India into two equal halves.

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

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

36. Consider the following international ports:

- 1. Chabahar Port - Iraq
- 2. Sittwe Port - Myanmar
- 3. Colombo Port - SriLanka
- 4. Haifa Port - Israel

How many of the pairs given above are correctly matched and the Government of India has invested in that port?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

37. With reference to Desai-Liaquat Pact, consider the following statements:

1. It recommended an equal number of persons nominated by Congress and the League in the central legislature.
2. 20% of reserved seats for minorities especially the scheduled castes and the Sikhs were to be provided in the interim government.
3. The government would function within the existing framework of the Government of India act, 1935.

How many of the statements given above is/are correct?

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

38. He Wrote Swarajya Sastra, Geeta Pravachane, Teesri Shakti or The Third Power. He established the Brahma Vidya Mandir in 1959 and was the first international figure to receive the Ramon Magsayay Award in 1958. He was awarded Bharat Ratna posthumously in 1983. He was:

- (a) Charan Singh
- (b) Jagjivan Ram
- (c) Atal Bihari Vajpayee
- (d) Acharya Vinoba Bhave

39. With respect to the Committee or commission set up for educational reform in pre-independence time, arrange the following in chronological order.

- (a) Hartog Committee, Raleigh Commission, Sadler Commission, Hunter Commission

(b) Hunter Commission, Hartog Committee, Raleigh Commission, Sadler Commission

(c) Hartog Committee, Hunter Commission, Sadler Commission, Raleigh Commission

(d) Hunter Commission, Raleigh Commission, Sadler Commission, Hartog Committee

40. 'Stri Purush Tulana', considered the India's first modern feminist text, was written by:

- (a) Tarabai Shinde
- (b) Madam Bhikaji Cama
- (c) Ramabai Ranade
- (d) Kadambini Ganguly

41. Which of the following statements is/are *not* correct about the Quit India Movement?

- (a) The Communist Party of India and the Hindu Mahasabha did not support the movement.
- (b) Gandhi refused to condemn the violence of the people.
- (c) Indian bureaucracy supported the Quit India Movement massively.
- (d) It is also called as "August Revolution".

42. "It is one of the oldest traditional theatre forms of Kerala, is based on Sanskrit theatre traditions. The characters of this theatre form are Chakyaar or actor, Naambiyaar. The Sutradhar or narrator and the Vidushak or jesters are the protagonists. It is the Vidushak alone who delivers the dialogues. Emphasis on hand gestures and eye movements makes this dance and theatre form unique."

Identify the form of theatre from the passage given above.

- (a) Koodiyattam
- (b) Mudi yettu
- (c) Dashavatar
- (d) Therukoothu

43. Consider the following statements with reference to the Bharatiya Nagarik Suraksha Sanhita Act:

1. It allows medical examination of the accused, including in rape cases, upon the request of any police officer.
2. Handcuffs can be used by police to arrest any person.
3. It permits up to 15 days of custody, during which bail can be denied for the entire period.

How many of the statements given above are correct?

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

44. Consider the following statements reference to Light pollution.

1. The International Dark-Sky Association (IDA) is a non-profit organization dedicated to mitigating light pollution.
2. Light pollution primarily affects urban and industrial areas and is not prevalent in rural areas.

Which of the statements given above are correct?

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

45. Which of the following institution or bodies was/were created through/amendment in Wildlife Protection Act, 1972?

1. Wildlife Advisory Board

2. Chief Wildlife Warden
3. Wildlife Trust of India
4. Conservation Reserve and Community Reserve
5. National Biodiversity Authority
6. National Tiger Conservation Authority.
7. Wildlife Crime Control Bureau

Select the correct answer using the code given below:

- (a) 2, 3 and 7 only
- (b) 1, 4, 5 and 6 only
- (c) 1, 2, 4, 6 and 7 only
- (d) All of the Above

46. Consider the following statement and rearrange the food cycle of Chemosynthesis from Lower Trophic to Top of the trophic level:

1. Bacteria absorb hydrogen sulfide and carbon dioxide from vent water and oxygen from seawater.
2. The bacteria grow and reproduce, and are eaten or hosted as internal symbionts by other animals.
3. Hot water gushing from hydrothermal vents is saturated with dissolved chemicals.
4. The bacteria use energy released by oxidizing sulfur to make organic molecules.

Select the correct code to depict the food cycle of Chemosynthesis:

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



47. Consider the following statements about the Soil Organic Matter (SOM).

1. Soil Organic Matter (SOM) constitutes the residues of plants and animals within the soil undergoing various stages of decomposition.
2. It influences numerous soil characteristics including hydrology, structure, and ecological habitat.
3. SOM is one of the three global indicators of Land Degradation Neutrality (LDN).

How many of the above statements are correct?

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

48. Consider the following statements regarding Feed-In Tariff (FIT).

1. FIT is a policy mechanism aimed at promoting renewable energy sources by ensuring producers receive a guaranteed price above the market rate.
2. Distribution Companies (Discoms) have the authority to implement FIT regulations and enforce compulsory procurement of offshore wind power.

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

49. Consider the following statements regarding Tropical Rain Forest Biome.

1. Tropical rainforests are often referred to as the "world's largest pharmacy."

2. A distinguishing characteristic of tropical rainforests is the presence of distinctive buttress roots on trees.
3. Kudremukh National Park in India exemplifies the Tropical Rainforest Biome.

How many of the statements given above are correct?

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

50. Which of the following is correct in context of the Executive powers of the Governor?

- (a) All executive actions of the government are taken on his own discretion.
- (b) He appoints and can remove the chairman and members of the state public service Commission.
- (c) He appoints and can remove the Advocate General of a state
- (d) He nominates one-fifth of the members of the state legislative council from amongst persons having practical experience in literature, science, art, cooperative movement and social service.

51. Which of the following will necessarily occur on the resignation or death of an incumbent Prime Minister?

- (a) The Lok Sabha will be dissolved automatically.
- (b) The President will elect the new Prime Minister from existing members.
- (c) Council of Ministers will be dissolved automatically.
- (d) The senior most leader of his party will be appointed as Prime Minister automatically

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52. Which of the following statements in respect to the grants in the parliament of India is *not* correct?

- Vote of Credit is granted for meeting an unexpected demand upon the resources of India.
- Additional Grant is granted when the amount authorised by the Parliament through the appropriation act for a particular service for the current financial year is found to be insufficient for that year.
- Excess Grant is granted when money has been spent in excess of the amount granted for that service.
- Token Grant is granted when funds to meet the proposed expenditure on a new service can be made available by reappropriation.

53. Consider the following statements:

- Nayakas (Amaranayakas) were military chiefs granted Amaram lands in return for military service.
- Maniyam, Karnam, Talaiyari, and Senabhova were key officials in the Ayagar system.
- The Nayankara system had similarities with the Iqta system of the Delhi Sultanate.

How many of the statements given above are correct?

- Only one
- Only two
- All three
- None

54. With reference to the Palaeolithic age, consider the following statements:

- Tools made of animal bones are found at Kalpi and Kurnool area.
- They were the first hominins to develop agriculture and domesticate animals.
- Their toolkits primarily consisted of handaxes, cleavers, and choppers for basic tasks.

How many of the statements given above are correct?

- Only one
- Only two
- All three
- None

55. Consider the following statements:

Statement I: According to the doctrine of Syadvada, all our knowledge is inherently partial and contextual.

Statement II: Syadvada is a foundational principle of Buddhist philosophy.

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

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.
- Statement-I is correct but Statement-II is incorrect.
- Statement-I is incorrect but Statement II is correct.

56. With reference to Ashtapradhan in Maratha Administration, consider the following statements:

1. They were the council of ministers, who assisted the king during Shivaji's reign.
2. During Shivaji's time, the offices under Ashtapradhan were hereditary.
3. All the ministers under Ashtapradhan used to participate in war.
4. Shivaji pioneered the establishment of all the offices under the Ashtapradhan, marking the first creation of such offices in the political history of India.

How many of the statements given above are correct?

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

57. Which of the following best describes the literary work 'Paumachariya' written by Acharya Vimalasuri?

- (a) It is a Jain retelling of the Hindu epic Ramayana, depicting the life of Rama, referred to as 'Padma'.
- (b) It is a Buddhist interpretation of the Mahabharata, one of the two major Sanskrit epics.
- (c) It is a Jain version of the Mahabharata war narrative, presenting an alternative perspective.
- (d) It is a Buddhist adaptation of the Ramayana epic, reinterpreting the story of Rama and his exile.

58. With reference to Indian history, consider the following pairs:

Authors	-	Works
1. Vikramorvashi	-	Vishakhadatta
2. Abhigyan Shakuntalam	-	Kalidasa
3. Priyadarsika	-	Banabhatta
4. Nitisara	-	Hala

How many of the above pairs are correctly matched?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

59. Consider the following statements:

1. The Nalayira Divyaprabhandam is a compilation of devotional poems composed by the revered Nayanar saints.
2. Appar, Sambandar and Sundarar are the most prominent Nayanar saints.
3. Tevaram refers to a collection of hymns specifically dedicated to the worship of Shiva.

How many statements given above is/are correct?

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

60. With reference to the effect of Exchange Rate and Purchasing Power Parity on exports and imports, choose the correct answer from the options given below:

- (a) When the nominal exchange rate is greater than the purchasing power parity, the home country will export.
- (b) When the nominal exchange rate is less than purchasing power parity, the home country will import.
- (c) When the nominal exchange rate equals purchasing power parity, exports will stop.
- (d) When the nominal exchange rate equals purchasing power parity, exports will increase.

61. Which of the following statements may justify the need for buying a Negative Yield Bond?

- 1. Investment Funds have to meet certain requirements, including asset allocation.
- 2. Foreign investors buy the negative yield bond in anticipation of the rise in the currency's exchange rate.
- 3. When there is deflation, investors look to buy a Negative Yield Bond.
- 4. Negative yield bonds might sometimes result in fewer losses than those in the equity markets.

Select the correct answer using the codes given below:

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

62. Which of the following characterize a situation of a 'liquidity trap' in an economy?

- 1. Decline in bond prices

- 2. Lower interest rates
- 3. High savings rates

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

63. Consider the following pairs:

Five-year plan	-	Objective
1. Third Five-year Plan	-	Implemented the strategy of "import substitution" aimed at decreasing reliance on foreign goods
2. Eight Five-year Plan	-	Emphases on liberalization and globalization in the Indian Economy.
3. Sixth Five-year Plan	-	Focus on poverty alleviation and self-reliance
4. Second Five-year Plan	-	Emphasis on industrialization

How many of the pairs given above is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four



64. Consider the following:

1. Unemployment insurance and welfare
2. Open market operations
3. Personal Income Tax
4. Priority sector advances

How many of the above is/are function as an automatic stabilizer in context of Fiscal and monetary policies of an economy?

- (a) Only one (b) Only two
(c) Only three (d) All four

65. With respect to the date, 3rd January, which of the following statements is/are correct?

- (a) The Intertropical Convergence Zone (ITCZ) shifts toward the Northern Hemisphere
- (b) Moon comes closer to the Earth and a supermoon event takes place.
- (c) The Winter Solstice is observed in the Northern Hemisphere.
- (d) Earth reached the point where it is closer to the Sun.

66. Match the following types of volcanoes with their respective characteristics:

Volcano	-	Characteristics
1. Stratovolcano	-	Tall, steep-sided volcano with explosive eruptions
2. Cinder Cone	-	Cone-shaped with steep sides, formed from ejected volcanic fragments.
3. Shield Volcano	-	Broad, gently sloping volcano with non-explosive, fluid lava flows.

4. Composite Volcano	-	Symmetrical volcano with alternating layers of ash, lava, and volcanic rocks.
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How many of the above pairs are correctly matched?

- (a) Only one pair
(b) Only two pairs
(c) Only three pairs
(d) All four pairs

67. Which one of the following options best defines the 'One Dobson unit'?

- (a) The thickness of the ozone layer
- (b) The concentration of ozone in a column of air
- (c) The distance from Earth's surface to the top of the atmosphere
- (d) The amount of ozone at sea level

68. Consider the following statements:

1. The occurrence of fronts are the typical features of tropical and polar regions.
2. In the northern hemisphere, frontogenesis happens in anti-clockwise direction whereas in the southern hemisphere, it happens in clockwise direction.
3. In Stationary Front, the wind motion on both sides of the front is parallel to the front.
4. Frontolysis refers to the strengthening or development of a weather front.

How many of the statements given above are correct?

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



69. Consider the following statements:

Statement-I: The Atlantic Graveyard is the place where chances of Shipwrecks Occurs.

Statement-II: The Cold Labrador Current joins the warm Gulf stream at Nova Scotia.

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

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

70. Consider the following statements regarding Groundnut:

1. This tropical crop thrives in temperatures ranging from 20° to 30°C and demands an extended warm growing season.
2. It is a rotational crop and it contributes to atmospheric nitrogen fixation.
3. It is primarily a kharif crop but can be cultivated during the rabi season.

How many of the above statements is/are correct?

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

71. Consider the following pairs:

Act/ Legislation	:	Recommendations/Provisions
I. Government of India Act, 1858	:	This act abolished the company rule.

2. Indian Council Act, 1891	:	Supreme Court to be established at Calcutta.
3. Indian Council Act, 1861	:	The act empowered the Viceroy to issue ordinances.

How many of the above pairs is/are correctly matched?

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

72. Who of the following established the "Dakshina Bharat Hindi Prachar Sabha" that aims to propagate Hindi in Southern Indian states ?

- (a) Madan Mohan Malaviya
- (b) Mahatma Gandhi
- (c) Bal Gangadhar Tilak
- (d) K. B. Hedgewar

73. Consider the following statements:

1. 'Amar Sonar Bangla', the national anthem of present-day Bangladesh, was composed by Rabindranath Tagore.
2. Madam Bhikaji Cama became the first person to hoist Indian flag on foreign soil in Berlin, Germany.
3. The goal of the Indian National Congress as "self-government or swaraj" was formally declared by Bal Gangadhar Tilak.

How many of the statements given above are correct?"

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

74. Consider the following statements:

1. Abanindranath Tagore broke the domination of the Victorian naturalism over Indian art.
2. Jagdish Chandra Bose was the first recipient of the scholarship offered by the Indian Society of Oriental Art.
3. Nandalal Bose pioneered research in science.
4. The Indian fairy tales, Thakurmar Jhuli (Grandmother's tales), were written by Daksinaranjan Mitra Majumdar.

How many of the statements given above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

75. With respect to equality and liberty principles, which of the following statements is true?

- (a) Upholding principle of liberty would mean compromising with the equality principles.
- (b) Without equality, liberty in society may not be possible.
- (c) Equality in Indian polity seems to promote identical treatment, and equal shares.
- (d) Affirmative actions in a State contravene the principle of liberty.

76. Which of the following statement is *not* correct about Article 20 of the Indian Constitution?

- (a) The protection against self-incrimination does not extend to the compulsion to give blood specimens.
- (b) As per article 359, rights guaranteed by article 20 cannot be suspended during National Emergency.

(c) It is applicable to a legal person like a company.

(d) The protection against double jeopardy is not available in proceedings before judicial tribunals.

77. Which of the following options correctly describes the term conurbation?

(a) A region where population size is not the only criterion and the functional contrasts between villages and towns may not be always clear-cut.

(b) A region that has outstripped its local or regional rivals and has the most complex associative life.

(c) A region where the number of millions of cities is increasing and the population in such urban area is growing.

(d) A region of a large area is formed by merger of originally separate towns or cities.

78. National Income estimates in India are prepared by?

- (a) NITI Aayog
- (b) Reserve Bank of India
- (c) National Statistical Office
- (d) Indian Statistical Institute

79. According to this economic theory, when a family's income rises, the proportion of that income spent on food declines while the proportion spent on other items—like luxury items—increases.

Which economic theory/law is discussed above?

- (a) Veblen Goods Law
- (b) Giffen Goods Law
- (c) Engel's Law
- (d) Demand Law

80. With reference to Treasury Bills (T-Bills), consider the following statements:

1. T-bills offer long-term investment opportunities, generally for more than a year.
2. T-bills offer regular interest rate.
3. Foreign Portfolio Investment (FPI) are allowed to invest in T-Bills.

Which of the statements given above is/are correct?

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

81. Which of the following statements regarding the term 'Ecological Niche' is correct?

- (a) Organisms with a broad niche are called Specialists
- (b) It involves the physical space occupied by an organism along with its role in the community
- (c) It is well developed in Primary Successions.
- (d) It is dependent solely on the biotic interactions within an ecosystem.

82. It was established in 1982, as a national park. It was inscribed a World Heritage Site by UNESCO in 1988. The Park was established as Sanjay Gandhi National Park by Notification in 1982 but was later renamed. Some 312 floral species that include 17 rare species have been found here. Fir, birch, rhododendron, and juniper are the main flora.

Which of the following National Park has been described in the passage given above?

- (a) Gangotri National Park
- (b) Jim Corbett National Park
- (c) Nanda Devi National Park
- (d) Dudhwa National Park

83. With reference to Acid rain, consider the following:

1. The major causes are carbon monoxide and nitrogen emissions.
2. Acidic rain water can leach aluminum from soil clay particles and then flow into streams and lakes.
3. Acid rain affects trees and undergrowth in forest.

How many of the statements given above are correct?

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

84. With reference to the differences and similarities between the Geostationary and Geosynchronous orbits, consider the following statements:

1. Both orbits are around similar distance vertically above the earth surface.
2. While Geostationary orbit is in the same plane as the Equator, Geosynchronous orbits can be inclined at any angle to the Equator.
3. Satellites in both appear fixed at the same spot in the sky.

How many of the above statements are correct?

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

85. With reference to Stem Cells, consider the following statements:

1. Embryonic Stem cells are found only during the early stages of development.
2. Induced pluripotent stem cells (iPSC's) are present in almost all organs of the human body.

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

86. With reference to terms related to observation and understanding of the Universe, consider the following statements:

1. Ergosphere is a region surrounding a rotating black hole.
2. Event Horizon in black hole is the point of no return beyond which no radiation can escape.
3. Singularity is a point in space-time where the laws of physics break down.

How many of the above statements is/are *incorrect*?

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

87. Consider the following statements regarding bots.

1. Bots often imitate or replace a human user's behaviour.

2. Web crawlers bots can scan content on webpages all over the Internet.

Which of the above statements is/are correct?

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

88. Consider the following statements:

Statement I: The Mines and Minerals (Development and Regulation) (MMDR) Amendment Act, 2021 significantly increased the ease of doing business in the mining sector by allowing captive mines to sell all their minerals in open markets.

Statement-II: The Act ensures continuity of valid rights, approvals, and clearances for subsequent lessees through transfer upon lease expiry or termination, reducing bureaucratic hurdles for new mine operations.

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

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



89. With reference to the 'vegetative propagation', consider the following statements:

1. Old and economically low productive fruit plants can be converted into superior ones using this method.
2. New varieties of plants can be developed through vegetative propagation.
3. The Water Hyacinth, also known as the Terror of Bengal, exhibits rapid growth through vegetative propagation.
4. Virus-free saplings can be produced by employing tissue culture techniques.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

90. Which one of the following option about curative petitions in the Indian judicial system is *not* correct?

- (a) The concept of the curative petition is not mentioned in the Indian Constitution.
- (b) It must only be heard by the bench of five or more judges including Chief Justice of India and the judges who dismissed review petition.
- (c) A petition needs to be filed within 30 days from the date of judgement or order.
- (d) All of the above

91. Which of the following is *not* a fundamental duty mentioned in the Constitution of India?

- (a) To abide by the Constitution and respect its ideals and institution.
- (b) To uphold and protect the sovereignty, unity and integrity of India.
- (c) To promote international peace and security.

(d) To value and preserve the rich heritage of our composite culture.

92. Consider the following statements with respect to the Nobel Prize in Chemistry 2024:

1. The Nobel Prize in Chemistry has been awarded to Geoffrey Hinton and John Hopfield for their groundbreaking advancements in protein structure prediction.
2. It revolutionized Protein structure by predicting their complex three-dimensional structures them.
3. Surprisingly it does not use any AI to predict the structure of virtually all 200 million proteins based solely on their amino acid sequences.
4. It will help in breaking down plastic and other pollutants.

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

93. With reference to the India State of Forest Report (ISFR) 2023, consider the following statements:

1. India's forest and tree cover combined accounts for over 30% of its geographical area.
2. Madhya Pradesh has the largest forest cover in terms of area among all states in India.
3. India has achieved its target of creating an additional carbon sink of 2.5-3.0 billion tonnes of CO₂ equivalent by 2030.

How many of the statements given above are correct?

