

2022

# UPSC

## CIVIL SERVICES EXAMINATION (PRELIMS)

PAPER

1



### General Instructions

1. This Test Booklet contains **100** items (questions). 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.
2. You have to mark all your responses **ONLY** on the separate OMR Sheet provided.
3. All items carry equal marks.
4. **Penalty for wrong answers:**
  - (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 (0.33)** 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.

1. **“Rapid Financing Instrument” and “Rapid Credit Facility” are related to the provisions of lending by which one of the following?**
  - (a) Asian Development Bank
  - (b) International Monetary Fund
  - (c) United Nations Environment Programme Finance Initiative
  - (d) World Bank
2. **With reference to the Indian economy, consider the following statements:**
  1. An increase in Nominal Effective Exchange Rate (NEER) indicates the appreciation of rupee.
  2. An increase in the Real Effective Exchange Rate (REER) indicates an improvement in trade competitiveness.
  3. An increasing trend in domestic inflation relative to inflation in other countries is likely to cause an increasing divergence between NEER and REER.Which of the above statements are correct ?
  - (a) 1 and 2 only
  - (b) 2 and 3 only
  - (c) 1 and 3 only
  - (d) 1, 2 and 3
3. **With reference to the Indian economy, consider the following statements:**
  1. If the inflation is too high, Reserve Bank of India (RBI) is likely to buy government securities.
  2. If the rupee is rapidly depreciating, RBI is likely to sell dollars in the market.
  3. If interest rates in the USA or European Union were to fall, that is likely to induce RBI to buy dollars.Which of the statements given above are correct?
  - (a) 1 and 2 only
  - (b) 2 and 3 only
  - (c) 1 and 3 only
  - (d) 1, 2 and 3
4. **With reference to the “G20 Common Framework”, consider the following statements:**
  1. It is an initiative endorsed by the G20 together with the Paris Club.
  2. It is an initiative to support Low Income Countries with unsustainable debt.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

5. **With reference to the Indian economy, what are the advantages of "Inflation-Indexed Bonds (IIBs)"?**
1. Government can reduce the coupon rates on its borrowing by way of IIBs.
  2. IIBs provide protection to the investors from uncertainty regarding inflation.
  3. The interest received as well as capital gains on IIBs are not taxable.
- Which of the statements given above are correct?
- (a) 1 and 2 only      (b) 2 and 3 only  
(c) 1 and 3 only      (d) 1, 2 and 3
6. **With reference to foreign-owned e-commerce firms operating in India, which of the following statements is/are correct ?**
1. They can sell their own goods in addition to offering their platforms as market-places.
  2. The degree to which they can own big sellers on their platforms is limited.
- Select the correct answer using the code given below:
- (a) 1 only              (b) 2 only  
(c) Both 1 and 2      (d) Neither 1 nor 2
7. **Which of the following activities constitute real sector in the economy?**
1. Farmers harvesting their crops
  2. Textile mills converting raw cotton into fabrics
  3. A commercial bank lending money to a trading company
  4. A corporate body issuing Rupee Denominated Bonds overseas
- Select the correct answer using the code given below:
- (a) 1 and 2 only      (b) 2, 3 and 4 only  
(c) 1, 3 and 4 only      (d) 1, 2, 3 and 4
8. **Which one of the following situations best reflects "Indirect Transfers" often talked about in media recently with reference to India?**
- (a) An Indian company investing in a foreign enterprise and paying taxes to the foreign country on the profits arising out of its investment
- (b) A foreign company investing in India and paying taxes to the country of its base on the profits arising out of its investment
- (c) An Indian company purchases tangible assets in a foreign country and sells such assets after their value increases and transfers the proceeds to India
- (d) A foreign company transfers shares and such shares derive their substantial value from assets located in India
9. **With reference to the expenditure made by an organisation or a company, which of the following statements is/are correct?**
1. Acquiring new technology is capital expenditure.
  2. Debt financing is considered capital expenditure, while equity financing is considered revenue expenditure.
- Select the correct answer using the code given below:
- (a) 1 only              (b) 2 only  
(c) Both 1 and 2      (d) Neither 1 nor 2
10. **With reference to the Indian economy, consider the following statements:**
1. A share of the household financial savings goes towards government borrowings.
  2. Dated securities issued at market-related rates in auctions form a large component of internal debt.
- Which of the above statements is/are correct?
- (a) 1 only              (b) 2 only  
(c) Both 1 and 2      (d) Neither 1 nor 2
11. **Consider the following statements:**
1. Pursuant to the report of H.N. Sanyal Committee, the Contempt of Courts Act, 1971 was passed.
  2. The Constitution of India empowers the Supreme Court and the High Courts to punish for contempt of themselves.
  3. The Constitution of India defines Civil Contempt and Criminal Contempt.
  4. In India, the Parliament is vested with the powers to make laws on Contempt of Court.
- Which of the statements given above is/are correct?
- (a) 1 and 2 only      (b) 1, 2 and 4 only  
(c) 3 and 4 only      (d) 3 only
12. **With reference to India, consider the following statements:**
1. Government law officers and legal firms are recognised as advocates, but corporate lawyers and patent attorneys are excluded from recognition as advocates.
  2. Bar Councils have the power to lay down the rules relating to legal education and recognition of law colleges.

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

13. Consider the following statements:

1. A bill amending the Constitution requires a prior recommendation of the President of India.
2. When a Constitution Amendment Bill is presented to the President of India, it is obligatory for the President of India to give his/her assent.
3. A Constitution Amendment Bill must be passed by both the Lok Sabha and the Rajya Sabha by a special majority and there is no provision for joint sitting.

Which of the statements given above are correct?

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

14. Consider the following statements:

1. The Constitution of India classifies the ministers into four ranks viz. Cabinet Minister, Minister of State with Independent Charge, Minister of State and Deputy Minister.
2. The total number of ministers in the Union Government, including the Prime Minister, shall not exceed 15 percent of the total number of members in the Lok Sabha.

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

15. Which of the following is/are the exclusive power(s) of Lok Sabha?

1. To ratify the declaration of Emergency
2. To pass a motion of no-confidence against the Council of Ministers
3. To impeach the President of India

Select the correct answer using the code given below

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

16. With reference to anti-defection law in India, consider the following statements:

1. The law specifies that a nominated legislator cannot join any political party within six months of being appointed to the House.
2. The law does not provide any time-frame within which the presiding officer has to decide a defection case.

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

17. Consider the following statements:

1. Attorney General of India and Solicitor General of India are the only officers of the Government who are allowed to participate in the meetings of the Parliament of India.
2. According to the Constitution of India, the Attorney General of India submits his resignation when the Government which appointed him resigns.

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

18. With reference to the writs issued by the Courts in India, consider the following statements:

1. Mandamus will not lie against a private organisation unless it is entrusted with a public duty.
2. Mandamus will not lie against a Company even though it may be a Government Company.
3. Any public minded person can be a petitioner to move the Court to obtain the writ of Quo Warranto.

Which of the statements given above are correct?

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

19. With reference to Ayushman Bharat Digital Mission, consider the following statements:

1. Private and public hospitals must adopt it.
2. As it aims to achieve universal health coverage, every citizen of India should be part of it ultimately.
3. It has seamless portability across the country.

Which of the statements given above is/are correct?

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

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

1. As per the Rules of Procedure and Conduct of Business in Lok Sabha, the election of Deputy Speaker shall be held on such date as the Speaker may fix.

2. There is a mandatory provision that the election of a candidate as Deputy Speaker of Lok Sabha shall be from either the principal opposition party or the ruling party.
3. The Deputy Speaker has the same power as of the Speaker when presiding over the sitting of the House and no appeal lies against his rulings.
4. The well established parliamentary practice regarding the appointment of Deputy Speaker is that the motion is moved by the Speaker and duly seconded by the Prime Minister.

Which of the statements given above are correct?

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

21. Among the following crops, which one is the most important anthropogenic source of both methane and nitrous oxide ?

- (a) Cotton              (b) Rice  
(c) Sugarcane          (d) Wheat

22. "System of Rice Intensification" of cultivation, in which alternate wetting and drying of rice fields is practised, results in:

1. Reduced seed requirement
2. Reduced methane production
3. Reduced electricity consumption

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

23. Which one of the following lakes of West Africa has become dry and turned into a desert ?

- (a) Lake Victoria      (b) Lake Faguibine  
(c) Lake Oguta          (d) Lake Volta

24. Gandikota canyon of South India was created by which one of the following rivers?

- (a) Cauvery              (b) Manjira  
(c) Pennar                (d) Tungabhadra

25. Consider the following pairs:

	Peak	Mountains
1.	Namcha Barwa	Garhwal Himalaya
2.	Nanda Devi	Kumaon Himalaya
3.	Nokrek	Sikkim Himalaya

Which of the pairs given above is/are correctly matched ?

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

26. The term "Levant" often heard in the news roughly corresponds to which of the following regions ?

- (a) Region along the eastern Mediterranean shores  
(b) Region along North African shores stretching from Egypt to Morocco  
(c) Region along Persian Gulf and Horn of Africa  
(d) The entire coastal areas of Mediterranean Sea

27. Consider the following countries:

1. Azerbaijan
2. Kyrgyzstan
3. Tajikistan
4. Turkmenistan
5. Uzbekistan

Which of the above have borders with Afghanistan ?