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

94. With reference to ISRO's Space Docking Experiment (SpaDeX), consider the following statements:

1. The primary objective of SpaDeX is to validate docking technology for small spacecraft.
2. SpaDeX was launched using the GSLV-Mk III vehicle from Sriharikota.
3. The two spacecraft involved in the mission will operate in a geostationary orbit at 476 km above Earth.

How many of the statements given above are correct?

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

95. With reference to the Great Nicobar Biosphere Reserve, consider the following statements:

1. Along with Car Nicobar, Great Nicobar forms the northernmost part of the Nicobar Islands.
2. The Mongoloid Shompen tribe lives in the forest of the biosphere reserve.
3. Galathea National Park and Campbell Bay National Park are part of the Great Nicobar Biosphere Reserve.
4. Turtles like Olive Ridley and Leatherback turtles nest in this Biosphere Reserve.

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

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

96. Which of the following funds and financial institutions has *not* been set up by the UNFCCC?

- (a) Green Climate Fund
(b) Climate Investment Fund

- (c) Special Climate Change Fund
(d) Adaptation Fund

97. Consider the following statements:

1. The amount of original natural vegetation on the site must be 30% or less.
2. The location must be mentioned on the Montreux record to emphasize conservation.
3. The site must have at least 1,500 endemic animal species.

How many of the statement given above are the criteria for designation as Biodiversity Hotspot?

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

98. Consider the following statements with reference to State Legislature:

Statement-I: A bill introduced only in the Legislative Assembly and if it is not passed by the Legislative Council for more than six months, then that bill is considered passed.

Statement-II: The Constitution does not provide for the mechanism of joint sitting of both the Houses to resolve the disagreement between the two Houses over a bill.

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

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

99. Constitution of India provides for full faith and credits to the public acts, records and judicial proceeding. In this context, which of the following statement is correct?

- (a) Unlike the Public Acts of a State, the Public Acts of the Union shall be given full faith and credit throughout the territory of India.
- (b) The State Legislature is empowered to provide for the method of proving such public acts, records and judicial proceedings.
- (c) Civil and Criminal judgments of the civil courts in any part of India are capable of execution anywhere within India.
- (d) Only parliamentary legislation will outline how acts, records and proceedings are to be certified as well as how their results are to be assessed.

100. In context of Ancient History, Sivagalai, Adichanallur, Mayiladumparai, and Kilnamandi site are related to:

- (a) Palaeolithic archaeological Sites
- (b) Indus Valley Sites
- (c) Iron Age Sites
- (d) Chola temple Sites



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



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Explanation–EKG_2500

Q.1 A

- **Statement 1 is incorrect:**
 - Right against exploitation deals with -
 - 1) Prohibition of trafficking in human beings and forced labour
 - 2) Prohibition of employment of children in factories.
 - It does not specifically mention about equal pay for equal work for men and women
- **Statement 2 is correct:** Article 39(d) of the Directive Principles of State Policy mentions that the State shall strive for securing equal pay for equal work for men and women. Thus, statement 2 is correct
- **Statement 3 is incorrect:**
 - 1) Right to reputation flows from Article 21 of the Constitution of India, and being a facet of right to life and personal liberty, needs to be adequately protected against defamatory speech and imputations.
 - 2) It does NOT specifically mention about securing equal pay for equal work for men and women.

Q.2 D

- **Statement 1 is incorrect:** According to Rule 256 of the Rajya Sabha and Rule 374 of the Lok Sabha, "Naming a Member" involves the Chairman/Speaker calling attention to a member's conduct that disregards the authority of the Chair or abuses House rules, resulting in persistent and willful obstruction of business. This action can lead to suspension for the remainder of the session.
- **Statement 2 is incorrect:** "Leave of the House" - The formal approval given by the House of a Legislature to a member to move a motion or withdraw the same. The member can seek the leave of the House only after he has been permitted to do so by the Speaker; he then rises in his place and asks for leave. After the leave is granted, the member cannot withdraw his motion without the permission of the House.
 - "Leave of absence" -A member wishing to obtain permission of the House for remaining absent from its sittings is required to make an application stating the reasons and the period for which he may be permitted to be absent from the sittings of the House.
- **Statement 3 is incorrect:** "Crossing the floor" - Passing between the member addressing the House and the Chair which is considered breach of Parliamentary etiquette.
- **Statement 4 is incorrect:** "Valedictory remarks"- It is customary in every Session for the Chair to make the Valedictory remarks at the end of Session thanking Members and leaders of parties and groups for their cooperation in the conduct of business of the House.
- **Statement 5 is incorrect:** "Expunction"-Deletion of words, phrases or expressions from the proceedings or records of Rajya Sabha by an order of the Chairman for being defamatory or indecent or unparliamentary or undignified.

Q.3 B

- **Statement 1 is correct:**
 - 1) Directive Principles of State Policy are the directives by the constitution to the State for individuals.
 - 2) Fundamental Rights are the rights given to the individuals against state.
- **Statement 2 is incorrect:**
 - 1) Directive Principles of State Policy are non-guaranteed rights.
 - 2) That means although, there is a provision for the States to provide these rights to the individual but it is not mandatory upon States to provide immediately.
- **Statement 3 is incorrect:** DPSP resemble Similar to the **Instrument of Instructions** in the **Government of India Act, 1935.**
 - **Dr. B.R. Ambedkar's Perspective** Directive Principles are like **instructions** given to the **Governor-General** and **Governors** under the 1935 Act.
 - They serve as **instructions** to the **legislature and executive** in independent India.

Q.4 D

- **Statement 1 is incorrect:** The FIR is the initial document filed to start an investigation, not prepared after the investigation is completed.

- **Statement 2 is incorrect:** The Chargesheet is submitted to a court after the investigation concludes, detailing the evidence and charges, not the initial report for starting an investigation.
- **Statement 3 is incorrect:** While FIRs can be considered public documents under certain conditions; chargesheets' accessibility to the public varies, making the statement oversimplified.
- The requirement for uploading FIRs and Chargesheets online, especially within 24 hours, varies and is subject to legal and procedural nuances, particularly concerning sensitive cases.
 - 1) **Understanding FIR:** It's crucial to recognize the FIR as the starting point of legal proceedings against a crime, immediately filed upon learning of the crime.
 - 2) **Understanding Chargesheet:** The Chargesheet represents the culmination of the investigation process, proposing charges based on gathered evidence.
- **Given these clarifications, all statements provided are incorrect, aligning with option (d) as the answer.**

Q.5 D

- **Statement 1 is incorrect:** The entire subscription process will be centrally coordinated by **INFLIBNET** (Information and Library Network), an autonomous inter-university centre under the University Grants Commission (UGC). INFLIBNET will manage the distribution of digital access to these journals, ensuring a seamless experience for users.
- **Statement 2 is incorrect:** The scheme's objective is to provide all eligible students, faculty, researchers, and scientists with access to top-tier international research articles and journals. It covers more than 6,300 government-managed **higher education institutions** and central government-managed research and development institutions across the country. (not all educational institution)
- **Statement 3 is correct:** One of the key objectives of ONOS is to ensure equitable access to research by bridging the digital divide and facilitating access for institutions in Tier-2 and Tier-3 cities, which often lack access to expensive international journals..

Q.6 D

- **Statement 1 is incorrect:** The writ of **Prohibition** is issued by a higher court to a lower court to prevent it from exceeding its jurisdiction or acting against the law. It is **only preventive** in nature and does not correct past errors.
 - The writ of **Certiorari** is issued by a higher court to a lower court or tribunal **either to transfer a case to itself or to quash an order** passed by the lower court. Hence, it is **both preventive and curative**.
- **Statement 2 is incorrect:** Both **Certiorari** and **Prohibition** are issued **only against judicial and quasi-judicial bodies** and **not against legislative bodies or private individuals**.
- **Statement 3 is incorrect:** The writ of **Habeas Corpus**, not **Prohibition**, acts as a **bulwark of individual liberty against arbitrary detention**. It is specifically meant to protect individuals from unlawful confinement and ensures their right to personal freedom.

Q.7 C

Indo-Pacific Economic Framework for Prosperity (IPEF)

- The Union Minister of Commerce & Industry recently participated in the **Indo-Pacific Economic Framework for Prosperity (IPEF)** Virtual Ministerial Meeting, highlighting India's engagement in the regional initiative.

About the Indo-Pacific Economic Framework for Prosperity (IPEF)

- **Overview:** The IPEF is a regional initiative aimed at fostering economic cooperation and integration across the Indo-Pacific region.
- **Launch:** It was introduced in **May 2022** to promote shared goals of resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness among its member nations.
- **Option (c) is correct:**
 - **Member Countries:**
 - IPEF comprises **14 regional partners:**
 1. Australia
 2. **Brunei**
 3. Fiji (joined in 2023)

4. India
 5. **Indonesia**
 6. Japan
 7. Republic of Korea
 8. **Malaysia**
 9. New Zealand
 10. **Philippines**
 11. Singapore
 12. Thailand
 13. United States
 14. Vietnam
- **China is not part of Indo-Pacific Economic Framework for Prosperity (IPEF)**

Economic Framework (IPEF) partners



Q.8 D

- **Option A is incorrect:** The President of India can suspend the Fundamental Rights on the declaration of Emergency. Under Article 359, the President can suspend the Fundamental Rights during the time of Emergency (Internal and External Emergency). During the time of an emergency, Fundamental Rights mentioned in Article 19 are automatically suspended.
 - However, the Fundamental rights mentioned in the Articles 20 and 21 cannot be suspended during the time of an Emergency.
- **Option B is incorrect:** Fundamental rights can be amended by constitution amendment till they do not violate basic structure of the constitution and thus they are not sacrosanct (Keshawananda Bharati Judgement 1973).
- **Option C is incorrect:** Application of fundamental rights to the members of armed forces, paramilitary forces, police forces, intelligence agencies and analogous services can be restricted or abrogated by the Parliament (Article 33).

Q.9 B

- **Statement I is correct:** The Inter-State Water Disputes Act empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
- **Statement II is correct:** The decision of the tribunal would be final and binding on the parties to the dispute. Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

- While both statements are individually true, the Statement II doesn't directly explain why the Central government is empowered to set up these tribunals.

Q.10 C

- **Statement 1 is correct:** The Arabian Sea is an area of the northern Indian Ocean bounded by Pakistan, Iran, and the Gulf of Oman to the north, the Gulf of Aden, the Guardafui Channel, and the Arabian Peninsula to the west, and the Arabian Peninsula to the southeast. Lakshadweep Sea and Maldives, Somalia to the southwest, and India to the east.
- **Statement 2 is incorrect:** Oman, Yemen, Somalia, India, etc. are neighboring countries of the Arabian Sea. Ethiopia is a landlocked country in the Horn of Africa, so it has no connection with the Arabian Sea.
- **Statement 3 is correct:** The Gulf of Aden in the west connects the Arabian Sea to the Red Sea through the Bab-el-Mandeb strait.



Q.11 C

- Personal Income (PI) \equiv National Income – Undistributed profits – Net interest payments made by households – Corporate tax + Transfer payments to the households from the government and firms.
- Personal Disposable Income (PDI) \equiv PI – Personal tax payments – Non-tax payments

Q.12 C

- **Statement 1:** The Lead Bank Scheme, introduced towards the end of 1969, envisages assignment of lead roles to individual banks (both in public sector and private sector) for the districts allotted to them. Under the scheme, a bank having a relatively large network of branches in the rural areas of a given district and endowed with adequate financial and manpower resources has normally been entrusted with the lead responsibility for that district.
- **Statement 4:** The Kisan Credit Card (KCC) scheme was introduced in 1998 for issuance of Kisan Credit Cards to farmers on the basis of their holdings for uniform adoption by the banks. This may help farmers to use them to readily purchase agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs.
- **Statement 3:** Pradhan Mantri Jan Dhan Yojana is a financial inclusion program of the Government of India open to Indian citizens. This financial inclusion campaign was launched on 28 August 2014. It aims to expand affordable access to financial services such as bank accounts, remittances, credit, insurance and pensions.

- **Statement 2:** India Post Payments Bank is under the ownership of the Department of Post and was opened in the year 2018.

Q.13 A

- **Option A is correct. The 'Green Shoe Option' is:**
 - 1) A provision in an IPO that allows underwriters to sell more shares to investors than originally planned.
 - 2) Used to stabilize the share price after the IPO by buying back shares if the price falls.
 - 3) Named after the Green Shoe Company, the first to use this option in an IPO.
 - 4) Allows for additional shares to be sold, up to a specified amount, over the initial offering.

Q.14 B

- **Option B is correct:** Such borrowing is used to meet the expenditure needs of the government.
- **Option A is incorrect:** Extra-budgetary (off-budget) borrowings are loans that are not raised directly by the Center but are raised by public sector undertakings on the instructions of the central government, for which repayment of entire principal and interest is done from Government budget.
- **Option C is incorrect:** Since the debt liability is not formally on the Centre, the debt is not included in the national fiscal deficit.
- It helps in keeping the country's fiscal deficit within acceptable limits. Extra budget borrowings are excluded from the calculation of fiscal deficit, but at the same time, are added to the total debt of the government.
- **Option D is incorrect:** In recent years, many CPSUs have raised resources from the market by issuing Government of India-Fully Serviced Bonds (GOIFSB), for which both principal and interest are to be repaid from the budget. This means that although the borrowings do not form part of the Consolidated Fund of India, the interest for such borrowings is paid from the Consolidated Fund.

Prelims Marks Maximiser:

- 1) These loans are made by the public sector organizations which are running the schemes.
- 2) The main borrowing institutions are FCI, the National Highways Authority of India, and National Bank for Agriculture and Rural Development (NABARD), which have borrowed for both rural development and irrigation projects.
- 3) The Fifteenth Finance Commission in its preliminary report advised both the Center and the States to eliminate extra-budgetary borrowing.
- 4) As there is an increasing tendency of Central and State Governments to borrow outside the Consolidated Fund, this leads to the accumulation of extra-budgetary liabilities.
- 5) As per the amended FRBM Act of 2018, the outstanding extra-budgetary liabilities need to be clearly identified and cleared in a time-bound manner.

Q.15 D

- According to the economic theory of the "invisible hand" proposed by Adam Smith, the unobservable market forces help the demand and supply of goods in a free market to automatically reach equilibrium, thereby allocating resources efficiently without any external intervention.
- The roles played by the "invisible hand" include:
 - 1) Adjusting prices upwards when there is excess demand in the market to reach equilibrium.
 - 2) Adjusting prices downwards when there is excess supply in the market to reach equilibrium.
 - 3) Facilitating the efficient allocation of resources by market forces without external intervention. This is the core concept of the "invisible hand" theory.
- **Option D is not correct:** The "invisible hand" operates in a free market without any government intervention like tariffs or regulations. Setting tariff levels is a function of government policy, not the self-correcting market forces.

Invisible Hand



Q.16 B

- **Statement 1 is correct:** CPI measures the change in prices paid by the ultimate consumers in the retail market. CPI includes the impact of indirect taxes, whereas WPI does not. In wholesale market services are not traded, so WPI does not include the inflation in services, while CPI and GDP deflator capture inflation in services also. The Office of Economic Adviser in the Ministry of Commerce and Industry reports the wholesale price index monthly to track the overall rate of change in producer and wholesale prices and the Central Statistics Office (CSO) publishes CPI data every month.
- **Statement 2 is correct:** There has been a consistent gap seen between the CPI and WPI measures of Inflation, especially post the COVID pandemic which has led to a much larger public debate regarding the two measures of inflation. Despite not being a policy tool, the surge in the WPI is a cause of worry. While the CPI-based retail inflation, the more widely tracked policy tool looks at the price at which the consumer buys goods, the WPI tracks prices at the wholesale, or factory gate/mandi levels. The wide gap between WPI and CPI inflation reflects the price pressures on the inputs side, which are expected to pass through to the retail level in the coming months. Thus, the increase in WPI which would reflect in the CPI after a time lag.
- **Statement 3 is incorrect:** Rise in food prices will have a relatively greater impact on CPI than the WPI because of the weights. Food has an overall weightage of roughly 23 per cent in the WPI basket while in the CPI basket, food occupies a weightage of 46 per cent. Fuel and Power has a weightage of around 13% whereas manufactured products have a weightage of around 64% in WPI. CPI-combined despite having around 28% weight for services, has 46% weightage for food & beverages, 7% for clothing and footwear, around 7% for fuel and light and 10% for housing.

Q.17 B

- Revenue receipts are receipts of the government which are non-redeemable, that is, they cannot be reclaimed from the government.
 - 1) Tax revenues consist of the proceeds of taxes and other duties levied by the central government. Tax revenues, comprise of direct taxes -which fall directly on individuals (personal income tax) and firms (corporation tax), and indirect taxes.
 - 2) Non-tax revenue of the central government mainly consists of interest receipts on account of loans by the central government, dividends and profits on investments made by the government, fees and other receipts for services rendered by the government. The RBI typically pays the dividend/profits from the surplus income it earns on investments and valuation changes on its dollar holdings, and the fees it gets from printing currency, among others to the government. It constitutes a part of the non-tax revenue receipts.
 - 3) Grants-in-aid from foreign countries and international organizations are also included in non-tax revenue receipts.

- **Capital receipts:** All those receipts of the government which create liability or reduce financial assets are termed as capital receipts.
 - 1) The main items of capital receipts are loans raised by the government from the public which are called market borrowings, borrowing by the government from the Reserve Bank and commercial banks and other financial institutions through the sale of treasury bills, loans received from foreign governments and international organisations, and recoveries of loans granted by the central government.
 - 2) Provident funds and small savings (Post-Office Savings Accounts, National Savings Certificates, etc), the special Central Government securities issued to NSSF constitute a part of the internal debt of the Government of India. Interest as discussed by the government from time to time is payable on the special securities issued by State / UT Governments against their share of net collections.
 - 3) Net receipts obtained from the sale of shares in Public Sector Undertakings (PSUs) referred to as PSU disinvestment is considered a part of capital receipts.

Q.18 B

- **Statement 1: Correct:** D-SIBs are referred to as "Too Big to Fail" (TBTF) due to their critical role in providing uninterrupted essential banking services and their potential to cause economic disruption if they fail.
- **Statement 2 is Correct and 3 is incorrect:** The RBI mandates additional CET1 capital requirements for D-SIBs to strengthen their resilience:
 - 1) SBI: 0.80% (Public Bank)
 - 2) HDFC Bank: 0.40% (Private Bank)
 - 3) ICICI Bank: 0.20% (Private Bank)
- **Statement 4: Incorrect:** Banks with assets exceeding 2% of India's GDP, not 5%, are considered for D-SIB classification.
- Global Systemically Important Banks (G-SIBs) are identified by the **Financial Stability Board (FSB)**.

Q.19 B

- **Statement 1 is Correct:** The adoption of the "**Comprehensive Economic and Maritime Security Partnership**" vision between India and Maldives underscores their commitment to strengthening economic ties and ensuring regional maritime security.
- **Statement 2 is correct:** The **Greater Male Connectivity Project** is primarily aimed at improving connectivity between Male and neighboring islands.
- **Statement 3 is incorrect:** The **SAARC Currency Swap Framework, operational since 2012**, allows member countries to address **short-term foreign exchange liquidity issues**, helping maintain economic stability.

Q.20 C

- **Statement 1 is Correct:** FCNR deposits allow NRIs to hold money in foreign currencies, eliminating exchange rate risk as the funds are maintained in the currency in which they are deposited. This makes them an attractive option for NRIs who earn income abroad.
- **Statement 2 is Correct:** The RBI's 2013 FCNR scheme was introduced to stabilize the rupee and rebuild forex reserves by encouraging banks to raise foreign currency funds. Banks were allowed to swap these funds into rupees at concessional rates, incentivizing foreign currency inflows.

Q.21 D

- A – Niger
- B – Chad
- C – Uganda
- D – Cameroon
- E – Mali



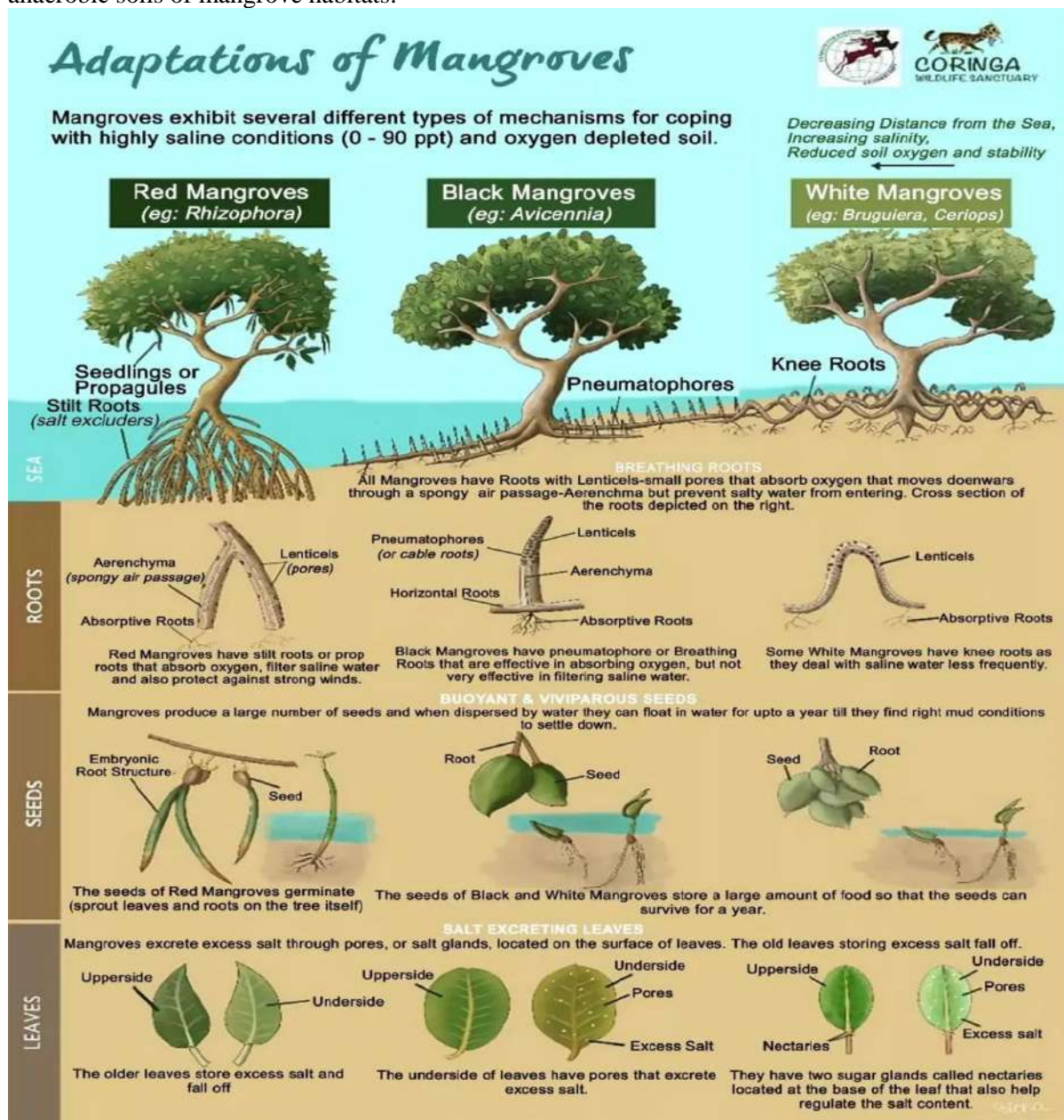
Q.22 A

- **Statement 1 is correct:** The Wildlife (Protection) Act, 1972 provides for the establishment of Protected Areas in India. There are different categories of protected areas which are managed with different objectives for the larger motive of conservation.
- **Statement 2 is incorrect:** The national parks are generally not inhabited by humans, and human activities are restricted. The areas are open to the public for recreational purposes, such as hiking, camping, and wildlife watching (safaris). Some examples of national parks are Jim Corbett National Park, Bandhavgarh National Park and Mudumalai National.
- The Wildlife sanctuary is usually a small area, and human activities are restricted to prevent disturbance to the animals. Wildlife sanctuaries are generally open to the public for educational purposes, but recreational activities are restricted. Some examples of wildlife sanctuaries are Gir National Park and Wildlife Sanctuary, Chilka Lake Bird Sanctuary and Eaglenest Wildlife Sanctuary.
- **Statement 3 is incorrect:** The Biosphere Reserve Programme is guided by UNESCO Man and Biosphere (MAB) programme as India is a signatory to the landscape approach supported by MAB programme. A scheme called Biosphere Reserve is being implemented by Government of India since 1986, in which financial assistance is given in 90:10 ratio to the North Eastern Region States and three Himalayan states and in the ratio of 60:40 to other states for maintenance, improvement and development of certain items.
- **Statement 4 is incorrect:** The National Board for Wildlife (NBWL) is a statutory board constituted under the Wild Life (Protection) Act, 1972 (wildlife act). However, it is important to point out that the wildlife act, as originally enacted in 1972, did not provide for the NBWL. It was only through an amendment of the wildlife

act in 2002 that the NBWL was constituted. It is a 47-member committee, headed by the Prime Minister and the minister of environment, forest and climate change (environment minister) as vice chairperson.

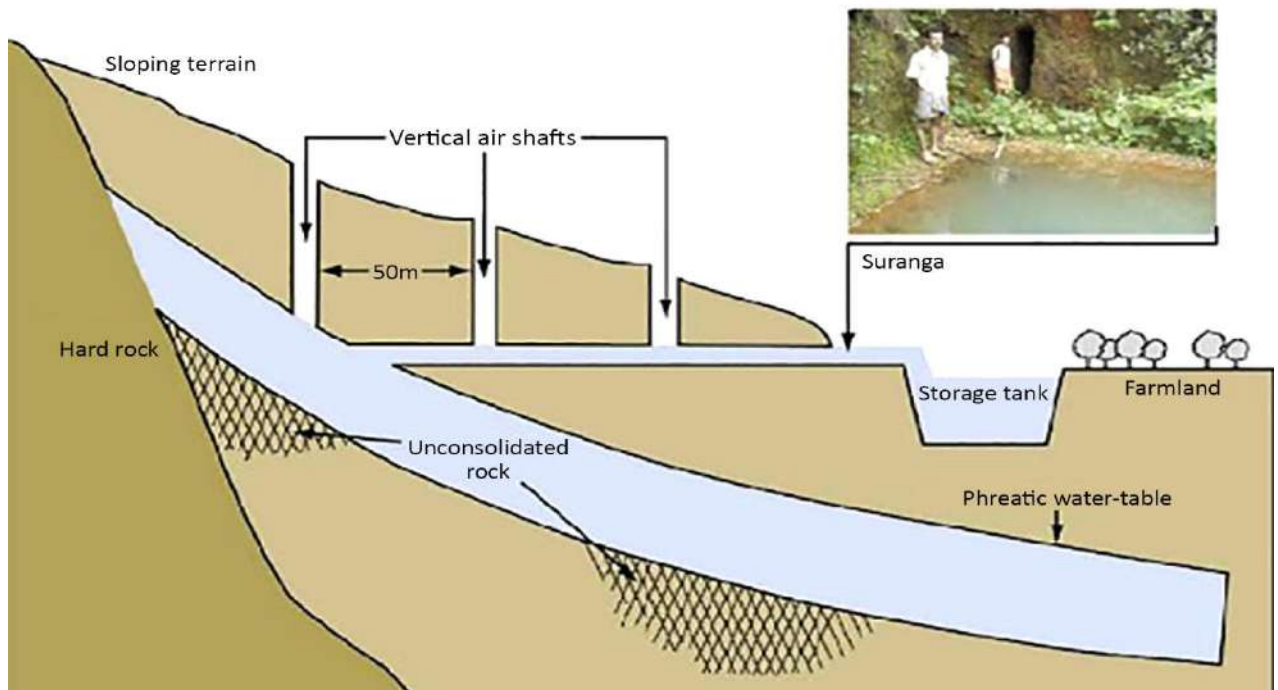
Q.23 C

- **Pneumatophores (Option D)** are specialized aerial roots that grow upward from the waterlogged soil of certain plants, especially in mangrove ecosystems. They serve as a mechanism for gas exchange, allowing the plant to obtain oxygen for the roots in anaerobic (low oxygen) soil conditions.
- **Halophytes (Option C)** are plants that have adapted to thrive in saline (salty) environments, such as coastal regions and salt marshes. They have specialized mechanisms to tolerate and manage high salt concentrations in their tissues.
- **Viviparity (Option A)** in plants refers to the phenomenon where seeds germinate and begin to grow while still attached to the parent plant. This adaptation is often observed in mangrove trees, where the seeds start to develop into seedlings while still on the tree before eventually dropping to the ground.
- **Rhizophora (Option B)** is a genus of mangrove trees known for their unique root structures. They develop specialized prop roots that grow from the lower trunk and arch downward into the water. These roots provide stability and also serve as pneumatophores, facilitating oxygen uptake for respiration in the waterlogged, anaerobic soils of mangrove habitats.



Q.24 B

- In the context of Surangam and Zing is traditional water harvesting practices used in different geographical regions of India:
 - 1) **Surangam:** Used in the Western Ghats, a mountain range that runs from Gujarat to Tamil Nadu. Surangam is a tunnel dug through a laterite hillock, from which water and moisture seeps out. The word surangam comes from a Kannada word for tunnel. The technology originated in Persia/Iran and was widely used during the medieval period.
 - 2) **Zing:** Used in Ladakh, a high-altitude desert in the northern part of India. Zing involves digging shallow, saucer-shaped depressions in the ground to capture and store rainwater. The excavated soil is used to create small embankments around them to prevent water runoff. Zings are strategically located in low-lying areas to maximize rainwater collection.



Q.25 C

- The black francolin is a gamebird in the pheasant family. It is the state bird of Haryana state, India (locally known as Kaala Teeter).
- Himalayan Quail Bird - The Himalayan quail is native to India, found only in the mountains of Uttarakhand in north-west Himalayas. The last sightings recorded before 1877 were from Mussourie and Nainital hill stations, suggesting that they prefer higher altitudes.
- Malabar large-spotted civet, also known as the Malabar civet, is a viverrid endemic to the Western Ghats of India. It is listed as Critically Endangered on the IUCN Red List
- The common emerald dove, also called Asian emerald dove and grey-capped emerald dove, is a widespread resident breeding pigeon native to the tropical and subtropical parts of the Indian Subcontinent and Southeast Asia.

BLACK FRANCOLIN
RAJAJI NATIONAL PARK

COMMON EMERALD DOVE
made by AviBirds.com

Mission Himalayan Quail
The Himalayan Quail is a medium-sized bird belonging to the Pheasant family. It is classified as Critically Endangered, facing an extremely high risk of extinction in the wild and is possibly extinct. Hence this mission is initiated from 1st October 2013 to scientifically explore the possibilities of presence of Himalayan Quail

Objective of the Mission
To rediscover the Himalayan Quail bird in Uttarakhand Himalayas.

Extinct, or Not?
The last reliable observation of Himalayan Quail was reported in 1876. This bird seems to have occurred in Nainital and Mussoorie at altitudes between 1,500 and 1,800 meters. Although, unconfirmed bird sightings are still regularly reported, until there is concrete evidence to the contrary, this bird is considered to be extinct.

Bird Description
The male of Himalayan Quail is slaty brown streaked with black dark grey with black streaks and prominent broad white forehead and supercilium. The size of bird is similar to grey partridge (length 2.25 cm.) (10 Inc.)

Habitat
This bird was seen in patches of tall grass and brushwood on steep hillsides, particularly on the crests of south- or east-facing slopes.

Award
A Cash award of Rs. One Lakh- will be given by Nainital Zoo to a person who gives first irrefutable evidence of Himalayan Quail's Presence.

Tamil Nadu Endangered Species Fund (TNESF) - Lesser Known Species

Malabar Civet (Viverra civettina)

Habitat: Tropical rainforests, evergreen forests, and plantations in the Western Ghats, including regions in Tamil Nadu.

Numbers: Fewer than 250 (As per the latest estimation)

Threats: Habitat Loss: Deforestation and land conversion for agriculture, Poaching: Hunted for its musk, which is wrongly believed to have medicinal properties.

Role in Ecosystem: Acts as a seed disperser, aiding in forest regeneration, Controls insect and small mammal populations, maintaining a balanced ecosystem.

Characteristics: Nocturnal: Active primarily during the night, Terrestrial: Prefers ground habitats, unlike other civet species that might be more arboreal, Omnivorous: Diet includes small mammals, birds, insects, and fruit

IUCN Status: Critically Endangered

Q.26 A

- **Statement-I is correct:** Tantalum is a rare metal with the atomic number 73 — the number of protons found in one atom of the element. It's grey, heavy, very hard, and one of the most corrosion-resistant metals in use today. Recently, the presence of tantalum was found in the Sutlej river sand in Punjab. Tantalum is most prominently used in the electronic sector. The capacitors made from tantalum are capable of storing more electricity in smaller sizes without much leakage than any other type of capacitor. This makes them ideal for use in portable electronic devices such as smartphones, laptops, and digital cameras. Tantalum does not react with bodily fluids and is used to make surgical equipment and implants, like artificial joints.
- **Statement-II is correct:** It possesses high corrosion resistance because when exposed to air, it forms an oxide layer that is extremely difficult to remove, even when it interacts with strong and hot acid environments. When pure, tantalum is ductile, meaning it can be stretched, pulled, or drawn into a thin wire or thread without breaking. Moreover, it "is almost completely immune to chemical attack at temperatures below 150°C, and is attacked only by hydrofluoric acid, acidic solutions containing the fluoride ion, and free sulphur trioxide," according to the US Department of Energy.
- **Statement II** provides a valid explanation for why tantalum is highly corrosion-resistant. The formation of the oxide layer is a key factor contributing to its resistance against corrosion. Therefore, Statement II serves as a correct explanation for Statement I.

Prelims Marks Maximiser:

- 1) Notably, tantalum also has an extremely high melting point, exceeded only by tungsten and rhenium.

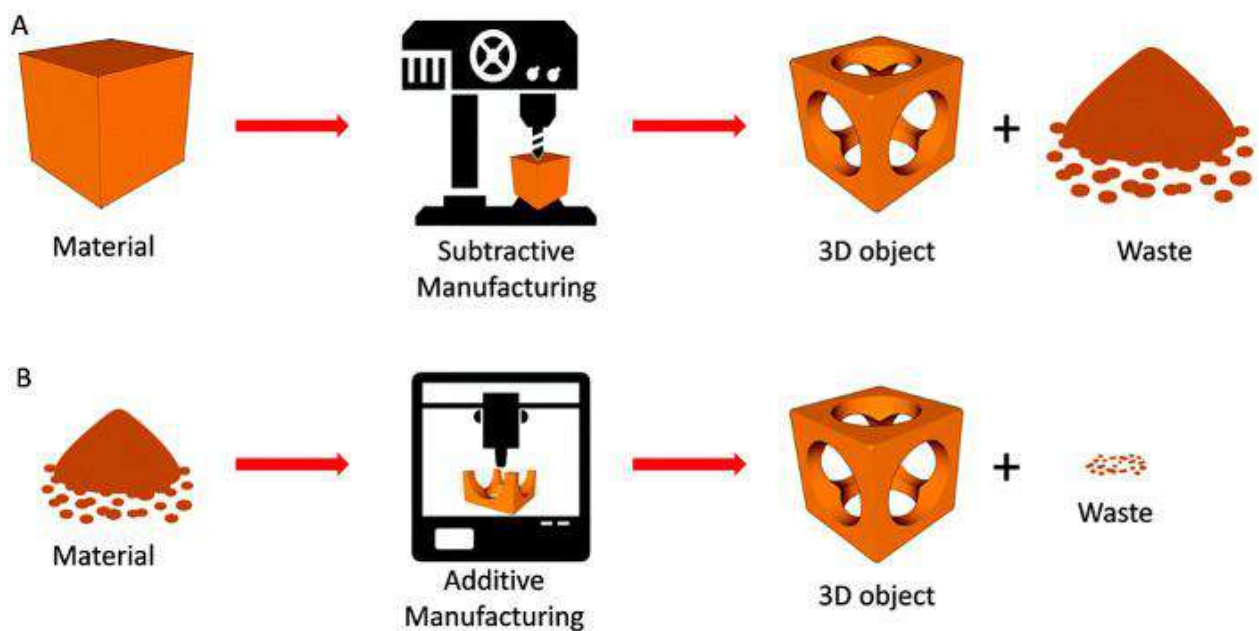
- 2) As tantalum has a high melting point, it is frequently used as a substitute for platinum, which is more expensive.
- 3) A composite consisting of tantalum carbide (TaC) and graphite is one of the hardest materials known and is used on the cutting edges of high-speed machine tools.

Q.27 D

- **Statement I is incorrect:** Oceans can appear blue, green, grey, or even brown depending on various factors such as depth, algae presence, and sediment.
- **Statement II is correct:** The primary reason oceans often appear blue is due to the absorption and scattering of sunlight, where water absorbs colors in the red part of the light spectrum and scatters blue light.

Q.28 C

- **Statement 1 is correct:** Additive manufacturing, or 3D printing, builds objects layer by layer from a digital model, offering design flexibility and material efficiency.
- **Statement 2 is correct:** The application of additive manufacturing in creating structures like a post office in Karnataka illustrates its versatility and the potential for architectural and construction innovations.
- **Statement 3 is correct:** One of the significant advantages of additive manufacturing is its capability to produce complex geometries that might be challenging or impossible to achieve with traditional manufacturing techniques.



Q.29 B

- **Statement 1 is correct:** Radiation sterilisation is a physical process of irradiation of medical products by ionizing radiation. Products are subjected to irradiation in specialised radiation technology facilities where gamma-rays (gamma-rays of Co-60 or Cs-137 isotopes) or electron accelerators are used.
- When electrons go through the material substance, most of their energy is spent on ionization, which results in destruction of micro-organisms and a reduction in the number of pathogenic bacteria and viruses.
- **Statement 2 is correct:** The process of radiation sterilisation is the final stage of production of single-use medical products. These technologies can be used in agriculture, as well as for municipal solid waste sterilisation and in the petrochemical industry. Over 42 countries in the world including the US, the UK, Canada and France have given clearance for radiation processing of food.
- **Statement 3 is incorrect:** The Government of India has permitted the use of radiation technology in preservation of food items such as potato, onion, rice semolina, wheat flour, mango, raisins, dried dates, ginger, garlic, shallots (small onions) as well as meat and meat products including chicken.

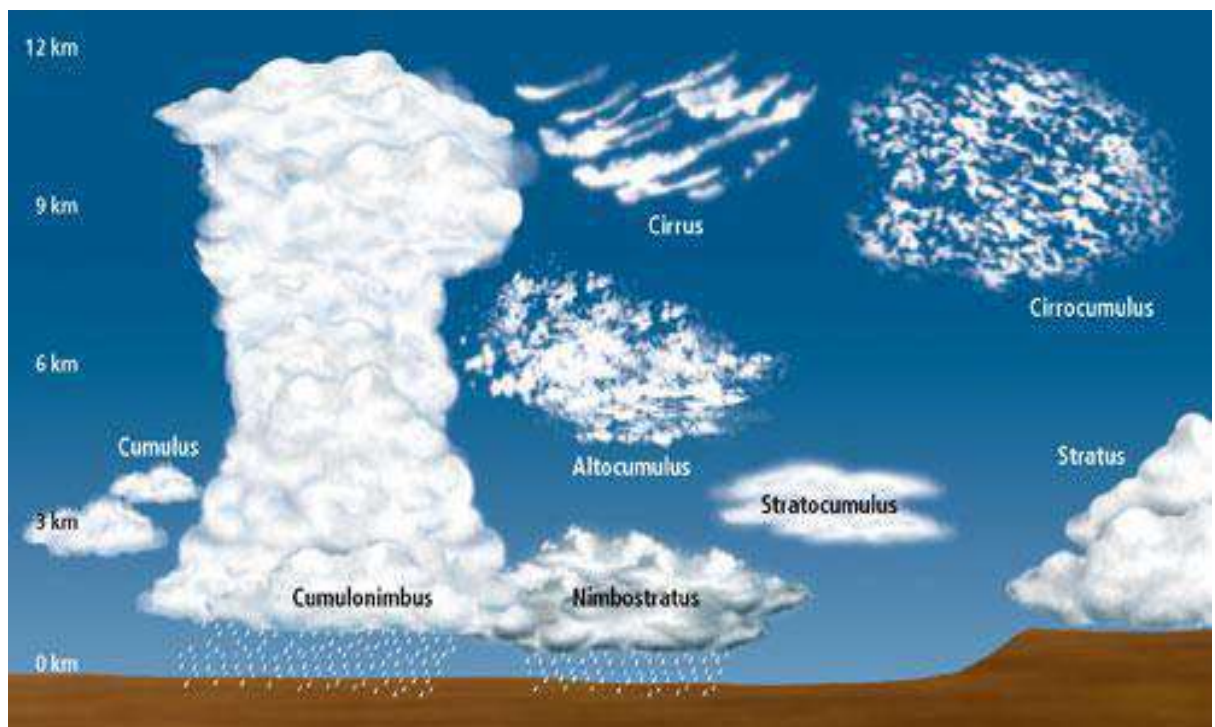
- The Mumbai-based Bhabha Atomic Research Centre has done extensive research and development work on preservation of food by radiation and has been involved in setting up the first demonstration plant for radiation processing of onions and potatoes at Lasalgaon in Nasik, Maharashtra. The same plant is also proposed to be used for low dose radiation processing of other foods with alterations in throughput and source utilisation efficiency.