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

28. With reference to India, consider the following statements:

1. Monazite is a source of rare earths.
2. Monazite contains thorium.
3. Monazite occurs naturally in the entire
4. In India, Government bodies only can process or export monazite.

Which of the statements given above are correct?

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

29. In the northern hemisphere, the longest day of the year normally occurs in the:

- (a) First half of the month of June  
(b) Second half of the month of June  
(c) First half of the month of July  
(d) Second half of the month of July

30. Consider the following pairs:

	Wetland/Lake	Location
1.	Hokera Wetland	Punjab
2.	Renuka Wetland	Himachal Pradesh
3.	Rudrasagar Lake	Tripura
4.	Sasthamkotta Lake	Tamil Nadu

- How many pairs given above are correctly matched?
- (a) Only one pair (b) Only two pairs  
(c) Only three pairs (d) All four pairs
31. **Consider the following:**
1. Aarogya Setu
  2. CoWIN
  3. DigiLocker
  4. DIKSHA
- Which of the above are built on top of open-source digital platforms ?
- (a) 1 and 2 only (b) 2, 3 and 4 only  
(c) 1, 3 and 4 only (d) 1, 2, 3 and 4
32. **With reference to Web 3.0, consider the following statements:**
1. Web 3.0 technology enables people to control their own data.
  2. In Web 3.0 world, there can be blockchain based social networks.
  3. Web 3.0 is operated by users collectively rather than a corporation.
- Which of the statements given above are correct?
- (a) 1 and 2 only (b) 2 and 3 only  
(c) 1 and 3 only (d) 1, 2 and 3
33. **With reference to "Software as a Service (SaaS)", consider the following statements:**
1. SaaS buyers can customise the user interface and can change data fields.
  2. SaaS users can access their data through their mobile devices.
  3. Outlook, Hotmail and Yahoo! Mail are forms of SaaS.
- Which of the statements given above are correct?
- (a) 1 and 2 only (b) 2 and 3 only  
(c) 1 and 3 only (d) 1, 2 and 3
34. **Which one of the following statements best reflects the idea behind the "Fractional Orbital Bombardment System" often talked about in media ?**
- (a) A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space.  
(b) A spacecraft lands on another planet after making several orbital motions.  
(c) A missile is put into a stable orbit around the Earth and deorbits over a target on the Earth.  
(d) A spacecraft moves along a comet with the same speed and places a probe on its surface.
35. **Which one of the following is the context in which the term "qubit" is mentioned ?**
- (a) Cloud Services  
(b) Quantum Computing  
(c) Visible Light Communication Technologies  
(d) Wireless Communication Technologies
36. **Consider the following communication technologies:**
1. Closed-circuit Television
  2. Radio Frequency Identification
  3. Wireless Local Area Network
- Which of the above are considered Short-Range devices/technologies ?
- (a) 1 and 2 only (b) 2 and 3 only  
(c) 1 and 3 only (d) 1, 2 and 3
37. **Consider the following statements:**
1. Biofilms can form on medical implants within human tissues.
  2. Biofilms can form on food and food processing surfaces.
  3. Biofilms can exhibit antibiotic resistance.
- Which of the statements given above are correct?
- (a) 1 and 2 only (b) 2 and 3 only  
(c) 1 and 3 only (d) 1, 2 and 3
38. **Consider the following statements in respect of probiotics:**
1. Probiotics are made of both bacteria and yeast.
  2. The organisms in probiotics are found in foods we ingest but they do not naturally occur in our gut.
  3. Probiotics help in the digestion of milk sugars.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only  
(c) 1 and 3 (d) 2 and 3
39. **In the context of vaccines manufactured to prevent COVID-19 pandemic, consider the following statements:**
1. The Serum Institute of India produced COVID-19 vaccine named Covishield using mRNA platform.
  2. Sputnik V vaccine is manufactured using vector based platform.
  3. COVAXIN is an inactivated pathogen based vaccine.
- Which of the statements given above are correct?
- (a) 1 and 2 only (b) 2 and 3 only  
(c) 1 and 3 only (d) 1, 2 and 3



40. **If a major solar storm (solar flare) reaches the Earth, which of the following are the possible effects on the Earth ?**
1. GPS and navigation systems could fail.
  2. Tsunamis could occur at equatorial regions.
  3. Power grids could be damaged.
  4. Intense auroras 'could occur over much of the Earth.
  5. Forest fires could take place over much of the planet.
  6. Orbits of the satellites could be disturbed.
  7. Shortwave radio communication of the aircraft flying over polar regions could be interrupted.
- Select the correct answer using the code given below:
- (a) 1, 2, 4 and 5 only  
 (b) 2, 3, 5, 6 and 7 only  
 (c) 1, 3, 4, 6 and 7 only  
 (d) 1, 2, 3, 4, 5, 6 and 7
41. **Climate Action Tracker" which monitors the emission reduction pledges of different countries is a:**
- (a) Database created by coalition of research organisations
  - (b) Wing of "International Panel of Climate Change"
  - (c) Committee under "United Nations Framework Convention on Climate Change"
  - (d) Agency promoted and financed by United Environment Programme and World Bank
42. **Consider the following statements:**
1. "The Climate Group" is an international non-profit organization that drives climate action by building large networks and runs them.
  2. The International Energy Agency in partnership with the Climate Group launched a global initiative "EP100".
  3. EP100 brings together leading companies committed to driving innovation in energy efficiency and increasing competitiveness while delivering on emission reduction goals.
  4. Some Indian companies are members of EP100.
  5. The International Energy Agency is the Secretariat to the "Under2 Coalition".
43. **Which of the statements given above are correct ?**
- (a) 1, 2, 4 and 5      (b) 1, 3 and 4 only  
 (c) 2, 3 and 5 only      (d) 1, 2, 3, 4 and 5
43. **"If rainforests and tropical forests are the lungs of the Earth, then surely wetlands function as its kidneys." Which one of the following functions of wetlands best reflects the above statement ?**
- (a) The water cycle in wetlands involves surface runoff, subsoil percolation and evaporation.
  - (b) Algae form the nutrient base upon which fish, crustaceans, molluscs, birds, reptiles and mammals thrive.
  - (c) Wetlands play a vital role in maintaining sedimentation balance and soil stabilization.
  - (d) Aquatic plants absorb heavy metals and excess nutrients.
44. **In the context of WHO Air Quality Guidelines, consider the following statements:**
1. The 24-hour mean of  $PM_{2.5}$  should not exceed  $15 \mu g/m^3$  and annual mean of  $PM_{2.5}$  should not exceed  $5 \mu g/m^3$ .
  2. In a year, the highest levels of ozone pollution occur during the periods of inclement weather.
  3.  $PM_{10}$  can penetrate the lung barrier and enter the bloodstream.
  4. Excessive ozone in the air can trigger asthma.
- Which of the statements given above are correct?
- (a) 1, 3 and 4      (b) 1 and 4 only  
 (c) 2, 3 and 4      (d) 1 and 2 only
45. **With reference to "Gucchi" sometimes mentioned in the news, consider the following statements:**
1. It is a fungus.
  2. It grows in some Himalayan forest areas.
  3. It is commercially cultivated in the Himalayan foothills of north-eastern India.
- Which of the statements given above is/are correct?
- (a) 1 only      (b) 3 only  
 (c) 1 and 2      (d) 2 and 3
46. **With reference to polyethylene terephthalate, the use of which is so widespread in our daily lives, consider the following statements:**

1. Its fibres can be blended with wool and cotton fibres to reinforce their properties.
2. Containers made of it can be used to store any alcoholic beverage.
3. Bottles made of it can be recycled into other products.
4. Articles made of it can be easily disposed of by incineration without causing greenhouse gas emissions.

Which of the statements given above are correct?

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

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

- (a) Golden Mahseer  
(b) Indian Nightjar  
(c) Spoonbill  
(d) White Ibis

48. Which of the following are nitrogen-fixing plants ?

1. Alfalfa
2. Amaranth
3. Chickpea
4. Clover
5. Purslane (Kulfa)
6. Spinach

Select the correct answer using the code given below:

- (a) 1, 3 and 4 only  
(b) 1, 3, 5 and 6 only  
(c) 2, 4, 5 and 6 only  
(d) 1, 2, 4, 5 and 6

49. "Biorock technology" is talked about in which one of the following situations ?

- (a) Restoration of damaged coral reefs  
(b) Development of building materials using plant residues  
(c) Identification of areas for exploration/extraction of shale gas  
(d) Providing salt licks for wild animals in forests/protected areas

50. The "Miyawaki method" is well known for the:

- (a) Promotion of commercial farming in arid and semi-arid areas  
(b) Development of gardens using genetically modified flora  
(c) Creation of mini forests in urban areas  
(d) Harvesting wind energy on coastal areas and on sea surfaces

51. In the Government of India Act 1919, the functions of Provincial Government were divided into "Reserved" and "Transferred" subjects. Which of the following were treated as "Reserved" subjects?

1. Administration of Justice
2. Local Self-Government
3. Land Revenue
4. Police

Select the correct answer using the code given below:

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

52. In medieval India, the term "Fanam" referred to:

- (a) Clothing                      (b) Coins  
(c) Ornaments                      (d) Weapons

53. Consider the following freedom fighters:

1. Barindra Kumar Ghosh
2. Jogesh Chandra Chatterjee
3. Rash Behari Bose

Who of the above was/were actively associated with the Ghadar Party?