Q.30 C

- **Statement 1 is correct:** Deepfakes constitute fake content — often in the form of videos but also other media formats such as pictures or audio — created using powerful artificial intelligence tools. Simply, it is an amalgamation of the words “deep learning” and “fake” and it means fabricated videos generated from existing face-swapping techniques and technology. They are called deepfakes because they use deep learning technology, a branch of machine learning that applies neural net simulation to massive data sets, to create fake content.
- **Statement 2 is correct:** In India, sections of the Information Technology Act 2000, criminalise the publication and transmission of intimate photos of any person without their consent and deal with the obligations of intermediaries. Provisions of the Copyright Act 1957, concerning the doctrine of fair dealing and right to integrity can be applied. Furthermore, deepfakes directly violate the fundamental right to privacy under Article 21 of the Constitution.

Q.31 D

- **Pair 1 is correct:** Cirrus clouds are formed at high altitudes (8,000 – 12,000m). They are thin and detached clouds having a feathery appearance. They are always white in colour.
- **Pair 2 is correct:** Nimbus clouds are shapeless masses that are opaque to the rays of the sun. Dark or black grey in colour. Formed at middle levels or near to the surface.
- **Pair 3 is correct:** They are layered clouds covering large portions of the sky. These clouds are generally formed either due to loss of heat or the mixing of air masses with different temperatures reframe
- **Pair 4 is correct:** Cumulus clouds look like cauliflower-shaped clouds. They are generally formed at a height of 4,000 -7,000 m. They exist in patches and can be seen scattered here and there. They have a flat base.

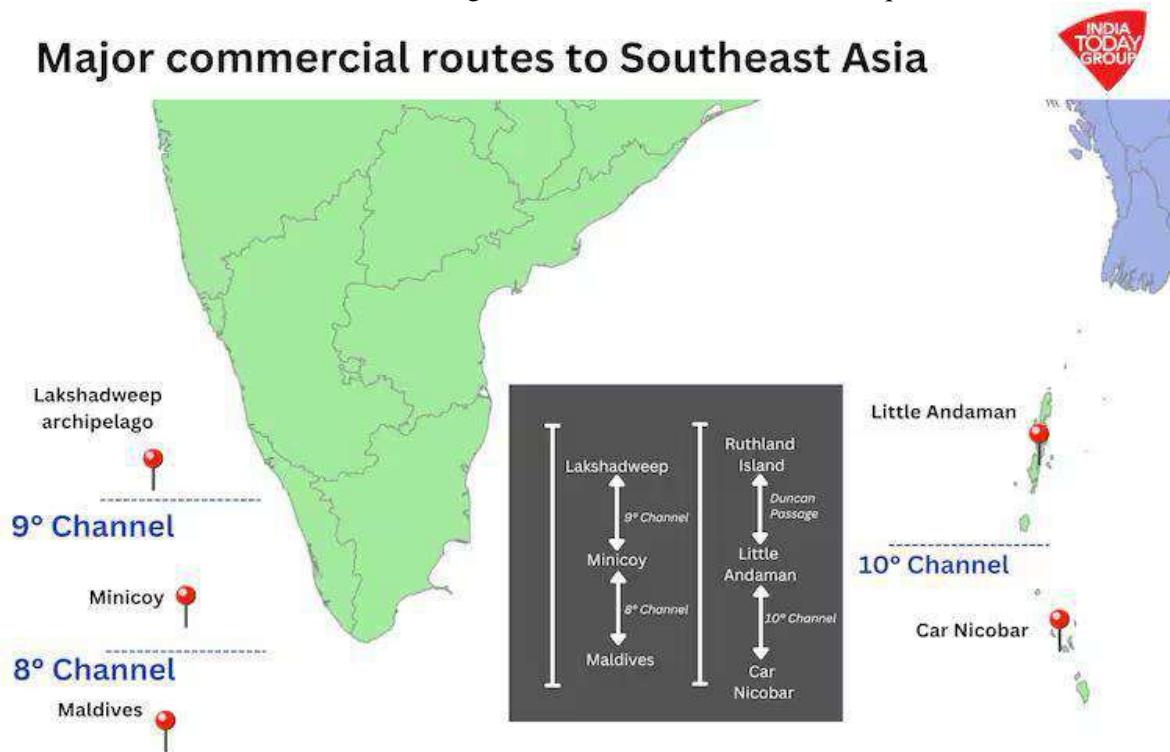


Q.32 D

- **Eight Degree Channel:** The maritime boundary between the Maldives and India runs through the Eight Degree Channel. It separates the islands of Minicoy and Maldives.
 - 1) Maluku Kandu and Māmalē Kandu Divehi are the traditional names of the Eight Degree Channel.

- 2) It is so named as it lies on the 8-degree line of Latitude, north of the equator.
- **Nine Degree Channel:** It separates the island of Minicoy from the main Lakshadweep archipelago. The Kalpeni and Suheli Par, and Maliku Atoll and Amindivi Subgroup together form the Union Territory of Lakshadweep.
 - 1) It is 200 km wide with a depth of 2597 metres.
 - 2) It is strategically important as it is the passage of nearly all merchant shipping between Europe, the Middle-East and Western Asia with South-East Asia and the Far-East.
 - 3) It is so named as it lies on the 9-degree line of Latitude, north of the equator
 - **Ten Degree Channel:** It separates the Andaman Islands and the Nicobar Islands from each other in the Bay of Bengal and forms the Indian Union Territory of Andaman and Nicobar Islands.
 - 5) It is 150km wide from north to south and 10km long from east to west with a minimum depth of 7.3m.
 - 6) It is so named as it lies on the 10-degree line of Latitude, north of the equator.

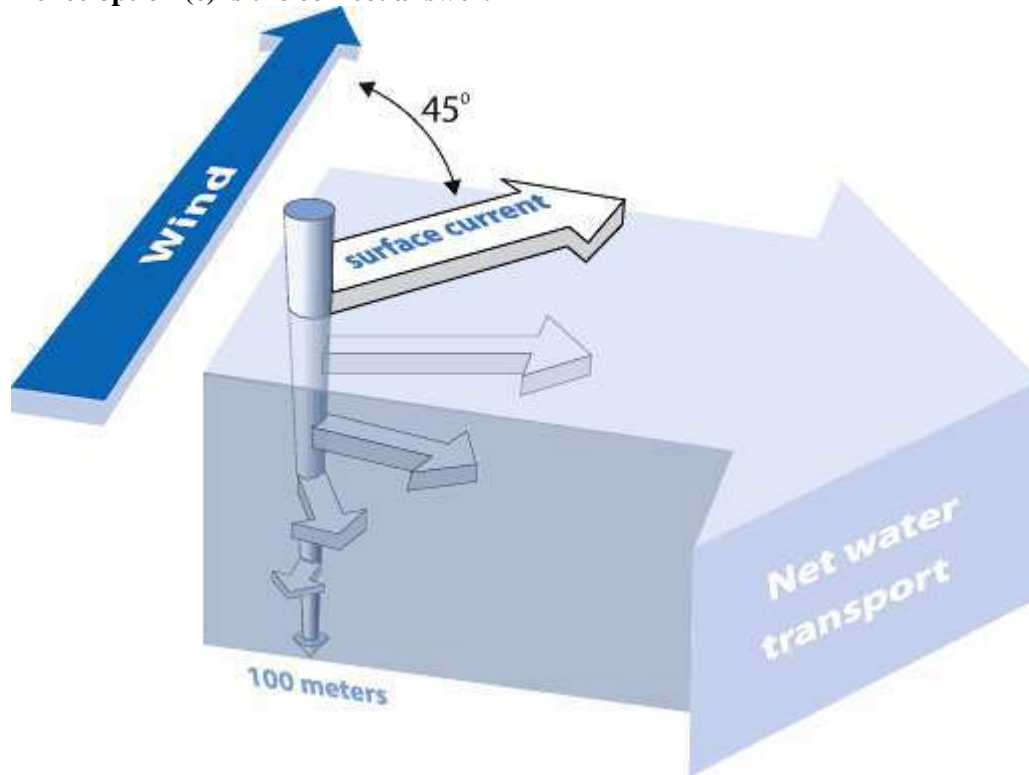
Major commercial routes to Southeast Asia



Q.33 C

- The Ekman Spiral is a fundamental concept in oceanography that helps explain the complex pattern of water movement in the ocean resulting from the interaction of wind, the Coriolis effect, and frictional forces. It was first described by Swedish scientist Vagn Walfrid Ekman in 1902.
- When wind blows over the surface of the ocean, it imparts energy to the water and generates surface currents. However, due to the Coriolis effect (caused by the Earth's rotation), the direction of these currents is deflected to the right in the Northern Hemisphere and to the left in the Southern Hemisphere.
- This deflection occurs because moving objects on the Earth's surface (such as air or water) appear to be deflected due to the Earth's rotation.
- The Ekman Spiral describes how this surface wind-driven motion affects water at different depths. As the wind-induced surface water moves, it imparts some of its momentum to the layer of water immediately below it.
- However, due to frictional forces and the Coriolis effect, each successive layer of water is progressively deflected to the right (in the Northern Hemisphere) or to the left (in the Southern Hemisphere) and moves more slowly than the layer above it. This results in a spiral-shaped pattern of water movement known as the Ekman Spiral.
- As one descends deeper into the ocean, the magnitude of the deflection decreases, and eventually, the water movement becomes negligible. The net effect is a downward movement of water with depth, creating a spiral pattern of water motion that extends from the surface to deeper layers of the ocean.

- The Ekman Spiral is crucial for understanding oceanic circulation patterns, including the vertical movement of water masses, the transport of nutrients and heat, and the distribution of marine life. It has important implications for various oceanographic phenomena, such as upwelling and downwelling, which play key roles in regulating ocean productivity and influencing climate.
- **Hence option (c) is the correct answer.**



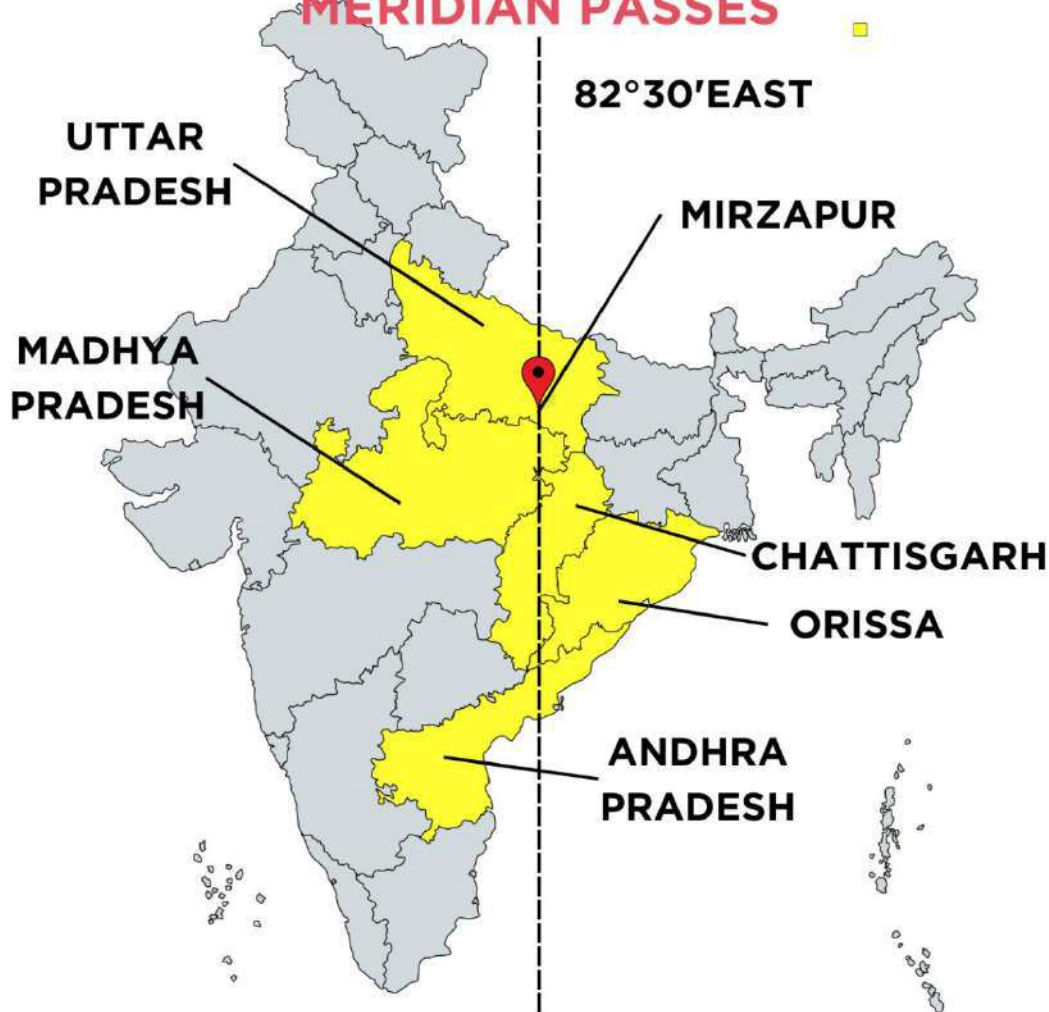
Q.34 C

- **Option A is incorrect:** The vast alluvial plains of northern India are formed by sediment deposition from rivers like the Ganga, Indus, etc. These plains are fertile for agriculture but generally lack significant mineral deposits.
- **Option B is incorrect:** Coal reserves in India are concentrated in specific regions like the Damodar, Sone, Mahanadi, and Godavari valleys, which account for about 97% of India's coal reserves. The distribution is not uniform across the country.
- **Option C is correct:** In addition to the existing petroleum reserves in Assam, Gujarat, and the offshore Mumbai High region, new reserves have been found in the Krishna-Godavari and Kaveri sedimentary basins.

Q.35 A

- **Statement I is correct:** The standard meridian of India is the longitude that is used to calculate the Indian Standard Time (IST). 82°30' East longitude has been selected as the Standard Meridian for India. It passes through the city of Mirzapur in Uttar Pradesh.
- **Statement II:** The 82°30' East longitude approximately divides India into two equal halves, with Mirzapur lying along its path. The 82°30' East longitude indeed passes approximately through the middle of the longitudinal extent of India, dividing the country into approximately two equal halves - the eastern and western regions.
- **Therefore, both statements are correct, and Statement-II provides the correct explanation for Statement-I,** as it elaborates on the geographical significance of the 82°30' East longitude in dividing India into two halves.

STATES THROUGH STANDARD MERIDIAN PASSES



Q.36 A

- In the coastal regions of India, ports play a significant economic role. India has 200 minor and 13 major ports, which handle 95% of India's international trade by volume and 68% by value.
- In addition to developing local ports, investing in overseas ports has its own benefits. They act as facilitators of trade, and offer larger economic benefits such as useful information on logistics and the local economy. India having access to certain foreign ports for military and logistical support improves the security position of the country.
- The Government of India and Indian companies therefore have invested in multiple overseas ports and formed partnerships with others.
 - 1) **Pair 1 is incorrect:** Chabahar Port is located in Iran, not Iraq. However, the Indian government has invested in the development of Chabahar Port as part of strategic efforts to enhance connectivity with Central Asia and Afghanistan.
 - 2) **Pair 2 is correct:** Sittwe Port is located in Myanmar, and the Indian government has invested in the construction of this port as part of the Kaladan Multi-Modal Transit Transport Project. This investment aims to improve connectivity between India and Myanmar.
 - 3) **Pair 3 is incorrect:** Colombo Port's West International Container Terminal: While the Indian company Adani Ports and Special Economic Zone Ltd (APSEZ) signed an agreement to construct and operate the West Container Terminal (WCT) of the Port of Colombo, Sri Lanka, it was not an investment by the Indian government.
 - 4) **Pair 4 is incorrect:** Haifa Port: The Indian government did not invest in the Port of Haifa in Israel. Instead, it was a partnership between Adani Ports and Special Economic Zone Ltd (APSEZ) and the Port of Haifa.

Q.37 C

- **Statement 1 is correct:** Bhulabhai Desai was a leader of the Congress Party in the Central Legislative Assembly. He met Liaqat Ali Khan, deputy leader of the Muslim League in that Assembly. Both of them came up with the draft proposal for the formation of an interim government at the Centre.
- In the interim government, an equal number of persons were to be nominated by Congress and the League in the central legislature.
- **Statement 2 is correct:** In the interim government, 20% of the seats were reserved seats for minorities.
- **Statement 3 is correct:** It also said that the government would function within the existing framework of the Government of India Act, 1935. But no settlement could be reached between Congress and the League on these lines. But the fact that a sort of parity between Congress and the League was decided upon had far-reaching consequences.

Q.38 D

- Vinayak Narahari Bhave was born on 11th September 1895, in Gagode, Bombay Presidency (now in Maharashtra). One of India's best-known social reformers and a widely venerated disciple of Mohandas K. (Mahatma) Gandhi. He was the Founder of the Bhoodan Yajna ("Land-Gift Movement"). In 1940, he was chosen as the first Individual Satyagrahi (an Individual standing up for Truth instead of a collective action) against British Raj by Gandhi in India. In 1923, he brought out 'Maharashtra Dharma', a monthly in Marathi, which had his essays on the Upanishads. He Established the Brahma Vidya Mandir in 1959, a small community for women, aiming at self-sufficiency on the lines of Mahatma Gandhi's teachings. His important books include: Swarajya Sastra, Geeta Pravachane, Teesri Shakti or The Third Power etc. Vinoba Bhave was the first international figure to receive the Ramon Magsaysay Award in 1958. He was awarded Bharat Ratna posthumously in 1983.
- This Question could have been solved through elimination. Charan Singh and Jagjivan Ram haven't got Bharat Ratna Award. So, these two are eliminated.

Q.39 D

- **Option d is correct:** Hunter commission - 1882-83, Sir Thomas Raleigh Commission – 1902, Sadler Commission – 1917-19, Hartog Committee – 1929

Q.40 A

- **Option A is the correct answer.**
- Stri Purush Tulana (A comparison between men and women) is a pamphlet/book written by feminist activist Tarabai Shinde. Shinde was a writer born in the Berar province of Buldhana (present day Maharashtra) who protested against upper caste patriarchy and the caste system in India. She was a member of the Satyashodhak Samaj and was also an associate of Savitribai Phule and Jyotirao Phule. The pamphlet was originally published in Marathi in 1882. The literary work is a critique of upper caste patriarchy and the gender and caste system in 19th century India. The material is also considered the first modern feminist text of India. Shinde questions the position of women in the society and their rights.

Q.41 C

- **Statement 1 is correct:** The Communist Party of India and the Hindu Mahasabha did not support the movement.
- Quit India, 'Bharat Choro'. This simple but powerful slogan launched the legendary struggle which also became famous by the name of the August Revolution. In this struggle, the common people of the country demonstrated unparalleled heroism and militancy.
- It initially started as an urban revolt, marked by strikes, boycott and picketing, which were quickly suppressed. In the middle of August, the focus shifted to the countryside, which witnessed a major peasant rebellion, marked by destruction of communication systems, such as railway tracks and stations, telegraph wires and poles, attacks on government buildings or any other visible symbol of colonial authority and finally, the formation of "national governments" in isolated pockets. In general, the Indian bureaucracy did not support the Quit India Movement.

Hence option (c) is incorrect answer.

- According to official estimates, in the first week after the arrests of the leaders, 250 railway stations were damaged or destroyed, and over 500 post offices and 150 police stations were attacked. The movement of

trains in Bihar and Eastern U.P., was disrupted for many weeks. By the end of 1942, over 60,000 persons had been arrested. Twenty-six thousand people were convicted and 18,000 detained under the Defence of India Rules. Martial law had not been proclaimed, but the army, though nominally working under the orders of the civilian authorities, often did what it wanted to without any reference to the direct officers. The repression was as severe as it could have been under martial law.

- Gandhiji refused to condemn the violence of the people because he saw it as a reaction to the much bigger violence of the state.

Q.42 A

- Koodiyaattam, one of the oldest traditional theatre forms of Kerala, is based on Sanskrit theatre traditions. The characters of this theatre form are Chakyaar or actor, Naambiyaar, the instrumentalists, and Naangyaar, those taking on women's roles. The Sutradhar or narrator and the Vidushak or jesters are the protagonists. It is the Vidushak alone who delivers the dialogues. Emphasis on hand gestures and eye movements makes this dance and theatre form unique.

Hence option (a) is the correct answer.

- Mudiyyettu, a traditional folk theatre form of Kerala is celebrated in the month of Vrischikam (November-December). It is usually performed only in the Kali temples of Kerala, as an oblation to the Goddess. It depicts the triumph of goddess Bhadrakali over the asura Darika. The seven characters in Mudiyyettu-Shiva, Narada, Darika, Danavendra, Bhadrakali, Kooli, and Koimbidar (Nandikeshvara) are all heavily made-up. Mudiyyettu serves as an important cultural site for the transmission of traditional values, ethics, moral codes, and aesthetic norms of the community to the next generation, thereby ensuring its continuity and relevance in present times has been included in the list of UNESCO's intangible cultural heritage of Humanity.
- Therukoothu, the most popular form of folk drama of Tamil Nadu, literally means "street play". It is mostly performed at the time of the annual temple festivals of Mariamman (Rain goddess) to achieve a rich harvest. At the core of the extensive repertoire of Therukoothu there is a cycle of eight plays based on the life of Draupadi. Kattiakaran, the Sutradhara of the Therukoothu performance, gives the gist of the play to the audience and Komali entertains the audience with his buffoonery.
- Dashavatar is a popular form of theatre with a history of eight hundred years. The term Dashavatar refers to the ten incarnations of Lord Vishnu, the Hindu God of preservation. It is performed in the state of Goa.

Q.43 B

- The Bharatiya Nagarik Suraksha (Second) Sanhita, 2023 (BNSS2) seeks to replace the Criminal Procedure Code, 1973 (CrPC).
- **Statement 1 is correct:** It allows medical examination of the accused in certain cases, including rape cases. Previously, such examination is done by a registered medical practitioner on the request of at least a sub inspector level police officer. But new act provides that any police officer can request such an examination.
- **Statement 2 is not correct:** Handcuffs may only be used to arrest
 - 1) A habitual or repeat offender who has escaped custody, or
 - 2) A person who has committed offences such as rape, acid attack, organised crime, drug related crime, or offence against the State.
- **Statement 3 is correct:** The BNSS allows up to 15 days of police custody, which can be authorised in parts during the initial 40 or 60 days of the 60 or 90 days period of judicial custody. This may lead to denial of bail for the entire period if the police has not exhausted the 15 days custody.

Q.44 A

- Light pollution is defined as the presence of excessive or inappropriate artificial lighting, and can include other forms of electromagnetic radiation, such as radio waves and microwaves. Light pollution can exist throughout the day, but its effects are more noticeable at night due to the contrast with the dark sky.
- There are kinds of light pollution: glare, clutter, and light trespass.
 - Glare is excessive brightness that can cause visual discomfort (for example, when driving).
 - Clutter is bright, confusing, and excessive groupings of light sources (for example, Times Square in New York City, New York).
 - Light trespass is when light extends into an area where it is not wanted or needed (like a streetlight illuminating a nearby bedroom window).

- **Statement 1 is correct:** The International Dark-Sky Association (IDA) is a non-profit organization that works to preserve the natural night sky and reduce light pollution. The IDA's mission is to protect the nighttime environment and dark skies through environmentally responsible outdoor lighting.
- **Statement 2 is incorrect:** Light pollution is not limited to urban and industrial areas and can have negative effects on other natural ecosystems. Light pollution is the excessive or poor use of artificial light at night, which can disrupt wildlife patterns, contribute to carbon dioxide emissions, and disrupt human sleep. It can also degrade environmental quality and adversely affect birds and other migratory animals.



Trespass



Glare



Clutter



Q.45 C

- Authorities appointed/constituted under the Wildlife protection act include the following:
 - 1) National Board for Wildlife
 - 2) Chief Wildlife Warden - appointed by State Govt.
 - 3) Central Zoo Authority
 - 4) National Tiger Conservation Authority.
 - 5) Wildlife Crime Control Bureau

- 6) Wildlife Advisory Board
- 7) Conservation Reserve and Community Reserve
- National Biodiversity Authority was constituted under Biodiversity Act, 2002.
- Wildlife Trust of India (WTI) was formed in 1998 in response to the many crises confronting India's wildlife and wild habitats.



BACKGROUND

1887

The Wild Birds Protection Act was passed by the British India Government

1912

A second law was enacted in 1912 called the Wild Birds and Animals Protection Act. This act was amended in 1935.

1960

There is a rising issue for protection of wildlife and the prevention of certain species from becoming extinct came into the limelight.

1972

'forests' part from state subject was shifted to **Concurrent List** by passing the **Wildlife Protection Act, 1972**

Article 48A of the Constitution of India directs the State to protect and improve the environment and safeguard wildlife and forests

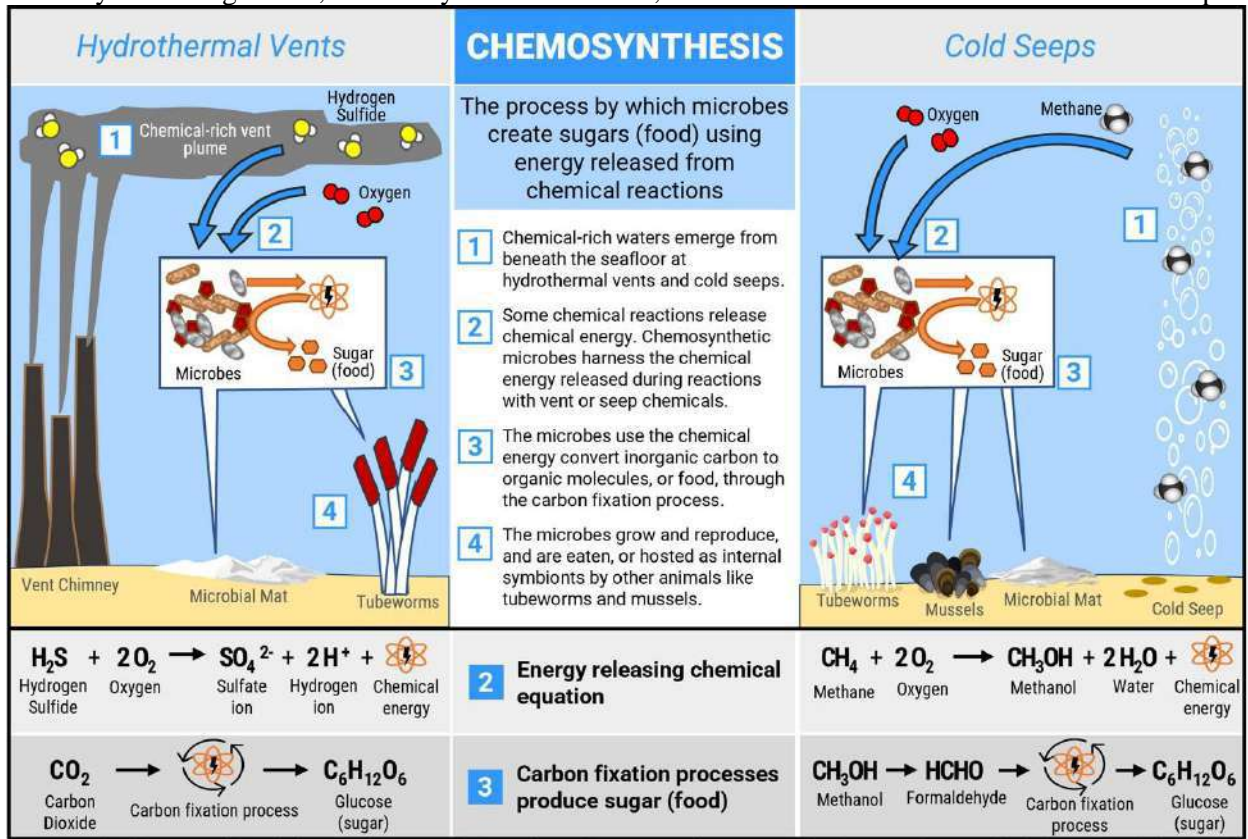
OBJECTIVES

- Prohibition of hunting
- Protection and management of wildlife habitats
- Establishment of protected areas
- Regulation and control of trade in parts and products derived from wildlife
- Management of zoos

Q.46 B

- Chemosynthesis is the synthesis of organic compounds by bacteria or other living organisms using energy derived from reactions involving inorganic chemicals, typically in the absence of sunlight. The majority of life on the planet is based in a food chain which revolves around sunlight, as plants make food via

photosynthesis. In the deep ocean, however, there is no light, so there are no plants. Instead of sunlight being the primary form of energy, chemical energy is produced by a process called chemosynthesis. Places with chemosynthetic organisms, such as hydrothermal vents, can become incredible oases of life in the deep sea.



Note: This diagram only includes one chemosynthetic pathway for vents and seeps. Due to the complex microbial diversity and chemicals found in these environments, there are several biochemical pathways that support the chemosynthetic communities found at each.

Q.47 C

- **Statement 1 is correct:** Soil organic matter (SOM) is made up of the remains of plants and animals in the soil at various stages of decomposition. SOM is a complex material that includes plant tissues, microorganisms, animals, and algal material. When plants and animals die, their remains are called organic matter. When the organic matter decays to the point where it is no longer recognizable, it is called SOM.
- **Statement 2 is correct:** Soil organic matter (SOM) affects many soil properties, including:
 - 1) **Structure:** Improves soil structure, making it more friable and easier to work with. This helps control erosion and improves water infiltration and water holding capacity.
 - 2) **Water infiltration:** Improves water infiltration following rains.
 - 3) **Water holding capacity:** Improves water holding capacity.
 - 4) **Root growth:** Enhances root growth into more permeable soil.
 - 5) **Nutrient availability:** Functions as a biological buffer so that the soil can supply plants with balanced nutrients.
 - 6) **Soil organisms:** Provides a habitat for immense numbers and variety of soil fauna and microflora, which play a critical role in the health and productivity of soils.
 - 7) **Soil stability:** Influences soil stability.
 - 8) **Oxygen-holding capacity:** Influences oxygen-holding capacity.
 - 9) **Soil color:** Soil color can vary depending on the amount of organic matter present in the soil.
 - 10) **Habitat:** Aggregates help provide habitat for soil microbes, worms, and insects.
- **Statement 3 is correct:** Soil organic Matter (SOM) is one of the three global indicators of Land Degradation Neutrality (LDN). The other two indicators are land cover and vegetation productivity. These indicators represent the capacity of land to provide ecosystem services.



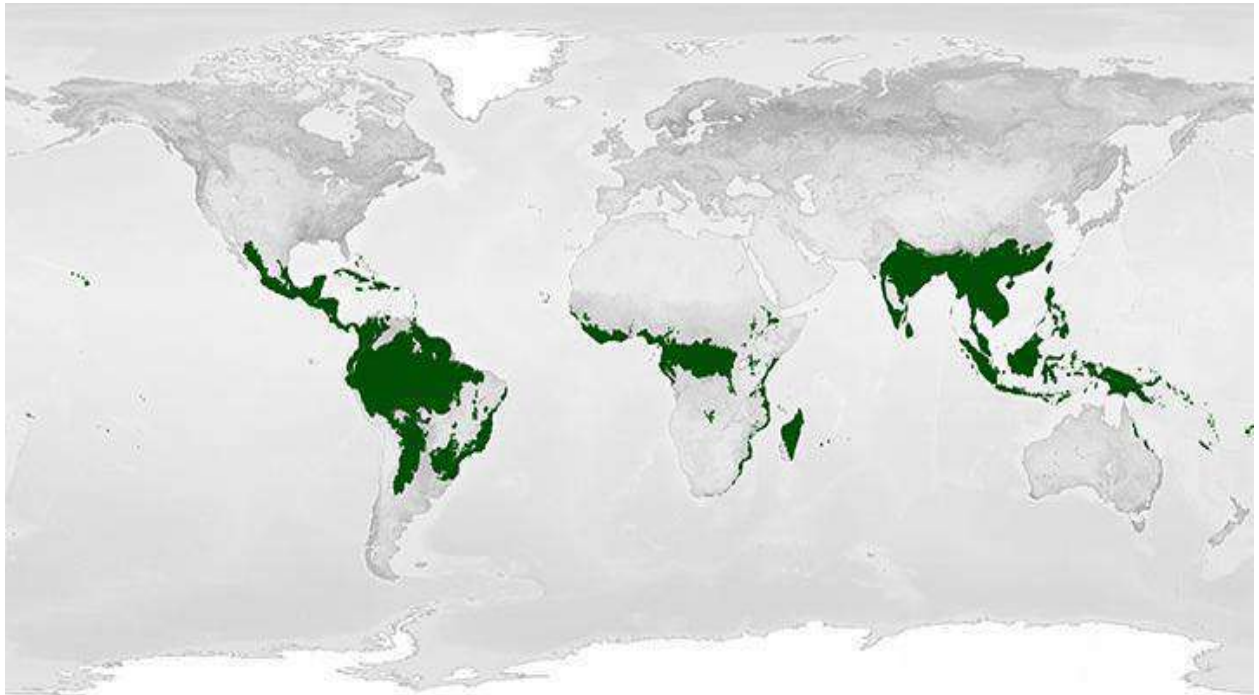
Q.48 C

- **Statement 1 is correct:** The Feed-in Tariff (FiT) scheme is a government initiative that encourages the use of low-carbon and renewable electricity generation. Under the scheme, people who install eligible systems to generate renewable energy (RE) can sell it to power companies at a rate higher than the normal electricity tariff rate.
- FITs usually involve long-term contracts, from 15 to 20 years.
- **Statement 2nd is correct:** Discoms can adopt FiT regulations and make offshore wind power procurement mandatory.

- FiT can be used to promote offshore wind power in the early stages of development until it becomes economically viable.

Q.49 C

- **Statement 1 is correct:** Tropical rainforests are known as the "world's largest pharmacy" because more than a quarter of natural medicines have been discovered in them. Around 70% of drugs used today are based on natural products. Tropical rainforests are home to around 40–75% of all biotic species. They produce many lifesaving medicines, such as Quinine, which treats malaria, and Mevacor, which treats hypercholesterolemia.
- **Statement 2 is correct:** Buttress roots are a common feature of many tropical rainforests. Buttress roots are large, wide roots that grow on all sides of a shallowly rooted tree. They are also known as plank roots. Buttress roots help stabilize trees, especially in shallow, saturated soils, and prevent them from toppling over. They also help top-heavy trees withstand strong winds. Buttress roots can grow up to 30 feet tall and spread for 30 meters above and below the soil. They can vary in size from barely noticeable to many square yards of surface.
- **Statement 3 is correct:** Kudremukh National Park in India is an example of a tropical rainforest biome. The 600 square kilometer park is located in the Western Ghats at an elevation of 1,894 meters above sea level. It's the second-largest Wildlife Protected Area in India and is part of the world's 38 "hottest hotspots" of biological diversity. The park's tropical rainforests and montane grasslands make up the largest protected block within the Western Ghats.

**Q.50 C**

- **Option A is incorrect:** All executive actions of the government of a state are formally taken in his name. He Act on aid and advice of Council of Ministers headed by CM.
- **Option B is incorrect:** He appoints the chairman and members of the state public service commission. However, they can be removed only by the president and not by a governor.
- **Option C is correct:** He appoints the advocate general of a state and determines his remuneration. The advocate general holds office during the pleasure of the governor which means he can be removed by the Governor anytime.
- **Option D is incorrect:** The power to nominate one-sixth of the members of the state legislative council from amongst persons having practical experience in literature, science, art, cooperative movement and social service is not the Executive Power, but the Legislative Power of the Governor.

Q.51 C

- **Option A is not correct:** If the incumbent Prime Minister's party continues to enjoy majority in the Lok Sabha, the Lok Sabha will not be dissolved.

- **Option B is not correct:** President has no such power to elect a new Prime Minister. The appointment of a new Prime Minister typically involves the leader of the majority party or coalition in the Lok Sabha being invited by the President to form the government.
- **Option C is correct:** The Prime Minister stands at the head of the council of ministers, the other ministers cannot function when the Prime Minister resigns or dies. In other words, the resignation or death of an incumbent Prime Minister automatically dissolves the council of ministers. The new Prime Minister, upon appointment, forms a new Council of Ministers as per the political dynamics.
- **Option D is not correct:** On demise of the incumbent Prime Minister, if the ruling party elects a new leader (not necessarily senior most leaders), the President will appoint him as the new Prime Minister or else the President will use his discretion

Q.52 B

- **Option A is correct:** Vote of Credit is granted for meeting an unexpected demand upon the resources of India, when the demand cannot be stated with the details ordinarily given in a budget. Hence, it is like a blank cheque given to the Executive by the Lok Sabha.
- **Option B is incorrect:** Supplementary Grant (not additional grant) is granted when the amount authorised by the Parliament through the appropriation act for a particular service for the current financial year is found to be insufficient for that year.
- **Option C is correct:** Excess Grant is granted when money has been spent on any service during a financial year in excess of the amount granted for that service in the budget for that year. Before the demands for excess grants are submitted to the Lok Sabha for voting, they must be approved by the Public Accounts Committee of Parliament.
- **Option D is correct:** Token Grant is granted when funds to meet the proposed expenditure on a new service can be made available by reappropriation. Reappropriation involves transfer of funds from one head to another. It does not involve any additional expenditure.

Q.53 C

- **Statement 1 is correct: Nayankara System:** A key feature of Vijayanagara's political organization.
 - **Nayakas (Amaranayakas)** were military chiefs or warriors controlling land and troops.
 - **Revenue from Amaram (land grants)** was provided to them in exchange for military service.
 - Studied in detail by **Portuguese travelers Fernao Nuniz and Domingo Paes** (16th century).
 - **D.C. Sircar and T.V. Mahalingam** identified them as **warriors with land grants from the central government.**
- **Administrative Role of Nayakas**
 - Nayakas functioned as **agents of the central government (Raya).**
 - Controlled **troops, collected revenue, and maintained law and order** in their respective regions.
 - **Amaranayankara:** A special designation for military officers overseeing **specific troop formations.**
- **Statement 2 is correct: Ayagar System (Village Administration)**
 - **Ayagars:** Village functionaries organized into hereditary groups.
 - **Key functionaries included:**
 - **Headmen** (Reddy/Gauda, Maniyam)
 - **Accountants** (Karnam, Senabhova)
 - **Watchmen** (Talaiyari)
 - **Paid through land allotments** or specific portions of village income.
 - **Other Village Servants:** Essential service providers, paid with land allocations -
 - **Priests, washermen, potters, blacksmiths, and carpenters.**
 - **Leather workers** (used in irrigation) and **niranikkars** (supervised irrigation channels).
- **Statement 3 is correct:** The Nayankara system was modeled on the Iqta system of the sultanate. The iqta was a territorial assignment given to administrative officers and nobles in lieu of the services they performed for the state during sultanate period. Similarly, the nayakas were a category of officers appointed by the king with rights over land. The landholding allocated to the nayakas was called nayakattanam.

Prelims Marks Maximiser:

- 1) Between 1336 and 1565, Vijayanagar was ruled by three different dynasties- Sangama, who remained in power till 1485; the Saluva who remained in power till 1503 and the Tuluvas.
- 2) The last dynasty was the Aravidu dynasty that ruled till seventeenth century.

Q.54 B

- **Palaeolithic sites are of two principal types:** open air sites and caves or rockshelters. Open air sites are more common in all parts of India and occur on or close to large and small rivers and also in interior basins or valleys and foothill zone of hill ranges. Cave and rockshelter sites occur in hilly areas covered with sedimentary rocks (sandstones and limestones). Bhimbetka complex in Madhya Pradesh and Kurnool caves in Andhra Pradesh are well-known examples.
- **Statement 1 is correct:** The record basically consists of stone tools made of basic rocks (quartzite, dolerite, granite and limestone) and siliceous materials like cherts and chalcedonys. Tools made of animal bones are known from a few Palaeolithic sites e.g. Middle Palaeolithic site at Kalpi in the Yamuna valley and Upper Paleolithic caves in the Kurnool area.
- **Statement 2 is incorrect:** The Neolithic Revolution, also called the Agricultural Revolution, marked the transition in human history from small, nomadic bands of hunter-gatherers to larger, agricultural settlements and early civilization. The Neolithic Age is sometimes called the New Stone Age.
- **Statement 3 is correct:** Tools differ from culture to culture and so its making. Tools develop in conformity with the regular upward trend of physical and technological evolution. Chopper is a tool on pebbles both small and large and appeared during the early part of the Palaeolithic times followed by the Chopper-Chopping tools, and handaxes, cleavers and disc occur later. All these are classified as Core tools or heavy duty tools. Flake tools or light-duty tools were made at the end of the Lower Palaeolithic times

Prelim Marks Maximizer:

- 1) The Paleolithic period, 2,000,000–10,000 BCE, was characterized by the development of stone tools and art, bone artifacts, and cave paintings. The Neolithic period, 9,000–4,500 BCE, was characterized by the domestication of animals, the development of agriculture, and the manufacture of pottery and textiles.