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

54. With reference to the proposals of Cripps Mission, consider the following statements:

1. The Constituent Assembly would have members nominated by the Provincial Assemblies as well as the Princely States.
2. Any Province, which is not prepared to accept the new Constitution would have the right to sign a separate agreement with Britain regarding its future status.

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

55. With reference to Indian history, consider the following texts:

1. Nettipakarana
2. Parishishtaparvan
3. Avadanashataka
4. Trishashtilakshana Mahapurana

Which of the above are Jaina texts ?

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

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

	Historical person	Known as
1.	Aryadeva	Jaina scholar
2.	Dignaga	Buddhist scholar
3.	Nathamuni	Vaishnava scholar

How many pairs given above are correctly matched ?

- (a) None of the pairs  
 (b) Only one pair  
 (c) Only two pairs  
 (d) All three pairs
57. With reference to Indian history, consider the following statements:

- The first Mongol invasion of India happened during the reign of Jalal-ud-din Khalji.
- During the reign of Ala-ud-din Khalji, one Mongol assault marched up to Delhi and besieged the city.
- Muhammad-bin-Tughlaq temporarily lost portions of north-west of his kingdom to Mongols.

Which of the statements given above is/are correct?

- (a) 1 and 2                      (b) 2 only  
 (c) 1 and 3                      (d) 3 only
58. With reference to Indian history, who of the following were known as "Kulah-Daran"?
- (a) Arab merchants  
 (b) Qalandars  
 (c) Persian calligraphists  
 (d) Sayyids

59. With reference to Indian history, consider the following statements:

- The Dutch established their factories/warehouses on the east coast on lands granted to them by Gajapati rulers.
- Alfonso de Albuquerque captured Goa from the Bijapur Sultanate.
- The English East India Company established a factory at Madras on a plot of land leased from a representative of the Vijayanagara empire.

Which of the statements given above are correct?

- (a) 1 and 2 only                (b) 2 and 3 only  
 (c) 1 and 3 only                (d) 1, 2 and 3
60. According to Kautilya's *Arthashastra*, which of the following are correct?

- A person could be a slave as a result of a judicial punishment.
- If a female slave bore her master a son, she was legally free.
- If a son born to a female slave was fathered by her master, the son was entitled to the legal status of the master's son.

Which of the statements given above are correct?

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

61. Consider the following statements:

- Tight monetary policy of US Federal Reserve could lead to capital flight.
- Capital flight may increase the interest cost of firms with existing External Commercial Borrowings (ECBs).
- Devaluation of domestic currency decreases the currency risk associated with ECBs.

Which of the statements given above are correct?

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

62. Consider the following States:

- Andhra Pradesh
- Kerala
- Himachal Pradesh
- Tripura

How many of the above are generally known as tea-producing States?

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

63. Consider the following statements:

- In India, credit rating agencies are regulated by Reserve Bank of India.
- The rating agency popularly known as ICRA is a public limited company.
- Brickwork Ratings is an Indian credit rating agency.

Which of the statements given above are correct?

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

64. With reference to the Banks Board Bureau (BBB), which of the following statements are correct?

- The Governor of RBI is the Chairman of BBB.



2. BBB recommends for the selection of heads for Public Sector Banks.
3. BBB helps the Public Sector Banks in developing strategies and capital raising plans.

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

65. **With reference to Convertible Bonds, consider the following statements:**

1. As there is an option to exchange the bond for equity, Convertible Bonds pay a lower rate of interest.
2. The option to convert to equity affords the bondholder a degree of indexation to rising consumer prices.

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

66. **Consider the following:**

1. Asian Infrastructure Investment Bank
  2. Missile Technology Control Regime
  3. Shanghai Cooperation Organisation
- India is a member of which of the above ?

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

67. **Consider the following statements:**

1. Vietnam has been one of the fastest growing economies in the world in the recent years.
2. Vietnam is led by a multi-party political system.
3. Vietnam's economic growth is linked to its integration with global supply chains and focus on exports.
4. For a long time Vietnam's low labour costs and stable exchange rates have attracted global manufacturers.
5. Vietnam has the most productive e-service sector in the Indo-Pacific region.

Which of the statements given above are correct?

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

68. **In India, which one of the following is responsible for maintaining price stability by controlling inflation?**

- (a) Department of Consumer Affairs  
(b) Expenditure Management Commission  
(c) Financial Stability and Development Council  
(d) Reserve Bank of India

69. **With reference to Non-Fungible Token (NFTs), consider the following statements:**

1. They enable the digital representation of physical assets.
2. They are unique cryptographic token that exist on a blockchain.
3. They can be traded or exchanged at equivalency and therefore can be used as a medium of commercial transactions.

Which of the statements given above are correct?

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

70. **Consider the following pairs:**

	Reservoirs	States
1.	Ghataprabha	Telangana
2.	Gandhi Sagar	Madhya Pradesh
3.	Indira Sagar	Andhra Pradesh
4.	Maithon	Chhattisgarh

How many pairs given above are not correctly matched ?

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

71. **In India, which one of the following compiles information on industrial disputes, closures, retrenchments and lay-offs in factories employing workers ?**

- (a) Central Statistics Office  
(b) Department for Promotion of Industry and Internal Trade  
(c) Labour Bureau  
(d) National Technical Manpower Information System

72. **In India, what is the role of the Coal Controller's Organization (CCO)?**

1. CCO is the major source of Coal Statistics in Government of India.
2. It monitors progress of development of Captive Coal/Lignite blocks.
3. It hears any objection to the Government's notification relating to acquisition of coal-bearing areas.
4. It ensures that coal mining companies deliver the coal to end users in the prescribed time.

Select the correct answer using the code given below:

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

73. **If a particular area is brought under the Fifth Schedule of the Constitution of India, which one of the following statements best reflects the consequence of it?**

- (a) This would prevent the transfer of land of tribal people to non-tribal people.  
(b) This would create a local self-governing body in that area.  
(c) This would convert that area into a Union Territory.  
(d) The State having such areas would be declared a Special Category State.

74. **Consider the following statements:**

1. The India Sanitation Coalition is a platform to promote sustainable sanitation and is funded by the Government of India and the World Health Organization.
2. The National Institute of Urban Affairs is an apex body of the Ministry of Housing and Urban Affairs in Government of India and provides innovative solutions to address the challenges of Urban India.

Which of the statements given above is/are correct?

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

75. **Which one of the following has been constituted under the Environment (Protection) Act, 1986?**

- (a) Central Water Commission  
(b) Central Ground Water Board  
(c) Central Ground Water Authority  
(d) National Water Development Agency

76. **With reference to the "United Nations Credentials Committee", consider the following statements:**

1. It is a committee set up by the UN Security Council and works under its supervision.
2. It traditionally meets in March, June and September every year.
3. It assesses the credentials of all UN members before submitting a report to the General Assembly for approval.

Which of the statements given above is/are correct?

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

77. **Which one of the following statements best describes the 'Polar Code'?**

- (a) It is the international code of safety for ships operating in polar waters.  
(b) It is the agreement of the countries around the North Pole regarding the demarcation of their territories in the polar region.  
(c) It is a set of norms to be followed by the countries whose scientists undertake research studies in the North Pole and South Pole.  
(d) It is a trade and security agreement of the member countries of the Arctic Council.

78. **With reference to the United Nations General Assembly, consider the following statements:**

1. The UN General Assembly can grant observer 'status to the non-member States.
2. Inter-governmental organisations can seek observer status in the UN General Assembly.
3. Permanent Observers in the UN General Assembly can maintain missions at the UN headquarters.

Which of the statements given above are correct?

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

79. **With reference to the "Tea Board" in India, consider the following statements:**

1. The Tea Board is a statutory body.
2. It is a regulatory body attached to the Ministry of Agriculture and Farmers Welfare.
3. The Tea Board's Head Office is situated in Bengaluru.
4. The Board has overseas offices at Dubai and Moscow.

Which of the statements given above are correct?

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

80. **Which one of the following best describes the term "greenwashing"?**

- (a) Conveying a false impression that a company's products are eco-friendly and environmentally sound  
(b) Non-inclusion of ecological/environmental costs in the Annual Financial Statements of a country

- (c) Ignoring the disastrous ecological consequences while undertaking infrastructure development
- (d) Making mandatory provisions for environmental costs in a government project/programme

81. Consider the following statements:

- High clouds primarily reflect solar radiation and cool the surface of the Earth.
- Low clouds have a high absorption of infrared radiation emanating from the Earth's surface and thus cause warming effect.

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

82. Consider the following statements:

- Bidibidi is a large refugee settlement in north-western Kenya.
- Some people who fled from South Sudan civil war live in Bidibidi.
- Some people who fled from civil war in Somalia live in Dadaab refugee complex in Kenya.

Which of the statements given above is/are correct?

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

83. Consider the following countries:

- Armenia
- Azerbaijan
- Croatia
- Romania
- Uzbekistan

Which of the above are members of the Organization of Turkic States?

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

84. Consider the following statements:

- Gujarat has the largest solar park in India.
- Kerala has a fully solar powered International Airport.
- Goa has the largest floating solar photovoltaic project in India.

Which of the statements given above is/are correct?

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

85. With reference to the United Nations Convention on the Law of Sea, consider the following statements:

- A coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baseline determined in accordance with the convention.
- Ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.
- The Exclusive Economic Zone shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Which of the statements given above are correct?

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

86. Which one of the following statements best reflects the issue with Senkaku Islands, sometimes mentioned in the news?

- It is generally believed that they are artificial islands made by a country around South China Sea.
- China and Japan engage in maritime disputes over these islands in East China Sea.
- A permanent American military base has been set up there to help Taiwan to increase its defence capabilities.
- Though International Court of Justice declared them as no man's land, some South-East Asian countries claim them.

87. Consider the following pairs:

Country		Important reason for being in the news recently
1.	Chad	Setting up of permanent military base by China
2.	Guinea	Suspension of Constitution and Government by military
3.	Lebanon	Severe and prolonged economic depression
4.	Tunisia	Suspension of Parliament by President

How many pairs given above are correctly matched?

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

88. Consider the following pairs:

	Region often mentioned in the news	Country
1.	Anatolia	Turkey
2.	Amhara	Ethiopia
3.	Cabo Delgado	Spain
4.	Catalonia	Italy

How many pairs given above are correctly matched?

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

89. With reference to Indian laws about wildlife protection, consider the following statements:

- Wild animals are the sole property of the government.
- When a wild animal is declared protected, such animal is entitled for equal protection whether it is found in protected areas or outside.
- Apprehension of a protected wild animal becoming a danger to human life is sufficient ground for its capture or killing.

Which of the statements given above is/are correct?

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

90. Certain species of which one of the following organisms are well known as cultivators of fungi?

- (a) Ant                              (b) Cockroach  
(c) Crab                            (d) Spider

91. Consider the following pairs:

	Site of Ashoka's major rock edicts	Location in the State of
1.	Dhaulti	Odisha
2.	Erragudi	Andhra Pradesh
3.	Jaugada	Madhya Pradesh
4.	Kalsi	Karnataka

How many pairs given above are correctly matched?

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

92. Consider the following pairs:

	King	Dynasty
1.	Nannuka	Chandela
2.	Jayashakti	Paramara
3.	Nagabhata II	Gurjara-Pratihara
4.	Bhoja	Rashtrakuta

How many pairs given above are correctly matched?

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

93. Which one of the following statements about Sangam literature in ancient South India is correct?

- (a) Sangam poems are devoid of any reference to material culture.  
(b) The social classification of Varna was known to Sangam poets.  
(c) Sangam poems have no reference to warrior ethic.  
(d) Sangam literature refers to magical forces as irrational.

94. "Yogavasistha" was translated into Persian by Nizamuddin Panipati during the reign of:

- (a) Akbar                              (b) Humayun  
(c) Shahjahan                      (d) Aurangzeb

95. The world's second tallest statue in sitting pose of Ramanuja was inaugurated by the Prime Minister of India at Hyderabad recently. Which one of the following statements correctly represents the teachings of Ramanuja?

- (a) The best means of salvation was devotion.  
(b) Vedas are eternal, self-existent and wholly authoritative.  
(c) Logical arguments were essential means for the highest bliss.  
(d) Salvation was to be obtained through meditation.

96. The Prime Minister recently inaugurated the new Circuit House near Somnath Temple at Veraval. Which of the following statements are correct regarding Somnath Temple?

1. Somnath Temple is one of the Jyotirlinga shrines.

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2. A description of Somnath Temple was given by Al-Biruni.
3. Pran Pratishtha of Somnath Temple (installation of the present day temple) was done by President S. Radhakrishnan.

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

97. Which one of the following statements best describes the role of B cells and T cells in the human body?

- (a) They protect the body from environmental allergens.  
(b) They alleviate the body's pain and inflammation,  
(c) They act as immunosuppressants in the body.  
(d) They protect the body from the diseases caused by pathogens.

98. Consider the following statements:

- Other than those made by humans, nanoparticles do not exist in nature.
- Nanoparticles of some metallic oxides are used in the manufacture of some cosmetics.
- Nanoparticles of some commercial products which enter the environment are unsafe for humans.

Which of the statements given above is/are correct?

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

99. Consider the following statements:

**DNA Barcoding can be a tool to:**

- assess the age of a plant or animal.
- distinguish among species that look alike.
- identify undesirable animal or plant materials in processed foods.

Which of the statements given above is/are correct?


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

100. Consider the following:

- Carbon monoxide
- Nitrogen oxide
- Ozone
- Sulphur dioxide


Excess of which of the above in the environment is/are cause(s) of acid rain?




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



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# OMR SHEET

Darken the circle for each question.

Q.No.	Response
1.	(a) (b) (c) (d)
2.	(a) (b) (c) (d)
3.	(a) (b) (c) (d)
4.	(a) (b) (c) (d)
5.	(a) (b) (c) (d)
6.	(a) (b) (c) (d)
7.	(a) (b) (c) (d)
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23.	(a) (b) (c) (d)
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25.	(a) (b) (c) (d)

Q.No.	Response
26.	(a) (b) (c) (d)
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28.	(a) (b) (c) (d)
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41.	(a) (b) (c) (d)
42.	(a) (b) (c) (d)
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45.	(a) (b) (c) (d)
46.	(a) (b) (c) (d)
47.	(a) (b) (c) (d)
48.	(a) (b) (c) (d)
49.	(a) (b) (c) (d)
50.	(a) (b) (c) (d)

Q.No.	Response
51.	(a) (b) (c) (d)
52.	(a) (b) (c) (d)
53.	(a) (b) (c) (d)
54.	(a) (b) (c) (d)
55.	(a) (b) (c) (d)
56.	(a) (b) (c) (d)
57.	(a) (b) (c) (d)
58.	(a) (b) (c) (d)
59.	(a) (b) (c) (d)
60.	(a) (b) (c) (d)
61.	(a) (b) (c) (d)
62.	(a) (b) (c) (d)
63.	(a) (b) (c) (d)
64.	(a) (b) (c) (d)
65.	(a) (b) (c) (d)
66.	(a) (b) (c) (d)
67.	(a) (b) (c) (d)
68.	(a) (b) (c) (d)
69.	(a) (b) (c) (d)
70.	(a) (b) (c) (d)
71.	(a) (b) (c) (d)
72.	(a) (b) (c) (d)
73.	(a) (b) (c) (d)
74.	(a) (b) (c) (d)
75.	(a) (b) (c) (d)

Q.No.	Response
76.	(a) (b) (c) (d)
77.	(a) (b) (c) (d)
78.	(a) (b) (c) (d)
79.	(a) (b) (c) (d)
80.	(a) (b) (c) (d)
81.	(a) (b) (c) (d)
82.	(a) (b) (c) (d)
83.	(a) (b) (c) (d)
84.	(a) (b) (c) (d)
85.	(a) (b) (c) (d)
86.	(a) (b) (c) (d)
87.	(a) (b) (c) (d)
88.	(a) (b) (c) (d)
89.	(a) (b) (c) (d)
90.	(a) (b) (c) (d)
91.	(a) (b) (c) (d)
92.	(a) (b) (c) (d)
93.	(a) (b) (c) (d)
94.	(a) (b) (c) (d)
95.	(a) (b) (c) (d)
96.	(a) (b) (c) (d)
97.	(a) (b) (c) (d)
98.	(a) (b) (c) (d)
99.	(a) (b) (c) (d)
100.	(a) (b) (c) (d)

## ANSWERS WITH EXPLANATION

### 1. Option (b) is correct.

**Explanation:** The Rapid Financing Instrument (RFI) provides rapid financial assistance to all member countries that are facing a balance of payments crisis.

The RFI was a part of a broader reform to make the IMF's financial support more flexible and also to address the diverse needs of member countries. It replaced the IMF's previous emergency assistance policy.

#### Rapid Credit Facility (RCF)

- The Rapid Credit Facility (RCF) gives rapid concessional financial assistance generally to low-income countries facing a balance of payments crisis with no ex-post conditionality and where a full-fledged economic program is neither necessary nor feasible.
- The RCF was created under the Poverty Reduction and Growth Trust (PRGT) as part of a reform to make the Fund's financial support more flexible and better tailored to the diverse needs of LICs, including in times of crisis.

#### There are three windows under RCF:

- (i) A "regular window" for urgent BoP needs to be caused due to a wide range of sources including domestic instability, emergencies and fragility.
- (ii) An "exogenous shock window" for urgent BoP needs to be caused by a sudden, exogenous shock.
- (iii) A "large natural disaster window" for urgent BoP needs arising from natural disasters where damage is assessed to be equivalent to or exceeding 20 % of the member's GDP.

### 2. Option (c) is correct.

**Explanation:**

**Statement 1 is correct:** NEER is a measure of the value of a currency against the weighted average of a basket of foreign currency. An increase in NEER indicates an appreciation of the rupee.

**Statement 2 is incorrect:** An increase in REER means exports are now more expensive and imports become cheaper.

Thus, such an increase in value indicates a loss in trade competitiveness.

**Statement 3 is correct:** NEER is the weighted geometric average of the bilateral nominal exchange rates of home currency in terms of foreign currencies. The REER is the weighted average where inflation is adjusted in its calculation, unlike NEER. Thus, an increase in inflation can lead to divergence between the value of REER and NEER.

### 3. Option (b) is correct.

**Explanation:**

**Statement 1 is incorrect:** If inflation is too high, the RBI tries to decrease the liquidity of the market, by selling Government securities to the public via open market operation.

**Statement 2 is correct:** Rupee depreciation means, a decrease in the value of the rupee with respect to the dollar. In free-floating exchange rate regime, depreciation takes place when the demand for the dollar is more than the supply.