Q.55 C

- **Statement-I is correct:** The doctrine of Syadvada is also known as the doctrine of relativity of knowledge and judgements. It views that all our ordinary knowledge is necessarily partial, always relative to some particular point of view and about particular aspects of objects. The truth conveyed by each of these points of view is not the absolute truth but only a relative one, leaving room for the other alternative truths.
- **Statement-II is incorrect:** Jainism propagates the theory of ‘the Doctrine of Relativity of Knowledge and Judgments’ famously known as the doctrine of Syadvada. Every judgment that one passes in daily life about an object is true only in reference to the standpoint occupied and the aspect of the object considered. In Jainism, knowledge is considered a means to attain liberation. Jainism has a totally different view of knowledge. Knowledge is not something to be grasped and possessed by the soul but is a state of the soul itself.

Prelim Marks Maximizer:

- 1) Syādvāda is the Jain doctrine of conditional predication. According to this doctrine, all philosophical statements should be predicated with the particle syāt (from a certain perspective), to capture the relative nature of the truth claim.

Q.56 A

- **Statement 1 is correct:** Shivaji laid the foundation of a sound system of administration. The king was the pivot of the government. He was assisted by a council of ministers called Ashtapradhan. Each minister was directly responsible to Shivaji.
- **Statement 2 is incorrect:** Under Shivaji, the offices of Ashtapradhan were neither hereditary nor permanent. Also, these offices were frequently transferred. Each of the Ashtapradhan was assisted by eight assistants namely Diwan, Majumdar, Fadnis (used to respond to the letters of commanders of the forts), Sabnis, Karkhanis, Chitnis (dealt with all diplomatic correspondences and wrote all royal letters), Jamadar, and Potnis (looked after the income and expenditure of the royal treasury).
- **Statement 3 is incorrect:** All the council of ministers except Nyayadhish, who was in charge of justice and Pandit Rao, who was the head of charity, participated in war.

- **Statement 4 is incorrect:** Most of the administrative reforms of Shivaji were based on the practices of Deccan sultanates. The office of Ashtpradhan was also not his creation. Many of these officers like peshwa, majumdar, dabir etc already existed in Deccani sultanate.

Q.57 A

- Paumachariya, written by Acharya Vimalasuri in the Prakrit language, is a Jain version of the Hindu epic Ramayana. It narrates the life story of Rama, who is referred to as 'Padma' in the Jain tradition.
- **The key points about Paumachariya are:**
 - 1) It is one of the earliest Jain works dealing with the Ramayana story, composed in 118 cantos.
 - 2) The aim was to present the story of Rama as proclaimed by Lord Mahavira himself, removing inconsistencies and incredible elements found in Valmiki's version.
 - 3) It depicts the Rakshasas not as man-eating demons, but as a race of Vidyadharas (beings with supernatural qualities).
 - 4) The Vanaras are portrayed as tribes with the monkey as their flag/symbol, rather than literal monkeys.
 - 5) By retelling the Ramayana from the Jain perspective, it eliminates aspects considered unbelievable or contrary to Jain principles.
- Therefore, Paumachariya is accurately described as a Jain retelling or version of the Hindu epic Ramayana, with Rama referred to as 'Padma'.

Q.58 A

- **Pair 1 is incorrect:** Vikramorvashi is written by Kalidasa. Vikramorvashi is a Sanskrit play that tells the story of King Pururavas and the celestial nymph Urvashi. It explores themes of love, desire, and sacrifice and is known for its lyrical verses and imaginative storytelling. Kumarasambhava is also written by Kalidasa. Kumarasambhava is an epic poem that narrates the divine birth and marriage of the god Shiva and the goddess Parvati. Malavikagnimitram is written by Kalidasa, one of the most celebrated poets and playwrights in classical Sanskrit literature. It tells the story of King Agnimitra of the Shunga dynasty and his love for Malavika, a beautiful maiden.
- **Pair 2 is correct:** Abhigyan Shakuntalam by Kalidas is a classical Sanskrit play of seven acts, which narrates the well-known love story of king Dushyant and Shakuntala.
- **Pair 3 is incorrect:** Priyadarsika, one of the best plays in Sanskrit literature, is composed in four acts during 7th century AD by Harsha. The theme of this drama has been taken from Gunadhya's Brihatkatha (1st century AD). The theme of the play is a love affair of King Udayana of Vatsa with Priyadarsika, daughter of King Dridhavarman. He is credited with the Sanskrit works Ratnavali, Priyadarshika and Nagananda. Banabhatta was his court poet and he composed the Harshacharita which gives an account of Harsha's life and deeds.
- **Pair 4 is incorrect:** The Nitisara of Kamandaka, also known as the Kamandakiya-Nitisara, was composed during the period of Gupta Dynasty. It was based on Kautilya's Arthashastra. King Hala wrote 'Gatha Saptasati' in Prakrit. He was a Shatavahana King.

Q.59 B

- **Statement 1 is incorrect:** The Nalayira Divyaprabhandam stands out as a significant anthology of compositions by the Alvars, revered saints in the Tamil Vaishnavite tradition. Often likened to the Tamil Veda, it underscores the profound reverence and importance accorded to this text, comparable to the esteemed status of the four Vedas in Sanskrit revered by the Brahmanas.
- **Statements 2 and 3 are correct:** Tevaram encompasses the initial seven volumes of Tirumurai, housing twelve volumes of devotional poems dedicated to the Saiva tradition. These compositions are attributed to three eminent Tamil poets of the 7th and 8th centuries: Sambandar, Appar, and Sundarar, who are revered as Nayanar saints. Thus, Tevaram stands as a treasury of Tamil Shaiva hymns, showcasing the spiritual depth and poetic brilliance of these revered saints.

Q.60 C

- **Option A is not correct:** When the nominal exchange rate is greater than the PPP, the home country's goods are relatively overpriced, making imports more attractive. This would lead to increased imports, not exports.
 - For e.g. Let's say the nominal exchange rate between the Indian rupee and the US dollar is 80 INR/USD, but the purchasing power parity (PPP) exchange rate is 60 INR/USD.
 - In this case, the Indian rupee is overvalued compared to the US dollar. This means imported goods in India would be relatively cheaper for Indian consumers. As a result, India would tend to import more from the US.
- **Option B is not correct:** When the nominal exchange rate is less than the PPP, the home country's goods are relatively underpriced, making exports more attractive. This would lead to increased exports, not imports.
 - For e.g. Let's say the nominal exchange rate between the Indian rupee and the US dollar is 50 INR/USD, but the PPP exchange rate is 60 INR/USD.
 - In this case, the Indian rupee is undervalued compared to the US dollar. This means Indian goods would be relatively cheaper for US consumers. As a result, India would tend to export more to the US
- **Option C is correct, and D is not correct:** When the nominal exchange rate equals the PPP, there is no relative price advantage for the home country's goods, and exports would effectively stop.
 - For e.g., If the nominal exchange rate between the Indian rupee and the US dollar is 60 INR/USD, and the PPP rate is also 60 INR/USD, then there is no relative price advantage for either country.
 - In this scenario, there would be no incentive for the US to import from India or for India to export to the US, as the prices would be the same. Exports from India to the US would effectively stop.

Q.61 D

- **Option D is the correct answer.**
- In negative yield bond, an investor receives less money at the bond's maturity than the original purchase price for the bond. A negative bond yield is an unusual situation in which issuers of debt are paid to borrow. In other words, the depositors, or buyers of bonds, are effectively paying the bond issuer a net amount at maturity instead of earning a return through interest income.
- **Statement 1, 2, 3 & 4 are correct:** The reason for investors buying a negative yielding debt or bonds can be:
 - 1) **Statement 1 is correct:** Asset Allocation and Pledged Assets: Many hedge funds and investment firms that manage mutual funds must meet certain requirements, including asset allocation. Asset allocation means that the investments within the fund must have a portion allocated to bonds to help create a diverse portfolio. Allocating a portion of a portfolio to bonds is designed to reduce or hedge the risk of loss from other investments, such as equities. As a result, these funds must own bonds, even if the financial return is negative.
 - 2) **Statement 2 is correct:** When expected currency moves will likely offset the negative yields: Some investors believe they can still make money even with negative yields. For example, foreign investors might believe the currency's exchange rate will rise, which would offset the negative bond yield. In other words, a foreign investor would convert their investment to a country's currency when buying the government bond and convert the currency back to the investor's local currency when selling the bond. The investor would have a gain or loss merely from the currency exchange fluctuation, irrespective of the yield and price of the bond investment.
 - 3) **Statement 3 is correct:** Purchasing power is maintained: The most important reason investors would willingly choose to invest in negative-yielding bonds is when there is deflation, or a sustained drop in the price level for goods and services. For instance, consider a one-year bond that yields minus 5% but at the same time inflation is expected to be minus 10% over the same period. That means the investor in the bond would have more purchasing power at the end of the year because prices for goods and services would have declined far more than would the value of the investment in the fixed-income security.
 - 4) **Statement 4 is correct:** Safe Haven Assets: Investors might also be interested in negative bond yields if the loss is less than it would be with another investment. In times of economic uncertainty, many investors rush to buy bonds because they're considered safe-haven investments. These purchases are called the flight-to safety- trade in the bond market. During such a time, investors might accept a negative-yielding bond because the negative yield might be far less of a loss than a potential double-digit percentage loss in the equity markets.

Q.62 D

- A liquidity trap is a contradictory economic situation in which interest rates are very low and savings rates are high, rendering monetary policy ineffective. **Hence options 2 and 3 are correct.**
- It was first described by economist John Maynard Keynes.
- During a liquidity trap, consumers choose to avoid bonds and keep their funds in cash savings because of the prevailing belief that interest rates could soon rise (which would push bond prices down and yields up). Because bonds have an inverse relationship to interest rates, many consumers do not want to hold an asset with a price that is expected to decline. **Hence option 1 is correct.**
- At the same time, central bank efforts to spur economic activity are hampered as they are unable to lower interest rates further to incentivize investors and consumers.
- While a liquidity trap is a function of economic conditions, it is also psychological since consumers are making a choice to hoard cash instead of choosing higher-paying investments because of a negative economic view.
- A liquidity trap is not limited to bonds. It also affects other areas of the economy, as consumers are spending less on products which means businesses are less likely to hire.
- Some ways to get out of a liquidity trap include raising interest rates, hoping the situation will regulate itself as prices fall to attractive levels, or increased government spending.

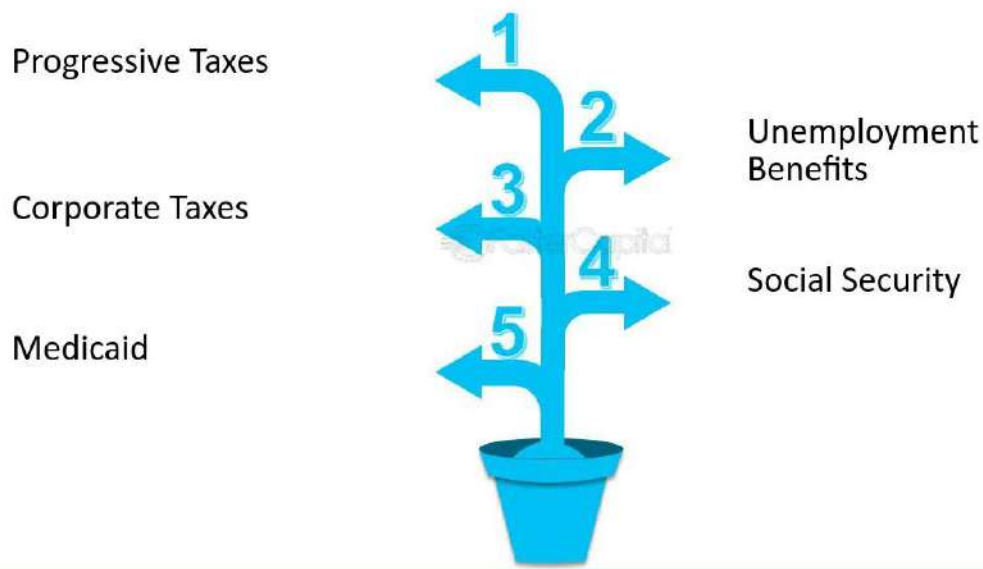
Q.63 D

- **Five-year plan Objective:**
 - 1) **Second Plan (1956-61)** Emphasis on industrialization
 - 2) **Third Plan (1961-65)** Implemented the strategy of "import substitution" aimed at decreasing reliance on foreign goods
 - 3) **Sixth Plan (1978-83)** Focus on poverty alleviation and self-reliance
 - 4) **Eight Plan (1992-97)** Emphasis on liberalization and globalization in the Indian economy
- **Following the Twelfth Five-Year Plan (2012-2017)**, the Government of India ceased the implementation of Five-Year Plans and introduced the NITI Aayog, a fresh think tank entity. The Niti Aayog is dedicated to prioritizing sustainable development goals and formulating comprehensive strategies for long-term planning.
- **Pair 1 is correct:** The Third Five-Year Plan in India, spanning from 1961 to 1966, aimed to foster self-reliance and economic growth. It implemented the strategy of "import substitution" aimed at decreasing reliance on foreign goods and fostering domestic production. Efforts were channeled into enhancing industrial and agricultural production, generating employment, and improving living standards. However, the plan encountered significant setbacks, including two wars—one with China in 1961-62 and another with Pakistan in 1965-66 along the Gujarat border—and a severe drought-induced famine in 1965-66. Key initiatives included the establishment of major steel plants in Bokaro and Rourkela, the expansion of the railway network, and the introduction of high-yielding varieties of wheat and rice.
- **Pair 2 is correct:** During the Eighth Five-Year Plan (1992-1997), India's economy transitioned away from central planning towards a market-oriented approach. Emphasizing growth and development, the plan prioritized market reforms, reduced government intervention, and encouraged increased participation from the private sector. This shift signaled a move towards a more open and globalized Indian economy. There was initiation of economic reforms and liberalization, alongside the establishment of the Securities and Exchange Board of India (SEBI) and the introduction of the National Renewal Fund aimed at providing training for retrenched workers.
- **Pair 3 is correct:** The plan spanning from 1980 to 1985 was launched under the slogan 'Garibi Hatao' (eradicate poverty). It addressed significant issues such as the emphasis on socio-economic infrastructure development in rural areas, the eradication of rural poverty, and the mitigation of regional disparities through the Integrated Rural Development Programme (IRDP) introduced in 1979. Additionally, it introduced the 'target group' approach and launched several national-level programs and schemes tailored to address specific areas and concerns related to socio-economic development.
- **Pair 4 is correct:** The growth strategy prioritized rapid industrialization, particularly in heavy industries and capital goods, formulated under the guidance of Professor Mahalanobis. However, challenges arose due to the perception of a closed economy, leading to shortages of both food and capital during this period. Introduced various public sector enterprises such as Hindustan Machine Tools (HMT), Steel Authority of India Limited (SAIL), and Oil and Natural Gas Corporation (ONGC), alongside initiating the Green Revolution in agriculture.

Q.64 B

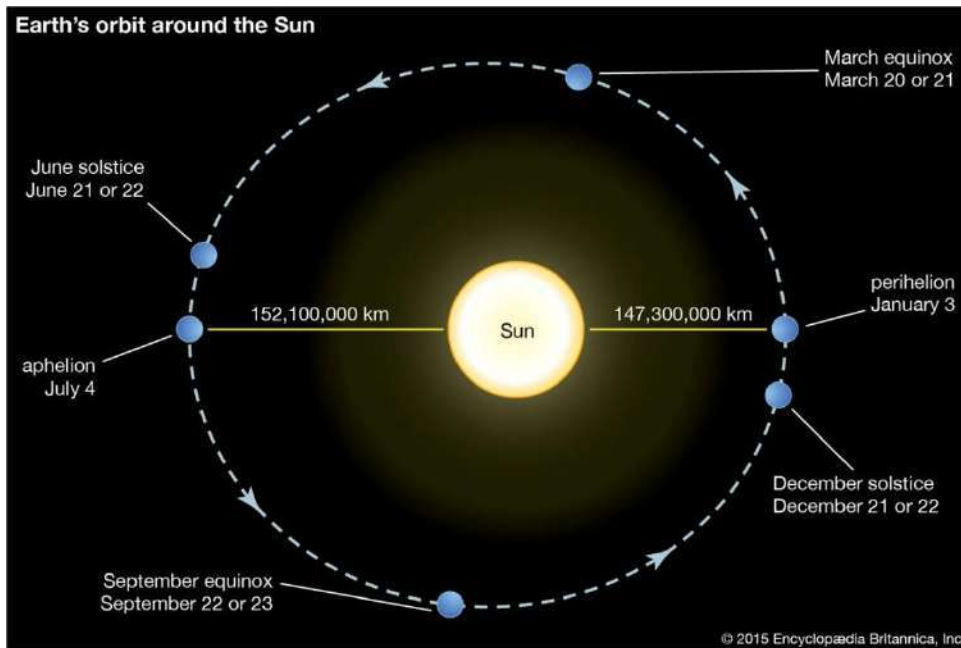
- **Option (b) is correct:** Automatic stabilizers, a cornerstone of Keynesian economics, their primary goal is to stabilize incomes, consumption, and business spending across various phases of the business cycle. Notably, these stabilizers include progressively graduated corporate and personal income taxes, alongside transfer systems like unemployment insurance and welfare.
 - The term "automatic" underscores their innate ability to activate in response to economic shifts without explicit government action. During severe or prolonged economic downturns, governments often supplement automatic stabilizers with one-time or temporary stimulus measures to reinvigorate economic growth.
- In contrast, open market operations and priority sector advances are typically part of monetary policy tools i.e. set of actions and strategies employed by a central bank to regulate the money supply, interest rates, and credit availability in an economy, with the objective of promoting sustainable economic growth, price stability, and low unemployment. They are not automatic stabilizers.

Examples of Automatic Stabilizers in Action



Q.65 D

- **Option a is incorrect:** Intertropical Convergence Zone (ITCZ) is a zone where trade winds converge. It is also referred to as the thermal equator. It is a zone of calm, hot, and low pressure. ITCZ shifts itself as per the movement of the Sun. So during January, the Sun would be in the southern hemisphere hence the ITCZ shifts southward.
- **Option b is incorrect:** The Moon travels around the Earth in an elliptical orbit. Basically, a Supermoon happens when the full moon coincides with the moon's closest approach to Earth in its orbit. It is nothing related to the month of January.
- **Option c is incorrect:** The winter solstice occurs when Earth's pole reaches its maximum tilt. It results in shorter daytime and lengthy nights. This phenomenon is generally observed on the 21st of December.
- **Option d is correct:** On 3rd January, the Earth comes closest to the Sun and the point is known as Perihelion. On the other side, the Aphelion is the point on which the Earth is farthest from the Sun.



Q.66 D

- **Stratovolcano:**
 - 1) **Structure:** Tall, steep-sided volcano.
 - 2) **Composition:** Alternating layers of ash, lava, and volcanic rocks.
 - 3) **Eruption Type:** Explosive eruptions with viscous lava.
- **Cinder Cone:**
 - 1) **Structure:** Cone-shaped with steep sides.
 - 2) **Composition:** Formed from ejected volcanic fragments (cinders).
 - 3) **Eruption Type:** Typically short, explosive eruptions.
- **Shield Volcano:**
 - 1) **Structure:** Broad, gently sloping volcano with a shield-like profile.
 - 2) **Composition:** Primarily basaltic lava with low viscosity.
 - 3) **Eruption Type:** Generally non-explosive with fluid lava flows.
- **Composite Volcano:**
 - 1) **Structure:** Tall, symmetrical volcano with layered structure.
 - 2) **Composition:** Alternating layers of ash, lava, and volcanic rocks.
 - 3) **Eruption Type:** Both explosive and effusive eruptions, varying in intensity.

VOLCANIC LANDFORMS

Volcanoes come in many shapes, formed by the geological processes that spring them in the first place. By observing the different shapes, geologists are able to explain each volcano's original formation process. Most volcanoes can be grouped into four main kinds.

1. SHIELD VOLCANOES

Shield volcanoes are built up slowly by the accretion of thousands of highly fluid lava flows called basalt lava that spread widely over great distances, and then cool as thin, gently dipping sheets. Their name comes from the fact that they look like a shield when viewed from above.

The tallest volcano on Earth, Hawaii's **Mauna Kea** with an elevation of 4,207 meters (13,800 ft) above sea level, is a shield volcano. Its top is over 10,203 meters (33,474 ft) above the deep ocean floor, higher than Mount Everest.

2. STRATOVOLCANOES

Stratovolcanoes, or composite volcanoes, alternate explosive lava eruption with emissions of pyroclastic products (ash and rocks). They have a relatively narrow base, fairly steep slopes and they easily reach great heights. Some of the most beautiful mountains in the world are composite volcanoes, including **Mount Fuji** in Japan, **Mount Cotopaxi** in Ecuador, **Mount Shasta** in California, and **Mount St. Helens** in Washington.