RBI is likely to sell dollars in the economy to increase the supply of the dollar.

**Statement 3 is correct:** If the interest rate in the US and EU falls, there will be an inflow of dollars in the Indian market, leading to the appreciation of the rupee. To reduce the supply of excess dollars in the economy, RBI will likely to buy these dollars from the market.

### 4. Option (c) is correct.

**Explanation:**

**Statement 1 is correct:** This Initiative is endorsed by G20 together with Paris Club.

**Statement 2 is correct:** This is an initiative to support low-income countries with unsustainable debt.

**Paris Club:** This is an informal group of official creditors whose role is to find sustainable solutions to the payment difficulties experienced by debtor countries. As debtor countries undertake reforms to stabilize and restore their macroeconomic situation, Paris Club creditors provide an appropriate debt treatment which is in the form of rescheduling, postponement or, concessional rescheduling, reduction in debt service obligations during a defined period (flow treatment) or as of a set date (stock treatment).

The history of origin of the Paris Club dates back to the year 1956 when Argentina agreed to meet its public creditors in Paris.

5. **Option (a) is correct.**

*Explanation:*

**Statement 1 is correct:** The inflation component on principal will not be paid with an interest but the same would be adjusted in the principal amount by multiplying it with the index ratio (IR). During the time of redemption, the adjusted principal or the face, whichever is higher, would be paid.

**Statement 2 is correct:** Interest rate will be protected against inflation by paying a fixed coupon rate on the principal adjusted against inflation

**Statement 3 is incorrect:** There is no such provision.

6. **Option (b) is correct.**

*Explanation:*

**Statement 1 is incorrect:** E-commerce firms can't sell their products in addition to offering their platforms as a marketplace.

The Ministry of Consumer Affairs has recently specified that an e-commerce marketplace entity shall not sell any goods owned or controlled by it on such an e-commerce marketplace platform. All the sellers on the platform will only be third party sellers, and no e-commerce store is allowed to run on the e-commerce marketplace platform.

**Statement 2 is correct:** Big sellers have a limit of 20% for sale on e-commerce platforms.

7. **Option (a) is correct.**

*Explanation:* The real sector of an economy deals with the production side, while the nominal economy deals with the financial side. Financial activities majorly support real activity but do not contribute too much except for the factor income it generates. This mainly includes services.

8. **Option (d) is correct.**

*Explanation:* Indirect transfers refer to a situation where a foreign company transfers shares, and such shares derive their substantial value from assets located in India.

9. **Option (a) is correct.**

*Explanation:*

**Statement 1 is correct:** Acquiring new technology is considered a capital expenditure as it will generate profit in the future time and helps in the creation of new assets.

A few important examples of capital expenditure are:

- Buildings
- Computer equipments
- Office equipments
- Furniture
- Land
- Machinery
- Software
- Vehicles

**Statement 2 is incorrect:** Debt Financing and equity financing are considered under capital expenditure because the impact of such settlement is on the assets and liability of the firms.

10. **Option (c) is correct.**

*Explanation:*

**Statement 1 is correct:** A share of household financial savings goes towards government borrowings.

It is a part of the public accounts of India. It mainly consists of a provident fund.

**Statement 2 is correct:** Dated securities imply regular government bonds.

T-bills are considered separately.

Dated securities issued at market rates comprise a large share of internal debt.

11. **Option (b) is correct.**

*Explanation:*

**Statement 1 is correct:** Contempt of Courts Act, 1971 was passed by the parliament on the recommendation of the H. N. Sanyal Committee.

**Statement 2 is correct:** The Constitution of India empowers the Supreme Court and the High Courts to punish contempt of courts.

The High courts have the power to punish contempt for lower courts under their respective jurisdiction.

**Statement 3 is incorrect:** The Constitution of India does not define types of contempt of court, neither civil nor criminal contempt.

**Statement 4 is correct:** Indian Parliament has the power to legislate over Contempt of Court.

12. **Option (b) is correct.**

*Explanation:*

**Statement 1 is incorrect:** Government law officers, legal firms, corporate lawyers and patent attorneys, all are recognised as advocates.

**Statement 2 is correct:** Bar councils have the powers to lay down rules regarding legal education and recognition of law colleges.

Section 7 of the Advocates Act provides the functions of the Bar Council of India. A further amendment to the Act in 1973 added a few more functions to the list.

13. **Option (b) is correct.**

*Explanation:*

**Statement 1 is incorrect:** No prior approval of the President is required for the Constitutional Amendment Act.

**Statement 2 is correct:** It is obligatory for the President to give his assent, when a Constitutional Amendment Bill is presented before him/her.

**Statement 3 is correct:** A Constitutional Amendment Bill needs to be passed by both the houses separately with a special majority, and there is no provision for joint sitting.

14. **Option (b) is correct.**

*Explanation:*

**Statement 1 is incorrect:** The Constitution of India does not define any such categorisation of ministers.

**Statement 2 is correct:** The total number of ministers, including the prime minister, should not be more than 15% of the total membership of the Lok Sabha.

15. **Option (b) is correct.**

*Explanation:*

**Statement 1 is incorrect:** If the President is satisfied that a grave emergency exists whereby the security of India or of any part of the territory thereof is threatened, whether, by war or external aggression or armed rebellion, he may, by Proclamation, make a declaration that effect in respect to the whole of India or of any such part of the territory of India. Every Proclamation issued under this article shall be laid before each House of the Parliament. Here both Rajya Sabha and Lok Sabha enjoy equal powers.

**Statement 2 is correct:** Article 75 of the Constitution states that the Council of Ministers shall be collectively responsible to the Lok Sabha. It means that the Council of ministers stays in office so long as it enjoys confidence of the majority of the members of the Lok Sabha. In other words, the Lok Sabha can remove the ministry from office by passing a no confidence motion. The motion needs the support of 50 members to be admitted.

**Statement 3 is incorrect:** For impeachment of the President, a 14 days' notice should be given to him. After the impeachment resolution is passed by a majority of two-thirds of the total membership of that House, after that it is sent to the other House, which should investigate the charges. The President has the right to appear and to be represented in such an investigation. If the other House also sustains the charges and passes the resolution of impeachment by a majority of two-thirds of the total membership, then the President stands removed from his office from the date on which the resolution is passed. Thus both Lok Sabha and Rajya Sabha enjoy equal power in this matter.

16. **Option (b) is correct.**

*Explanation:*

**Statement 1 is incorrect:** A nominated member of a House can be disqualified for being a member of the House if he joins any political party after the expiry of six months from the date on which he takes his seat in the House. This means that he can join any political party within six months of taking his seat in the House, thus without inviting his/her disqualification.

**Statement 2 is correct:** The law does not specify any time-period for the Presiding Officer to decide on a disqualification plea regarding defection..

17. **Option (d) is correct.**

*Explanation:*

**Statement 1 is incorrect:** The Solicitor General do not participate in any parliamentary meetings.

The Attorney General of India shall have the right to speak in, and to take part in the proceedings of either House, any joint sitting of the Houses, and any committee of Parliament of which he may be named a member, but shall not by virtue of this article be entitled to vote.

He enjoys all the privileges and immunities which are available to a Member of Parliament.

**Solicitor General:** In addition to the Attorney general, there are other law officers of the Government of India. They are the Solicitor General of India and Additional Solicitor General of India to assist the Attorney general in the fulfilment of his official duties. It should be noted here that only the office of the AG is created under the Constitution (Article 76).



18. **Option (c) is correct.**

**Explanation: Mandamus:** It literally means 'we command'.

This command is issued by the court to the public official asking him to perform his official duties that he has failed or refused to perform. It can also be issued against any public body, a corporation, an inferior court, a tribunal or government for the same purpose.

This writ of mandamus cannot be issued:

- (a) against a private individual or body;
- (b) to enforce departmental instruction that does not possess statutory force;
- (c) when the duty is discretionary and not mandatory;
- (d) to enforce a contractual obligation;
- (e) against the President of India or the state Governors.
- (f) against the chief justice of a high court acting in judicial capacity.

19. **Option (b) is correct.**

**Explanation:** Participation in the ABDM is voluntary. Participation of a healthcare facility or an institution is also voluntary and shall be taken by respective management (government or private management). However, once the management decides to register the respective healthcare facility/institution in ABDM, it is essential for all the healthcare professionals serving the said facility/institution to register in the Healthcare Professionals Registry so that the institution can become fully integrated with the National Digital Health Ecosystem (NDHE). It is possible for healthcare professional to be a part of two facilities/hospitals, one of which may be a part of NDHE and the other one may not be a part NDHE. In such a case, the healthcare professional will be required to use their Healthcare Professional ID (HPID) only in the institution which is participating in the ecosystem. The ABDM will have a national footprint and it would seamless portability across the country through a health ID.

20. **Option (a) is correct.**

**Explanation: Deputy Speaker of Lok Sabha:**

The Deputy Speaker is elected by the Lok Sabha itself from amongst its members. He/she is elected after the election of the Speaker of Lok Sabha. The date of election of the Deputy Speaker is fixed by the Speaker. Whenever there is vacancy in the office of the

Deputy Speaker falls, the Lok Sabha elects another member to fill the vacancy.

Upto the 10th Lok Sabha, both the Speaker and the Deputy Speaker were usually from the ruling party, but after the 11th Lok Sabha, there has been a consensus that the Speaker comes from the ruling party (or ruling alliance) and the post of Deputy Speaker goes to main opposition party.

The Deputy Speaker performs the duties of the Speaker's office when it is vacant. He/she also acts as the Speaker when the latter is absent from the sitting of the House. In both the cases, he/she assumes all the powers of the Speaker.

At any time before noon on the day preceding the date so fixed, any member may give notice in writing, addressed to the Secretary-General, a motion that another member be chosen as the Deputy Speaker of the House and the notice shall be seconded by another third member and shall be accompanied by a statement by the member whose name is proposed in the notice that the member proposed is willing to serve as Deputy Speaker.

21. **Option (b) is correct.**

**Explanation:** Methane and nitrous oxide are released from conventional and modified rice cultivation systems.

22. **Option (d) is correct.**

**Explanation:** The system of Rice Intensification (SRI) includes a method known as the Alternate Wetting and Drying (AWD), which is a form of controlled irrigation of the rice crops. The benefits of the programme include reduction in methane emissions from traditional rice cultivation, and significant reduction in water consumption. The crop yields are maintained, and the programme leads to the creation of community organisation and strengthening of networks through the formation of farmer groups. Generally, farmers use diesel to pump large amounts of water to flood their fields. With intermittent flooding, water pumps are run for shorter periods of time, reducing fuel consumption.

#### Benefits and Impacts of SRI

- To increase paddy yields usually by 20-50% and sometimes 100% or more;
- To reduce seeds requirement for transplanting by 60-80%;



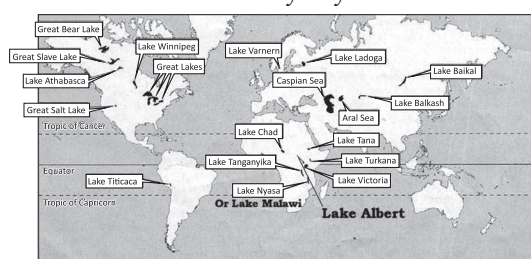
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- To reduce the use of chemical fertilizers and agrichemicals;
- To reduce irrigation water by 25-50%;
- To reduce production costs usually by 10-20%; and
- With increased output and reduced costs, farmers' net income is increased.

## 23. Option (b) is correct.

**Explanation:** One example of increasing aridity in Mali appears in the Lake Faguibine.

It lies at the end of a series of basins watered by the Niger River, when it floods, Lake Faguibine has experienced widely fluctuating water levels since the turn of the twentieth century but, at its fullest, has ranked among the largest lakes in West Africa. Even though normal rainfall resumed after the year 2000, the lake remained nearly dry.



This map is not to scale and is for reference only.

Figure: Some important lakes of the world

## 24. Option (c) is correct.

**Explanation:**

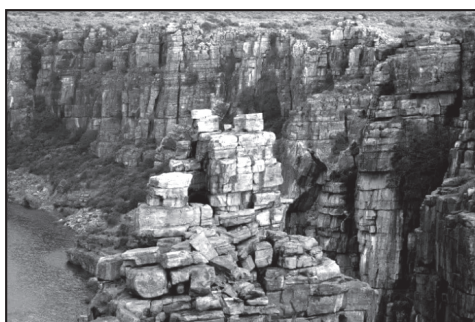


Figure: Gandikota canyon of South India

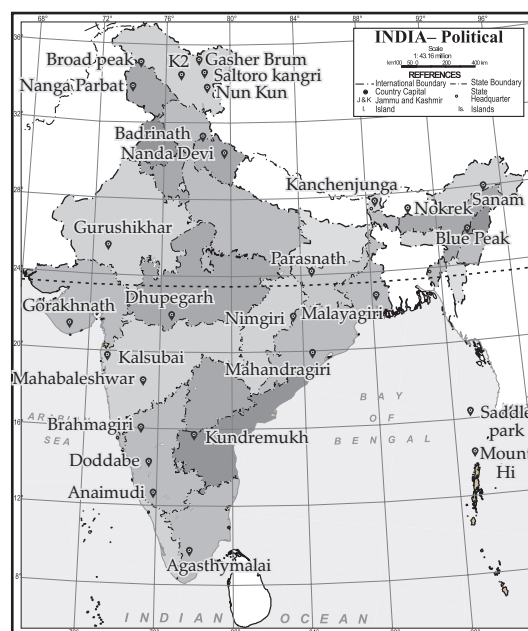
Penna (also known as Pinakini, Pennar, Penner, Penneru (Telugu), Pennai (Tamil)) is a river in the southern India.

The gorge is a stunning maze of jagged rocks layered in shades of red. The Penna river meanders through the canyon floor as it cuts through the Erramala hills.

The area is now known as the Grand Canyon of India because of its resemblance to the famous US landmark.

## 25. Option (b) is correct.

**Explanation:**



This map is not to scale and is for reference only.

Figure: Important mountain peaks in India

Namcha Barwa is in southeastern Tibet, and is rarely visited by outsiders. It stands inside the Great Bend of the Yarlung Tsangpo River, also known as the Siang and the Brahmaputra. The Garhwal Himalayas are mountain ranges located in the Indian state of Uttarakhand.

Kumaun Himalayas, lies in the west-central section of the Himalayas in northern India, extending 200 miles (320 km) from the Sutlej River east to the Kali River. The range, comprising part of the Siwalik Range in the south and part of the Great Himalayas in the north, lies largely within the state of Uttarakhand, northwest of Nepal. It rises to 25,646 feet (7,817 metres) at Nanda Devi, the highest peak of the range.

The Nokrek Biosphere Reserve is located in the northeast of India on the Tura Range, which forms part of the Meghalaya Plateau.

## 26. Option (a) is correct.

**Explanation:** The Levant is the region that lies along the eastern Mediterranean shores, corresponding to modern-day Israel, Jordan, Lebanon, Syria, and some adjacent areas.

27. Option (c) is correct.

*Explanation:*



*This map is not to scale and is for reference only.*

**Figure: Countries sharing border with Afghanistan**

Afghanistan is a complete landlocked country. It share its boundaries with India (106 km).

In the east and south by Pakistan,

In the north, by the Central Asian states of Turkmenistan, Uzbekistan, and Tajikistan, and in the west by Iran.

It also shares a short border with Xinjiang, China.

28. Option (b) is correct.

*Explanation:* Monazite is a mainly reddish-brown phosphate mineral which has rare earths elements.

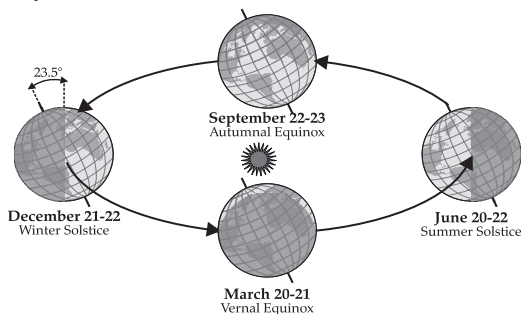
Monazite is an important ore of thorium, lanthanum, and cerium.

It is generally found in placer deposits. India South Africa and Madagascar have large deposits of monazite sands.

Accordingly, Indian Rare Earths Ltd. (IREL) under the administrative control of the Department of Atomic Energy (DAE) wholly owned by the Government of India, utilises mainly monazite for the production of rare earth compounds thorium, as needed in the Department of Atomic Energy.

29. Option (b) is correct.

*Explanation:*



**Figure: Summer and Winter Solstice**

Summer and Winter solstice, the two moments during the year when the path of the Sun in the sky is farthest north in the Northern Hemisphere

(June 20 or 21) or farthest south in the Southern Hemisphere (December 21 or 22).

**Summer Solstice features:**

In the Northern Hemisphere, it is the longest day and shortest night of the year.

During this, countries which lie in the Northern Hemisphere are nearest to the Sun and the Sun shines overhead on the Tropic of Cancer (23.5° North).

During summer solstice, Earth's axis (around which the planet spins) is tilted in a way that the North Pole is tipped towards the sun and the South Pole is away from it.

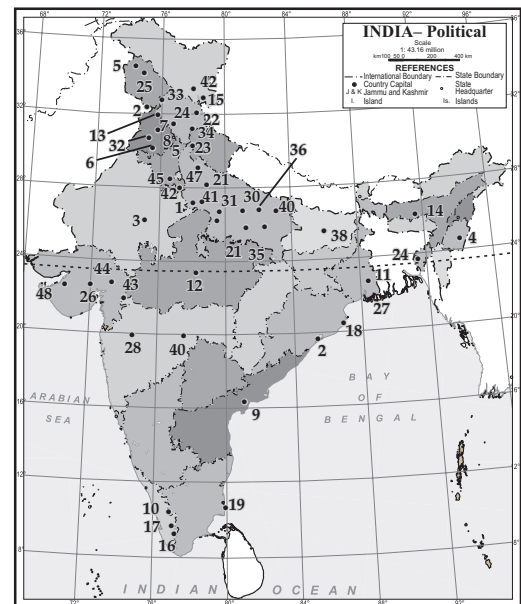
This imaginary axis passes right through the middle of the Earth from top to bottom and is always tilted at 23.5 degrees with respect to the sun.

At the Arctic Circle, the sun never sets during the summer solstice.

According to NASA (National Aeronautics and Space Administration), the amount of energy the Earth receives from the sun on this day is 30% higher at the North Pole than at the Equator.