Stromboli, a stratovolcano located off the western coast of southern Italy, is called the "Lighthouse of the Mediterranean". It has been erupting almost continuously for over 2000 years.

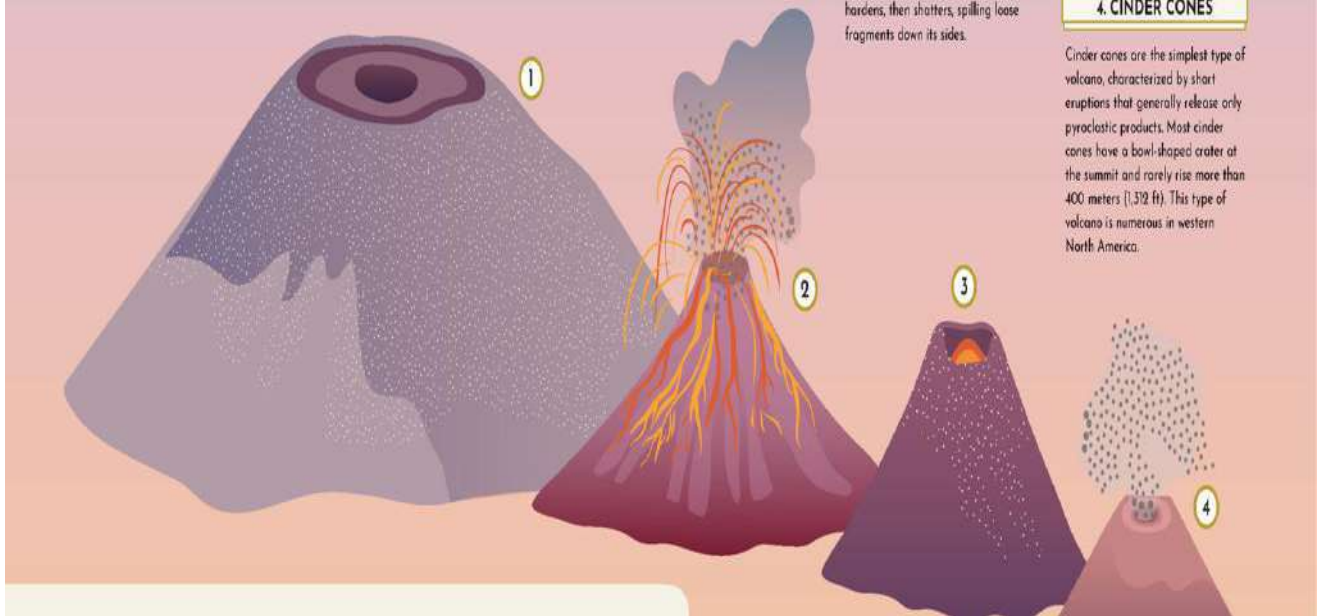
3. VOLCANIC DOMES

Volcanic domes, also called lava domes, are formed by relatively small, bulbous masses of lava too viscous to flow any great distance. On extrusion, the lava piles over and around its vent and a dome grows largely by expansion from within.

As it grows, its outer surface cools and hardens, then shatters, spilling loose fragments down its sides.

4. CINDER CONES

Cinder cones are the simplest type of volcano, characterized by short eruptions that generally release only pyroclastic products. Most cinder cones have a bowl-shaped crater at the summit and rarely rise more than 400 meters (1,312 ft). This type of volcano is numerous in western North America.



Q.67 B

- **Option b is correct:** The Dobson Unit (DU) is a unit of measurement used to express the concentration of ozone in the Earth's atmosphere. Specifically, one Dobson Unit is defined as the number of ozone molecules required creating a layer of ozone that would be 0.01 millimeters thick at standard temperature and pressure (STP) in a column of air extending from the Earth's surface to the top of the atmosphere.
- So, when we say "The concentration of ozone in a column of air," we are referring to the number of ozone molecules present in a vertical column of the atmosphere. The thicker the ozone layers in this column, the higher the Dobson Unit value, and the thinner the layer, the lower the Dobson Unit value.
- Therefore, the Dobson Unit serves as a measure of ozone concentration rather than the physical thickness of the ozone layer itself.

Q.68 B

- **Statement 1 is incorrect:** Front is a three-dimensional boundary zone formed between two converging air masses with different physical properties such as temperature, humidity, density etc. Fronts are the typical features of midlatitudes weather and they are uncommon in tropical and polar regions.
- **Statement 2 is correct:** The process of formation of a front is known as Frontogenesis and dissipation of a front is known as Frontolysis. In the northern hemisphere Frontogenesis (convergence of air masses) happens in anti-clockwise direction and in the southern hemisphere, clockwise direction due to the effect of Coriolis force.

- **Statement 3 is correct:** When two air masses are unable to push against each other and the surface position of a front does not change, a stationary front is formed. In Stationary front, the wind motion on both sides of the front is parallel to the front.
- **Statement 4 is incorrect:** Frontolysis refers to the weakening or dissipation of a weather front. It is the opposite of frontogenesis, which involves the strengthening or development of a weather front.

Q.69 A

- **Statement I is correct:** The convergence of the warm Gulf Stream and cold Labrador Current near Newfoundland causes inversion of temperature, which results in the formation of dense fog that affects visibility and hinders sea transport. Due to this, there is a chance of boat accidents, so this area is known as the “Graveyard of the Atlantic.”
- **Statement-II is correct:** Labrador is a cold current and Gulf Stream is a warm current both the current converge in north Atlantic Ocean. Convergence of this could result in the replenishment of nutrients due to upwelling, which could act as a food source for fish leading to an increase in their population. This area is noted as an international fishing ground. This is because of the mixing up of warm and cold currents, which replenish the oxygen and favor plankton growth. These planktons are the primary food for the fish population.
- **Hence, Both the statements are correct and Statement-II is the correct explanation for Statement-I.**

Q.70 C

- Groundnut is the most important oilseed of India. It accounts for nearly half of the major oilseeds produced in India.
- Groundnut kernels are rich in proteins and vitamins and have high calorific value. It contains 40-50% oil which is used as edible oil or hydrogenated vanaspati.
- The oil is used for manufacturing margarine, medical emulsions, soap etc. Its oil cake is used as an important rich cattle feed. It is often a rotation crop because of its atmospheric nitrogen fixing abilities.
- It is a tropical crop that requires 20°-30°C temperature and 50-75 cm rainfall. Isohyet of 100 cm marks the upper limit for groundnut cultivation.
- It is mainly a kharif crop but it also cultivated during rabi season. It is highly susceptible to frost, prolonged drought, continuous rain & stagnant water.

Prelims Marks Maximizer:

- 1) Vegetable oils obtained from crushing local oilseeds.
- 2) Mustard in northern and eastern India.
- 3) Groundnut in Gujarat, Maharashtra, Karnataka and Andhra Pradesh.
- 4) Sesame and groundnut in Tamil Nadu; and
- 5) Coconut in Kerala.

Q.71 B

- **Pair 1 is correctly matched:**
Government of India Act, 1858:
 - It created a new office, Secretary of State for India.
 - A new office of Viceroy was created.
 - Lord Canning became the first Viceroy of India.
 - It was known as An Act for the Better Government of India.
 - This act abolished the company rule.

- **Pair 2 is not correctly matched:**

Regulating Act of 1773:

- Governor of Bengal was designated as the Governor-General of Bengal (Warren Hastings became first Governor-General of Bengal)
- Supreme court to be established at Calcutta in 1774.

- **Pair 3 is correctly matched:**

Indian Council Act, 1861:

- The Indian Councils Act 1861 was an Act of the Parliament of the United Kingdom that transformed the Viceroy of India's executive council into a cabinet run on the portfolio system. The Governor-General could promulgate ordinances, without the concurrence of the legislative council, during and emergency.

- The Indian Councils Act 1892 was an act of the British Parliament that increased the size of the legislative councils in India. The members were also given the right to ask questions on the budget. It was the first step towards a representative form of government in modern India.

Q.72 B

- **Option B is correct.**
 - 1) Dakshina Bharat Hindi Prachar Sabha is an organisation whose main goal is to improve Hindi literacy among the non-Hindi speaking people of South India.
 - 2) The headquarter is located at Thanikachalam Road, T. Nagar, Chennai.
 - 3) The organisation was established by Mahatma Gandhi, who became the founder president of the Sabha, and held the post till his death.
 - 4) The sabha was inaugurated by Annie Besant on 17 June 1918. In 1964, the institution was recognised by the Indian Government as one of the Institutes of National Importance.

Q.73 A

- **Statement 1 is correct:** ‘Amar Sonar Bangla’, the national anthem of present-day Bangladesh, was composed by Rabindranath Tagore and sung by huge crowds marching in the streets.
- **Statement 2 is incorrect:** On August 22, 1907, Madam Bhikaji Cama became the first person to hoist Indian flag on foreign soil in Stuttgart in Germany. Appealing for human rights, equality and for autonomy from Great Britain, she described the devastating effects of a famine that had struck the Indian subcontinent.
- **Statement 3 is incorrect:** The Congress session was held at Calcutta (1906) under the presidentship of Dadabhai Naoroji. In this, it was declared that the goal of the Indian National Congress was “self-government or swaraj like the United Kingdom or the colonies” of Australia or Canada.

Q.74 B

- **Statement 1 is correct:** In art, this was the period when Abanindranath Tagore broke the domination of the Victorian naturalism over Indian art and sought inspiration from the rich indigenous traditions of the Mughal, Rajput and Ajanta paintings.
- **Statement 2 is incorrect:** Nandalal Bose, who left a major imprint on Indian art, was the first recipient of the scholarship offered by the Indian Society of Oriental Art, founded in 1907.
- **Statement 3 is incorrect:** In science, Jagdish Chandra Bose, Prafulla Chandra Ray and others pioneered original research that was praised all over the world.
- **Statement 4 is correct:** The Swadeshi influence could be seen in Bengali folk music popular among the Hindu and the Muslim villagers (Palligeet and Jan Gàn) and it evoked collections of the Indian fairy tales, such as Thakurmar Jhuli (Grandmother’s tales), written by Daksinaranjan Mitra Majumdar.

Prelims Marks Maximiser:

- 1) The songs composed by Rabindranath Tagore, Rajani Kanta Sen, Dwijendralal Ray, Mukunda Das, Syed Abu Mohammed and others later became the moving spirit for the nationalists of all hues, ‘terrorists, Gandhian or Communists’ and are still popular.
- 2) Rabindranath’s Amar Sonar Bangla, written at that time, was to later inspire the liberation struggle of Bangladesh and was adopted as the National Anthem of the country in 1971.

Q.75 B

- **Option A is incorrect and Option B is correct:** The principle of liberty means ‘equal’ liberty or freedom for everyone. However, if liberty of one challenge liberty of another in state, then it challenges very idea of liberty. Thus, equality principle is necessary to ensure true liberty in society. Thus, liberty and equality are complementary principle. Ex- Without ban on untouchability, it is hard to ensure not only equality, but also liberty as major section of society cannot enjoy liberty in its absence.
- **Option C is incorrect:** Equality in Indian polity is not about identical treatment, rather, equality of opportunity and fair shares, and not equal shares.
- **Option D is incorrect:** Affirmative action is part of positive liberty, where State takes action to ensure a level platform for all to compete and be in a position to enjoy true liberty.

Q.76 D

- **Option d is the correct answer:**

- Article 20 of Indian Constitution provides for protection in respect of conviction of offences. It lays down certain safeguards to the person accused of crimes as stated below:
 - 1) Ex post facto law (Art. 20(1)).
 - 2) Double Jeopardy (Art. 20(2)).
 - 3) Self-incrimination (Art. 20(3)).
- **Option A is correct:** Article 20(3) provides for no self-incrimination that means no person accused of any offence shall be compelled to be a witness against himself. The protection against self-incrimination extends to both oral evidence and documentary evidence. However, it does not extend to:
 - 1) Compulsory production of material objects,
 - 2) Compulsion to give thumb impression, specimen signature, blood specimens, and
 - 3) Compulsory exhibition of the body.
- Further, it extends only to criminal proceedings and not to civil proceedings or proceedings which are not of criminal nature.
- **Option B is correct:** Article 359 authorizes the president to suspend the right to move any Court for the enforcement of Fundamental Rights during a National Emergency. The 44th Amendment Act of 1978 restricted the scope of Article 359. The President cannot suspend the right to move the Court for the enforcement of fundamental rights guaranteed by Articles 20 to 21. The Supreme Court held that in any case no person can be stripped of his right to life and personal liberty. Therefore, Articles 20 and 21 cannot be suspended even in case of a national emergency
- **Option C is correct:** Article 20 grants protection against arbitrary and excessive punishment to an accused person whether citizen or foreigner or legal person like a company or a corporation.
- **Option D is incorrect:** The protection against double jeopardy is available only in proceedings before a Court of law or a judicial tribunal. In other words, it is not available in proceedings before departmental or administrative authorities as they are not of judicial nature.
- The principle of no double jeopardy means no person shall be prosecuted and punished for the same offence more than once.

Q.77 D

- **Option a is incorrect:** Town - The concept of 'town' can best be understood with reference to 'village'. Population size is not the only criterion. Functional contrasts between towns and villages may not always be clear-cut, but specific functions such as, manufacturing, retail and wholesale trade, and professional services exist in towns.
- **Option b is incorrect:** City - A city may be regarded as a leading town, which has outstripped its local or regional rivals. In the words of Lewis Mumford, "the city is in fact the physical form of the highest and most complex type of associative life". Cities are much larger than towns and have a greater number of economic functions. They tend to have transport terminals, major financial institutions and regional administrative offices. When the population crosses the one million mark it is designated as a million city.
- **Option c is incorrect:** Million City - The number of million cities in the world has been increasing as never before. There were 162 million cities in mid 70's and there was threefold increase in 2005 and the number reached to 438. In 2016, there were 512 cities with at least 1 million inhabitants globally. By 2030, a projected 662 cities will have at least 1 million residents.
- **Option d is correct:** The term conurbation was coined by Patrick Geddes in 1915 and applied to a large area of urban development that resulted from the merging of originally separate towns or cities. Greater London, Manchester, Chicago and Tokyo are examples.

Q.78 C

- National Statistical Office (NSO), prepares the estimates of national income in India. The first official estimates of the national income, prepared by the NSO at constant prices with base year 1948-49, as well as at current prices, were brought out in 1956.

PRELIMS MARKS MAXIMIZER:

- 1) **Planning Commission:** It was an institution of Government of India which formulated India's Five year plans.
- 2) **Headquarters:** New Delhi
- 3) **Reserve Bank of India:** India's central banking institution, which controls the monetary policy of Indian Rupee.

- 4) **Indian Statistical Institute:** Institution devoted to research, teaching and application of statistics, natural science & social science.

Q.79 C

- **Option a is incorrect:** A Veblen good is a good for which demand increases as the price increases. Veblen goods are typically high-quality goods that are well made, exclusive, and a status symbol.
- **Option b is incorrect:** A Giffen good is a low-income, non-luxury product for which demand increases as the price increases and vice versa.
- **Option c is correct:** Engel's Law states that the percentage of income allocated for food purchases decreases as a household's income rises, while the percentage spent on other things (such as education and recreation) increases.
- **Option d is incorrect:** The law of demand states that the quantity purchased varies inversely with price. In other words, the higher the price, the lower the quantity demanded.

Q.80 A

- **Statement 1 is not correct:** Treasury bills are short-term debt instruments issued by the Central government with a maturity of one year or less. At present T-Bills are issued in three tenors, namely, 91 days, 182 days, and 364 days. Treasury bills are zero-coupon securities and pay no interest. They are issued at a discount and redeemed at the face value at maturity.
- In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs). G-Secs carry practically no risk of default and, hence, are called risk-free gilt-edged instruments. Therefore, Treasury bills are issued by the Government of India and there are no treasury bills issued by the State Governments.
- **Statement 2 is not correct:** T-bills are issued at a discount and are redeemed at par.
- RBI allowed foreign investors to invest in T-bills to bring foreign funds into the market. Currently, short-term investments by a foreign portfolio investor (FPI) should not exceed 20 per cent of the total investment of that FPI in either central government securities (including treasury bills) or state development loans or corporate bonds.
- **Statement 3 is correct:** Recently, The Reserve Bank of India raised the investment limit for FPIs in government and corporate bonds. The short-term investment limit has now been increased from 20 per cent to 30 per cent.

Q.81 B

- **Option a is incorrect:** In general, species that have narrow or limited niches are considered to be specialist species. Koalas (*Phascolarctos cinereus*), which feed only on leaves from eucalyptus trees in Australia, are an example of a specialist species. Species with broader niches, like coyotes (*Canis latrans*) or raccoons (*Procyon lotor*), are considered generalists.
- **Option b is correct:** it involves the physical space occupied by an organism along with its role in the community. Each species has a unique Niche within that ecosystem. No two species can have the exact same niche, otherwise they would be in direct competition for resources with one another. If this occurs, then one species will outcompete the other. If the losing species then does not adapt, it would lead to its extinction.
- **Option c is incorrect:** During Primary Successions, the communities of organisms are not well established. The system is in a constant state of flux/ change. There is not a great diversity of organisms and other helping factors like nutrients, so niches are not well developed. With time, as communities become more diversified and complex, there are more interactions leading to more well-established niches.
- **Option d is incorrect:** A Niche is the sum total of all the interactions of a species within the ecosystem it inhabits. This includes biotic interactions like predation, competitions, etc., as well as its interactions with the abiotic components in its environment. Abiotic factors like light duration, temperature, etc. also have great bearing on what ultimately will be the role, i.e., niche of a species.

Q.82 C

- The Park was established as Sanjay Gandhi National Park by Notification in 1982 but was later renamed as Nanda Devi National Park. It was inscribed a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1988. There are about 312 floral species that include 17

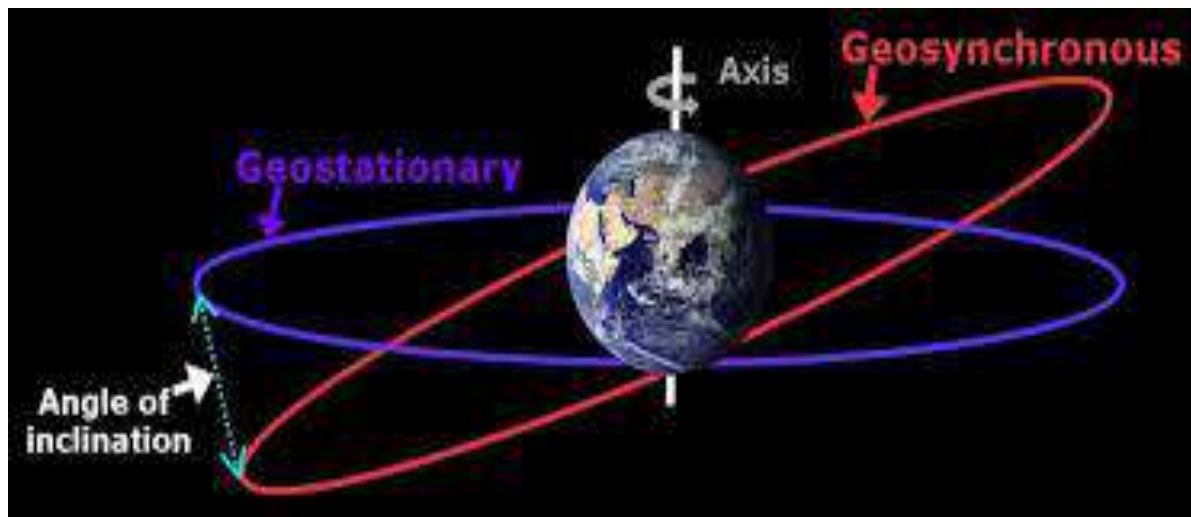
rare species have been found here. Fir, birch, rhododendron, and juniper are the main flora. Fauna includes Himalayan black bear, Snow leopard, Himalayan Musk Deer etc.

Q.83 B

- **Statement 1 is incorrect:** Acid rain results when sulfur dioxide (SO₂) and nitrogen oxides (NO_x) are emitted into the atmosphere and transported by wind and air currents. The SO₂ and NO_x react with water, oxygen and other chemicals to form sulfuric and nitric acids.
- **Statement 2 is correct:** The ecological effects of acid rain are most clearly seen in aquatic environments, such as streams, lakes, and marshes where it can be harmful to fish and other wildlife. As it flows through the soil, acidic rain water can leach aluminum from soil clay particles and then flow into streams and lakes. The more acid that is introduced to the ecosystem, the more aluminum is released.
- **Statement 3 is correct:** Dead or dying trees are a common sight in areas effected by acid rain. Acid rain leaches aluminum from the soil. That aluminum may be harmful to plants as well as animals. Acid rain also removes minerals and nutrients from the soil that trees need to grow.