30. Option (b) is correct.

*Explanation:*



*This map is not to scale and is for reference only.*

**Figure: Ramsar Wetland Sites of India**

Wetland/Lake	Location
Hokera wetland	Jammu and Kashmir
Renuka wetland	Himachal pradesh
Rudrasagar lake	Tripura
Sasthamkotta lake	Kerala

## 31. Option (d) is correct.

**Explanation:** An open source platform is any platform which allows access to its source code to any other users or developers.

An open source platform is one aspect of a wide availability of open source products. However, closed source software is a type of proprietary software that reserves rights only to authorized individuals, whereas open source software aims to allow equal access to anyone and everyone.

Open source products are sometimes part of the free software movement.

Aarogya Setu, which is India's coronavirus (COVID-19) contact-tracing and self-assessment app is now an open source digital platform.

DigiLocker is an initiative by the government to offer Indian citizens a free platform to store and access important documents. This platform uses several open source technologies to deliver a mass solution and contributes back to ever-growing community.

DIKSHA stands for Digital Infrastructure for Knowledge Sharing. It is a digital platform for teachers.

It is an open-source digital platform that enables people to share and acquire knowledge.

It can be used by both government and private institutions, and by students as well as teachers. This portal is accessible in many languages.

Co-WIN, which is owned by the Ministry of Health and Family Welfare, was developed by using open source software.

## 32. Option (d) is correct.

**Explanation:** Web 3.0 is the new version of the internet, where services will run on blockchain. It is a decentralised internet which runs on public blockchain, which is also used for cryptocurrency transactions.

It will deliver a decentralized and fair internet where users control their own data.

It eliminates intermediaries, and with the blockchain, the time and place of the transaction are recorded permanently.

Hence, all the statements are correct.

## 33. Option (d) is correct.

**Explanation:**

Software as a Service (SaaS) is a method of software delivery that data can be accessed with an internet connection or the web browser on any device at any location. It accesses app data from anywhere. With data stored in the cloud, users can access their information from any Internet-connected

computer or mobile device. And when app data is stored in the cloud, no data is lost if a user's computer or device fails.

This type of model allows vendors to host and maintain servers and databases.

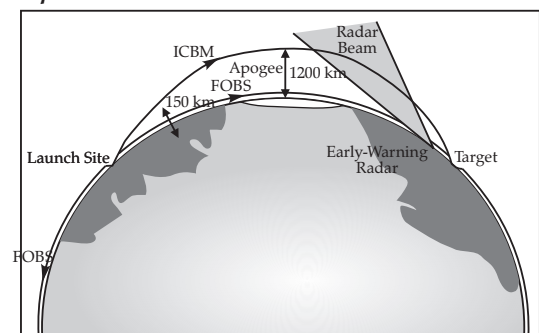
It allows users to connect to and use cloud-based apps over the internet. Some examples are email, calendaring and office tools (like Microsoft Office 365).

SaaS provides a complete software solution which you purchase on a pay-as-you-go basis from a cloud service provider.

Email services such as Outlook, Hotmail or Yahoo! Mail, all are a form of SaaS. With these services, you log into your account over the Internet, often from a web browser.

## 34. Option (c) is correct.

**Explanation:**



**Figure: Fractional Orbital Bombardment System**

Fractional Orbital Bombardment System (FOBS) is a warhead delivery system which uses a low earth orbit towards its target destination. Just before reaching the target, it deorbits through a retrograde engine burn.

The system behind FOBS is, a warhead that is put into a stable orbit, and it deorbits over the target.

## 35. Option (b) is correct.

**Explanation:** Generally, in quantum computing, a qubit or quantum bit is a basic unit of quantum information. A qubit is a two-state (or two-level) quantum-mechanical system, which is one of the simplest quantum systems displaying the peculiarity of quantum mechanics. For example, the spin of the electron in which the two levels can be taken as spin up and spin down, or the polarization of a single photon in which two states can be taken as the vertical polarization and the horizontal polarization.

## 36. Option (d) is correct.

**Explanation:** Short Range Devices (SRD) are radio devices which offer a low risk of interference with other radio services, because of their transmitting power, and hence their



range, is low. This can be applied to different types of wireless equipment, including:

- Access control (including door and gate openers)
- Remote control
- Radio frequency identification (RFID)
- Road Transport Telematics
- Telemetry
- Closed-circuit television (CCTV)
- Cordless audio devices, including wireless microphones
- Local Area Networks

37. **Option (d) is correct.**

**Explanation:** Biofilm is defined as an association of micro-organisms in which microbial cells adhere to each other on living or non-living surfaces within a self-produced matrix of extracellular polymeric substance.

Biofilm formation involves a multi-step process. It starts with attachment to a surface, then the formation of a micro-colony that leads to the formation of a three-dimensional structure and finally ends with maturation followed by detachment.

Biofilms can be formed on living or non-living surfaces and can be prevalent in natural, industrial and hospital settings. It can also be present on the teeth of most animals as dental plaque, where they may cause tooth decay and gum disease. Thus statement 1 is correct.

A combination of several pathogens can interact to form biofilms in the food industry also. In food-processing environments, bacteria can exist as multispecies biofilms, from where both spoilage and pathogenic bacteria can contaminate food. So, statement 2 is also correct.

During biofilm formation, many bacteria communicate with each other through a specific mechanism called quorum sensing.

Bacterial biofilm is less accessible to antibiotics and the human immune system. It poses a big threat to public health because of its involvement in a variety of infectious diseases. So, Statement 3 is also correct.

38. **Option (c) is correct.**

**Explanation:** Probiotics are foods which are made up of good live bacteria or yeasts that naturally stay in the human body. Human body is a host of good and bad bacteria both.

Probiotic supplements add good bacteria to the human body.

These are the combination of beneficial bacteria and yeasts which stay naturally in the human body.

**Benefits of Probiotics:**

- It provides help to the digestive system of the body.
- It creates vitamins in the body.
- It supports the cells that line your gut to prevent bad bacteria that you may have consumed from entering your blood.

So, statement 2 is incorrect, and statement 3 is correct.

39. **Option (b) is correct.**

**Explanation:** COVISHIELD vaccine uses a recombinant, replication-deficient chimpanzee adenovirus vector encoding the SARS-CoV-2 Spike (S) glycoprotein.

So 1st statement is incorrect.

Sputnik V which is named after the first Soviet space satellite is the world's first registered vaccine based on a well-studied human adenovirus vector platform.

So statement 2 is correct.

Covaxin is an inactivated viral vaccine. It is developed with Whole-Virion Inactivated Vero Cell-derived technology. It contains inactivated viruses, which cannot infect a person but still can teach the immune system to prepare a defence mechanism against the active virus. So statement 3 is also correct. There is some ambiguity on the COVAXIN as it is not pathogen based as given in the statement.

40. **Option (c) is correct.**

**Explanation:**

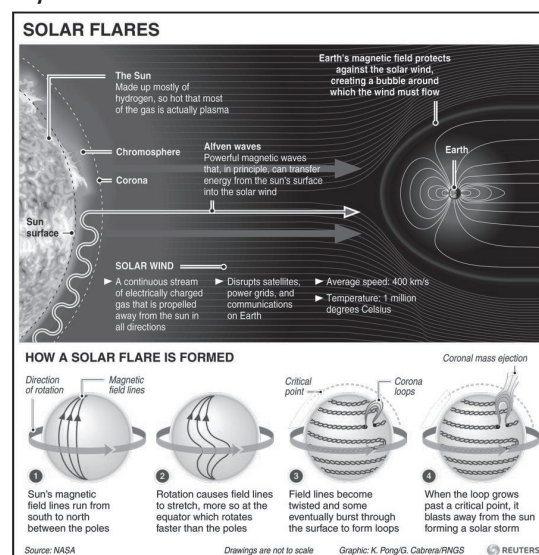


Figure: Solar Flares

This question can easily be solved by just eliminating statement 5 as solar flares does not have any role in causing forest fires.

A solar flare is defined as an intense localized eruption of electromagnetic radiation in the Sun's atmosphere.

**Following are the Impact of Solar Flares on Earth:**

Solar storms can hit and disturb operations of space-dependent services like global positioning systems (GPS), radio, and satellite communications.

Geomagnetic storms can interfere with high-frequency radio communications and GPS navigation systems.

The orbits of the satellites could be disturbed.

Aircraft flights, power grids, and space exploration programmes are vulnerable to Solar Flares.

**41. Option (a) is correct.**

*Explanation:* The Climate Action Tracker is an independent scientific analysis that tracks government climate action and measures it against the globally agreed on Paris Agreement with aim to "hold warming well below 2°C, and pursue efforts to limit warming to 1.5°C." It is a collaboration of two organisations, the Climate Analytics and the New Climate Institute, the CAT has been providing this independent analysis to policymakers since 2009.

**42. Option (b) is correct.**

*Explanation:* The CLIMATE GROUP is an international non-profit founded in 2003, with offices in London, New York, New Delhi, Amsterdam and Beijing. It's mission is to drive climate action. Faster by group building networking. So statement 1 is correct.

EP100 is a global initiative which is led by the international non-profit Climate Group, bringing together over 120 energy smart businesses committed to measuring and reporting on energy efficiency improvements. Statement 2 is incorrect, but 3 is correct.

Mahindra and Mahindra became the first Indian company to join this EP100 initiative. Statement 4 is correct.

The Climate Group is the Secretariat to the Under2Coalition and works with governments to accelerate climate action.

Statement 5 is incorrect.