Q.84 B

- **Statement 1 is correct:** A geosynchronous orbit is a high Earth orbit that allows satellites to match Earth's rotation. Located at 22,236 miles (35,786 kilometres) above Earth's equator. This position is a valuable spot for monitoring weather, communications and surveillance.
 - 1) A geostationary satellite is in a geostationary orbit, which can only be achieved at an altitude very close to 35,786 km (22,236 m) and keeps the satellite fixed over one longitude at the equator. The satellite appears motionless at a fixed position in the sky to ground observers.
- **Statement 2 is correct:** The Geostationary orbit is a special case of the Geosynchronous orbit. While a Geosynchronous orbit can be inclined at any angle with respect to the Equator, the Geostationary orbit is in the same plane (0-degree angle) as the Equator.
- **Statement 3 is incorrect:** The satellites in Geostationary orbit appear to be fixed in the same spot in the sky over a particular part of the earth. However, the satellites in the Geosynchronous satellites appear in the same section of the sky but seem to bob up and down (in an irregular figure 8 pattern) in the sky.



Q.85 A

- Classification based on Stem Cells formation at different times of human lives: 1. Embryonic stem cells, 2. Adult stem cells, 3. Induced pluripotent stem cells or iPSC'
 - 1) **Embryonic Stem cells:** Stem cells that exist only during the earliest stage of development. **Hence, statement 1 is correct.**
 - 2) **Adult Stem Cells:** cells that can multiply when there is a need to repair adult organs and tissues. These cells are present in almost all organs of the human body. They are multipotent i.e. they can give rise to a limited number of mature cell types, usually corresponding to the tissues in which they reside. A most well-known example is the blood-forming (hematopoietic) stem cells from bone marrow that give rise to different blood cells in our body. Some tissue-specific stem cells can only give rise to one or two mature

cell types and are called unipotent and bipotent, respectively. Stem cells found in the skin produce new skin cells and are an example of unipotent stem cells.

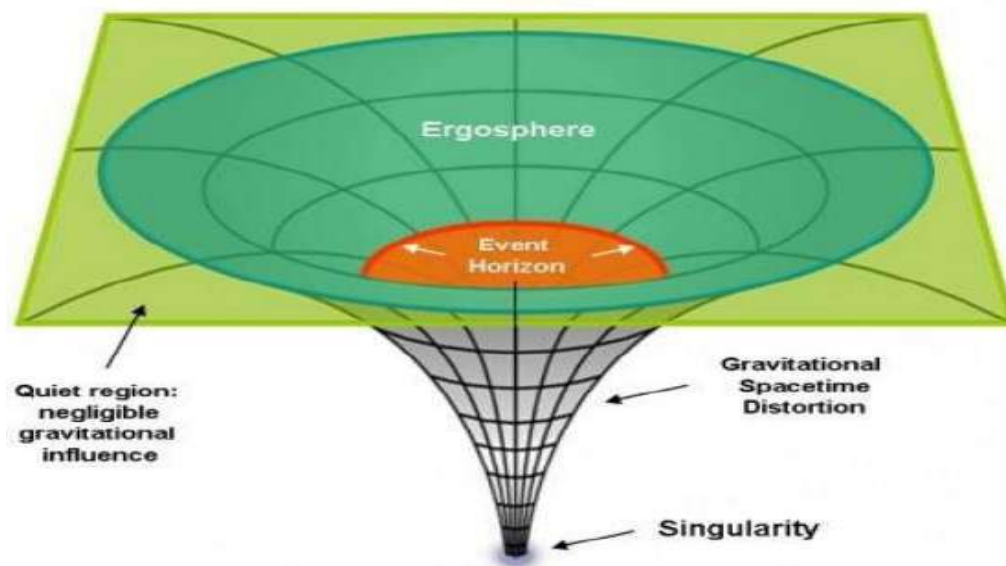
- 3) **Induced pluripotent stem cells (iPSC's):** These cells are not found in the body but made in the laboratory from cells of the body. The iPSC cells have properties similar to those of embryonic stem cells. **Hence, statement 2 is incorrect.**

Q.86 D

Ergosphere and Event Horizon:

- **Ergosphere Definition:** The ergosphere encompasses the space surrounding a rotating black hole, positioned between the event horizon and the stationary limit. Within this region, the rotation of the black hole drags space-time itself, exerting a powerful influence on nearby objects. **Hence, statement 1 is correct.**
- **Ergosphere Dynamics:** Objects situated within the ergosphere are compelled to rotate in accordance with the black hole's spin. This phenomenon arises from the profound distortion of space-time due to the immense gravitational force exerted by the black hole.
- **Event Horizon:** The event horizon represents a theoretical boundary encircling a black hole, marking the point beyond which no radiation can escape. It serves as a critical demarcation in understanding the gravitational influence and behavior of black holes. **Hence, statement 2 is correct.**
- **A singularity** is a point in space-time where the laws of physics break down. The term first became popular in 1915 when Albert Einstein introduced his Theory of General Relativity.

Black Hole Regions



Q.87 C

What are Bots?

- A bot is a software application designed to perform specific tasks autonomously. Operated by programmed instructions, bots function without manual intervention from a human user each time. They commonly mimic or supplement human actions, often executing repetitive tasks with greater speed and efficiency than humans. **Hence, statement 1 is correct.**
- Bots usually operate over a network; more than half of Internet traffic is bots scanning content, interacting with webpages, chatting with users, or looking for attack targets. Some bots are useful, such as search engine bots that index content for search or customer service bots that help users. Other bots are "bad" and are programmed to break into user accounts, scan the web for contact information for sending spam, or perform other malicious activities. If it's connected to the Internet, a bot will have an associated IP address.

What are various types of Bots?

- **Chatbots:** These replicate human conversation, offering programmed responses to specific phrases.

- **Web crawlers (like Googlebots):** These scour web content across the Internet. Hence, **statement 2 is correct.**
- **Social bots:** Operate within social media platforms.
- **Malicious bots:** Engage in scraping content, disseminating spam, or executing credential stuffing attacks.

Q.88 D

- **Statement 1 is incorrect:** Mines and Minerals (Development and Regulation) (MMDR) Act, 2021 amended the act of 1957 to remove the distinction between Captive and merchant mines. It allows all captive mines to sell up to 50% of minerals produced during a year, outside in the market.
- **Statement 2 is correct:** All the valid rights, approvals, clearances, etc. granted to the previous lessee in respect of a mine shall continue to be valid on expiry or termination of lease and such clearances shall be transferred to the successful bidder of the mining lease selected through auction.

Prelim Marks Maximiser:

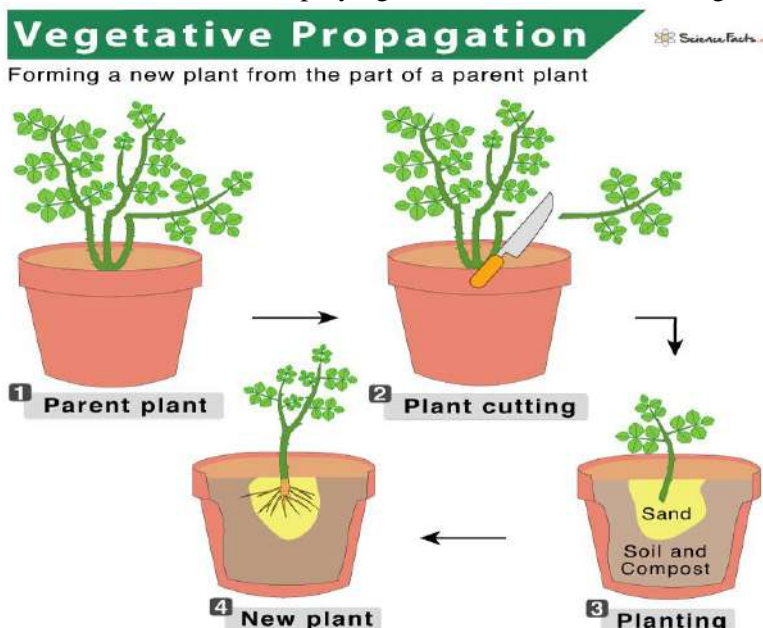
- 1) **Captive Mines:** Captive mines are the mines that are owned by companies. The coal or mineral produced from these mines is for the exclusive use of the owner company of the mines. The company cannot sell coal or mineral outside. Some electricity generation companies used to have captive mines.
- 2) **Non- Captive Mines:** Non-captive Mines are mines from which the produced coals of minerals could be used for its own consumption and as well as for selling it.

Q.89 B

- **Statement 1 is correct:** By top working (using budding and grafting), old and economically low productive fruit plants can be converted into superior ones.
- **Statement 2 is incorrect:** This is the demerit of vegetative propagation that new varieties cannot be developed.
- **Statement 3 is correct:** Water Hyacinth propagates by offsets. An offset is a short thick runner like the branch which produces a new plant at its tip. The offsets grow in all directions from the main stem of the parent plant. It propagates, vegetatively, at an enormous and alarming rate. Therefore it spreads all over the water body and fully covers it within a short period of time.
- **Statement 4 is correct:** Growing of tissues in controlled conditions is an advance and recent method of vegetative propagation. It is known as 'tissue culture'. It is a highly specialised technique of propagation. By using this technique, a large number of true-to-type virus-free saplings can be produced in a short span.

Prelims Marks Maximizer:

- 1) **Asexual propagation** It is also called 'vegetative propagation'. The vegetative parts of a plant like leaf, stem, root or their modified forms are used for propagation. Most of the horticultural crops are commercially propagated by vegetative or asexual method of propagation. Plants propagated by asexual method are small in size, so spraying of chemicals and harvesting are easy.



Q.90 B

- The concept of the curative petition is supported by Article 137 of the Indian Constitution but not mentioned in the constitution. It provides that in the matter of laws and rules made under Article 145, the Supreme Court has the power to review any judgement pronounced (or order made) by it. Such a petition needs to be filed within 30 days from the date of judgement or order. **Hence, Option A and C are correct.**
- The objective is to prevent miscarriage of justice and prevent abuse of process.
- The Supreme Court first evolved this concept in Rupa Hurra vs Ashok Hurra Case (2002).
- It is heard by three senior-most judges and judges who passed the concerned judgment. **Hence, Option B is not correct.**

Q.91 C

- The fundamental duties were incorporated in Part IV-A of the Constitution by The Constitution (42nd Amendment) Act, 1976, during Indira Gandhi's Emergency.
- Article 51(A) describes 11 fundamental duties — 10 came with the 42nd Amendment; the 11th was added by the 86th Amendment in 2002, when Atal Bihari Vajpayee was Prime Minister.
- These duties are not enforceable by law. However, a Court may take them into account while adjudicating on a matter.

FUNDAMENTAL DUTIES:

- It shall be the duty of every citizens of India:
 - 1) To abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
 - 2) To cherish and follow the noble ideals which inspired our national struggle for freedom;
 - 3) To uphold and protect the sovereignty, unity and integrity of India;
 - 4) To defend the country and render national service when called upon to do so;
 - 5) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
 - 6) To value and preserve the rich heritage of our composite culture;
 - 7) To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;
 - 8) To develop the scientific temper, humanism and the spirit of inquiry and reform;
 - 9) To safeguard public property and to abjure violence;
 - 10) To strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.
- **New Addition:** Under RTE - Art 51A Amendment Act 86th 2002 (k) who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.

Q.92 C**Nobel Prize in Chemistry 2024**

- **Statement (1) is incorrect:**
 - The **Nobel Prize in Chemistry** has been awarded to **David Baker** for his work on **computational protein design**, and to **Demis Hassabis** and **John M. Jumper** for their ground-breaking advancements in **protein structure prediction**.
 - The 2024 Nobel Prize in Physics has been awarded by the Royal Swedish Academy of Sciences to **John J. Hopfield** and **Geoffrey E. Hinton**, two pioneers whose groundbreaking work laid the foundation for modern artificial neural networks (ANNs) and machine learning (ML).
- **Statement (2) is correct:**

- **Protein Structure Prediction**
- Demis Hassabis and John Jumper revolutionized a long-standing scientific challenge: predicting the complex three-dimensional structures of proteins, which determine their functions.
- **Statement (3) is incorrect:**
 - Using Artificial Intelligence (AI), they developed the AlphaFold2 model, which can predict the structure of virtually all 200 million proteins based solely on their amino acid sequences.
 - This achievement solves a 50-year-old problem in molecular biology.
- **Statement (4) is correct:**
 - **Applications of Newly Designed Proteins:**
 - **Pharmaceuticals:** Designing advanced drugs and treatments.
 - **Vaccines:** Creating innovative and effective vaccines.
 - **Nanomaterials:** Developing materials with nanoscale precision.
 - **Sensors:** Designing tiny sensors for various applications.
 - **Environmental Solutions: Breaking down plastic and other pollutants.**

Q.93 A

- **Statement 1 is Incorrect:** India's forest and tree cover combined accounts for **25.17%** of its geographical area, not over 30%.
- **Statement 2 is Correct:** Madhya Pradesh has the largest forest cover in terms of area, followed by Arunachal Pradesh and Chhattisgarh.
- **Statement 3 is Incorrect:** India has achieved **2.29 billion tonnes** of the target for creating an additional carbon sink of **2.5–3.0 billion tonnes CO₂ equivalent**, meaning the target is still in progress and not yet achieved.

Q.94 A

- **Statement 1 is correct:** The main goal of SpaDeX is to develop and demonstrate the technology required for the rendezvous, docking, and undocking of two small spacecraft, each weighing approximately 220 kg, in low-Earth orbit.
- **Statement 2 is Incorrect:** SpaDeX will be launched using the **PSLV-C60 vehicle**, not the GSLV-Mk III.
- **Statement 3 is Incorrect:** Geostationary orbits are located at an altitude of approximately 35,786 km above the Earth's equator. The SpaDeX mission, however, operates in a low-Earth circular orbit at an altitude of about 470 km with a 55° inclination.

Q.95 C

- **Statement 1 is incorrect:** Great Nicobar is the southernmost island of the Nicobar Islands Archipelago. It is home to a very rich ecosystems, including 650 species of angiosperms, ferns, gymnosperms, bryophytes, among others. In terms of fauna, there are over 1800 species, some of which are endemic to this area.
- **Statement 2 is correct:** The Mongoloid Shompen Tribe, about 200 in number, live in the forests of the biosphere reserve particularly along the rivers and streams. They are hunters and food gatherers, dependent on forest and marine resources for sustenance. Another Mongoloid Tribe, Nicobarese, about 300 in number, used to live in settlements along the west coast.
- **Statement 3 is correct:** The Reserve was formally created in January 2013. It incorporates two National parks of India, which were gazetted in 1992: the larger Campbell Bay National Park on the northern part of the island, and Galathea National Park in the southern interior. The non-Biosphere portions of the island (set aside for agriculture, forestry and settlements) are confined to the southwestern and southeastern coastal reaches.
- **Statement 4 is correct:** The leatherback, olive ridley, Hawksbill turtles & Green sea turtle the four very rare species of the turtles have been found in the south bay galathea river and Joginder Nagar beach area. The turtles have been sighted here and have known to lay eggs here in the particular seasons.



Q.96 B

- The Convention established a financial mechanism to provide financial resources to developing country Parties for activities, programmes and measures relating to climate change. The mechanism includes a number of special funds and its operating entities: the Global Environment Facility (GEF) and the Green Climate Fund (GCF). The financial mechanism also serves the Kyoto Protocol and the Paris Agreement.
- **Option A is incorrect:** Green Climate Fund (GCF) - The GCF is an operating entity of the financial mechanism of the Convention and is accountable to and functions under the guidance of the COP. It is governed by a Board comprising 24 members (with equal numbers from developed and developing country Parties) and is intended to be the main fund for global climate change finance in the context of mobilizing USD 100 billion by 2020.
- **Option B is correct:** Climate Investment Funds - A global leader in climate finance, the CIF is the largest multilateral climate fund focused on transformational climate innovation in 72 middle- and low-income countries. Established at the request of G8 and G20 countries in 2008, CIF works exclusively through six multilateral development banks (MDBs) to mobilize investments to pilot and scale cutting-edge climate solutions to address frontier climate challenges the MDBs can't fight on their own.
- **Option C is incorrect:** The Special Climate Change Fund (SCCF) was established to finance activities, programmes and measures relating to climate change, that are complementary to those supported by other funding mechanism for the implementation of the Convention. The Global Environment Facility (GEF) has been entrusted to operate the SCCF. The SCCF, administered by the GEF, also serves the Paris Agreement.

- **Option D is incorrect:** Adaptation Fund (AF) - was established to finance concrete adaptation projects and programmes in developing country Parties that are particularly vulnerable to the adverse effects of climate change. The Adaptation Fund is financed by a 2 per cent share of the proceeds from certified emission reductions issued by the Executive Board of the Clean Development Mechanism and from other sources of funding.

Prelim Marks Maximizer:

- 1) **Global Environment Facility (GEF):** The GEF is an operational entity of the financial mechanism of the Convention that provides financial support to the activities and projects of developing country Parties. The COP regularly provides guidance to the GEE. The GEF, as an entity entrusted with the operation of the Financial Mechanism of the Convention, also serves the Paris Agreement.
- 2) **Least Developed Countries Fund (LDCF):** The COP established the LDCF to support the Least Developed Country Parties (LDCs) work programme and assist LDCs carry out, inter alia, the preparation and implementation of national adaptation programmes of action (NAPAs). The Global Environment Facility (GEF) has been entrusted to operate the LDCF. The LDCF, administered by the GEF, also serves the Paris Agreement.

Q.97 A

- To qualify as a biodiversity hotspot, a region must meet two strict criteria:
 - 1) **Statement 1 is correct:** It must have 30% or less of its original natural vegetation. In other words, it must be threatened.
 - 2) **Statement 3 is incorrect:** It must have at least 1,500 vascular plants as endemics — which is to say, it must have a high percentage of plant life found nowhere else on the planet. A hotspot, in other words, is irreplaceable.
- **Statement 2 is incorrect:** The Montreux record, maintained under the Ramsar convention, is a tool that highlights the wetland sites which are in need of conservation. It has no relation with Biodiversity Hotspot.

Prelim Marks Maximizer:

- 1) Around the world, 36 areas qualify as hotspots. Their intact habitats represent just 2.5% of Earth's land surface, but they support more than half of the world's plant species as endemics — i.e., species found no place else — and nearly 43% of bird, mammal, reptile and amphibian species as endemics.

Q.98 D

- **Statement I is incorrect:** The ultimate power of passing an ordinary bill is vested in the legislative assembly. At the most, the legislative council can detain or delay the bill for a period of four months—three months in the first instance and one month in the second instance.
- **Statement II is correct:** The Constitution does not provide for the mechanism of joint sitting of both the Houses to resolve the disagreement between the two Houses over a bill. Moreover, when a bill, which has originated in the council and was sent to the assembly, is rejected by the assembly, the bill ends and becomes dead.

Q.99 D

- Under the Constitution, the jurisdiction of each state is confined to its own territory. Hence, it is possible that the acts and records of one state may not be recognised in another state. To remove any such difficulty, Article 261 of the Indian Constitution contains the "Full Faith and Credit" clause which lays down the following:
 - 1) **Option A is incorrect:** Full faith and credit shall be given throughout the territory of India to public acts, records and judicial proceedings of the Union and of every State. Public acts include legislative and executive government acts, while public records include official books, registers, or records made by public servants in their official duties.
 - 2) **Option B is incorrect and D is correct:** The laws of Parliament would specify how to prove such acts, records, proceeding and how to assess their effects under what circumstances. This indicates that the basic norm indicated above is subject to Parliament's authority to establish the method of proof and the implications of such acts, records, and procedures of one state in another state.
 - 3) **Option C is incorrect:** Final judgements and orders of civil courts in any part of India are capable of execution anywhere within India (without the necessity of a fresh suit upon the judgement). The rule applies only to civil judgements and not to criminal judgements. In other words, it does not require the courts of a state to enforce the penal laws of another state.

Q.100 C

- [News] A groundbreaking study has revealed that the Iron Age may have begun in present-day Tamil Nadu as early as 3,345 BCE. Until recently, the Iron Age in India was believed to have emerged between 1500 and 2000 BCE, closely following the Indus Valley Civilisation. However, new data from Tamil Nadu pushes this timeline further back.
- **Option C is correct:** A report titled ‘Antiquity of Iron: Recent Radiometric Dates from Tamil Nadu’ detailed that iron technology in Tamil Nadu dates back to 3345 BCE and supported analyses of samples from archaeological sites including **Sivagalai, Adichanallur, Mayiladumparai, and Kilnamandi.**



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