**43. Option (d) is correct.**

*Explanation:* The water cycle in wetlands involves surface runoff, subsoil percolation and evaporation.

When Sediment, excess nutrients and chemicals flow off of the land, wetlands filter the run off before it reaches open water.

Plants or microorganisms store and absorbs nutrients.

Sediment settles at the bottom after reaching an area where slow water flows. Active plants can uptake large amount of metals from water and/or sediments through active or passive absorption. With this intake capacity of metals through different organs such as roots, stem and leaves, making the plants suitable for very heavy metals alteration in aquatic environment.

**44. Option (b) is correct.**

*Explanation:* The updated guidelines of WHO Air Quality state that annual average concentrations of PM 2.5 should not exceed 5  $\mu\text{g}/\text{m}^3$ , while 24-hour average exposures should not exceed 15  $\mu\text{g}/\text{m}^3$ .

The highest levels of ozone pollution occur generally during sunny weather.

PM 10 are capable of penetrating deep into the lungs but PM 2.5 can even enter into the bloodstream (systematic circulation).

Long-term exposure to ozone is related to aggravation of asthma, and it is one of the causes of asthma development.

**45. Option (c) is correct.**

*Explanation:*



**Figure: Guichi Mushroom**

Gucchi mushroom is a species of fungus in the Morchellaceae family of Ascomycota.

It grows in Himalayan foothills.



This mushroom cannot be cultivated commercially.

It grows in conifer forests across temperature regions, and the foothills in Himachal Pradesh, Uttarakhand and Jammu and Kashmir.

46. **Option (a) is correct.**

**Explanation:** Polyethylene terephthalate are often used in durable-press blends with other fibres such as rayon, wool and cotton, reinforcing the inherent properties of those fibres.

Generally, PET known to be completely recyclable, and is the most recycled plastic in the US and worldwide. More than 1.5 billion pounds of used PET bottles and containers are recovered in the United States each year for recycling.

The burning of plastics releases toxic gases like dioxins, furans, mercury and polychlorinated biphenyls (better known as BCPs) into the atmosphere. It poses a threat to vegetation, human and animal health.

47. **Option (a) is correct.**

**Explanation:**



**Figure: Golden Mahseer**

It is a large freshwater fish also called the tiger of the water. It is found only in the Cauvery river basin.

It has been declared endangered by the International Union of Conservation of Natural Resources (IUCN).

Indian nightjar species are nocturnal birds with long pointed wings and short legs.

The Spoonbill is a unique aquatic bird with an odd-shaped, flattened beak.

White Ibis are large wading birds with football-shaped bodies.

48. **Option (a) is correct.**

**Explanation:** Plants such as Amarnath, Purslane and Spinach are not nitrogen fixing plants. They are given nitrogen through fertilizers for their proper growth and development.

49. **Option (a) is correct.**

**Explanation:** BIOROCK or Mineral Accretion Technology is used as a coral reef restoration technology that utilizes low voltage electricity

to improve the health and growth rates of corals and other marine organisms.

This is done by passing a small amount of electrical current through electrodes in the water.

When positively charged anode and negatively charged cathode are placed on the seafloor, and supplied with electric current between them, calcium ions combine with carbonate ions and adhere to the structure (cathode).

This results in the formation of calcium carbonate. Coral larvae adhere to the  $\text{CaCO}_3$  and thus grow quickly.

Broken corals fragments are tied to the Biorock structure, where they can grow at least four to six times faster than their actual growth as now they need not spend their energy on building their calcium carbonate skeletons.

50. **Option (c) is correct.**

**Explanation:** Miyawaki method involves planting two to four trees per square metre.

Miyawaki forests grow in two to three years and are of self-sustaining nature.

51. **Option (c) is correct.**

**Explanation:** Law and order came under reserved subjects, it also includes justice, the police, land revenue and irrigation. On the other hand, the transferred subjects included local self-government, education, public health, public works, and agriculture, forests, and fisheries.

52. **Option (b) is correct.**

**Explanation:** Fanam (Madras Fanam and Travancore Fanam) was a currency issued in south India in medieval times. Fanam is defined in the "Indian epigraphical glossary". It can be found on ancient inscriptions commonly written in Sanskrit, Prakrit or Dravidian languages.

53. **Option (d) is correct.**

**Explanation: -**

	Person	Party
1.	Barindra Kumar Ghosh	Anushilan samiti
2.	Jogesh Chandra Chatterjee	Anushilan samiti
3.	Rash Behari Bose	Ghadr party

54. **Option (b) is correct.**

**Explanation:** The Constituent Assembly had the members elected by the Lower House of the Indian Legislature and the representatives of the Princely States nominated by their rulers.

## 55. Option (b) is correct.

**Explanation:** The Avadanashataka or "Century of Noble Deeds" is an anthology in Sanskrit of one hundred Buddhist legends.

The Parishishtaparvan, also known as the Sthaviravalicharitra is a 12<sup>th</sup>-century Sanskrit Mahakavya by Hemachandra having details of the history of the earliest Jain teachers.

The Mahapurana or Trishashthilkshana Mahapurana is a major Jain text composed by "Acharya" Jinasena during the rule of Rashtrakuta ruler Amoghavarsha and completed by his pupil Gunabhadra in the 9th century CE. Mahapurana consists of two parts, the first part is Adi Purana written by "Acharya" Jinasena and the second part is Uttarapurana which is composed by Gunabhadra. Nettipakarana is a mythological Buddhist Scripture.

## 56. Option (c) is correct.

**Explanation:**

**Aryadeva: Buddhist Scholar**

Aryadeva (3rd century), a disciple of Nagarjuna and also the central figure in the development of early Indian Madhyamaka philosophy. Aryadeva's Hundred Verses Treatise (Bai lun) was one of the three basic texts of the Chinese Madhyamaka school founded by the central Asian monk Kumarajiva.

**Dignaga: Buddhist Scholar**

Dignaga (born c. 480 CE—died c. 540), a Buddhist logician and author of the Pramanasamuccaya ("Compendium of the Means of True Knowledge"), work that laid the foundations of Buddhist logic.

**Nathamuni: Vaishnava Scholar**

Sri Ranganathamuni, popularly known as Sriman Nathamuni, was a Vaishnava theologian who collected and compiled the Nalayira Divya Prabandham. Also, he is the author of Yogarahasya, and Nyayatattva.

## 57. Option (b) is correct.

**Explanation:**

**Statement 1 is incorrect:** For the first time, (Genghis Khan) Changez Khan invaded India during the reign of Iltutmish. Also, he was the founder of the Mongol Empire.

**Statement 2 is correct:** During the reign of Ala-ud-din Khalji, one of the Mongol's invasion reached the outskirts of Delhi and surrounded it with armed forces.

**Statement 3 is incorrect:** Muhammad-bin-Tughlaq defeated the Mongols, and he didn't

lose any of the portions of his kingdom in the war.

## 58. Option (d) is correct.

**Explanation:** The Sayyids commanded special respect in Muslim society as they claimed to the descent from the Prophet through his daughter Fatima.

Although the policy of Timur was one of general slaughter, he protected the life of Sayyids during his invasion of India.

Sayyids put on a pointed cap (kulah) on their heads and were known as 'Kulah Daran' during the Delhi sultanate.

## 59. Option (b) is correct.

**Explanation:**

**Statement 1 is incorrect:** After the Portuguese, the Dutch set their feet in India. The United East India Company of the Netherlands was formed in 1602 and granted permission by the Dutch government to trade in the East Indies, including India.

Gajapati Rule came to an end in 1541. The last ruler was Kakharia Deva.

**Statement 2 is correct:** Alfonso de Albuquerque captured Goa from the Bijapur sultanate king Adil Shahis, in alliance with the Vijayanagara Empire.

**Statement 3 is correct:** the British East India Company established a factory in Madras in 1639. They were established on land leased from representatives of the Vijayanagara Empire called the Nayakas.

## 60. Option (d) is correct.

**Explanation:** According to the Kautilya's Arthashastra:

1. A man could be a slave in four ways
  - (a) by birth,
  - (b) by voluntarily selling himself,
  - (c) being captured in war, and
  - (d) as a result of judicial punishment.
2. If a female slave gave birth to her master's child, she was legally entitled to be free from bondage.
3. If a son born to a female slave was fathered by her master, the son was entitled to the legal status of the master's son.

Hence, all the statements are correct.

## 61. Option (a) is correct.

**Explanation:**

**Statement 1 is correct:** Tight monetary policy of the US Federal Reserve could lead to capital flight, also called 'Taper Tantrum'.

**Statement 2 is correct:** The interest risk associated with capital flight is that the capital flight increases the interest rate on firms with existing borrowings.

**Statement 3 is incorrect:** Capital Risk associated with capital flight is that the devaluation of the domestic currency will increase the risk with external commercial borrowings. It will increase the liability of domestic firms in terms of the domestic currency.

62. **Option (d) is correct.**

**Explanation:** Assam, West Bengal, Tamil Nadu, and Kerala are the major-tea producing states in India and also other states include Himachal Pradesh, Uttarakhand, Meghalaya, Andhra Pradesh and Tripura.

63. **Option (b) is correct.**

**Explanation:**

**Statement 1 is incorrect:** Credit Rating Agencies (CRA) work as they analyze a debtor's ability to repay the debt and also rate their credit risk. All the credit rating agencies in India are regulated by SEBI (Credit Rating Agencies) Regulations, 1999 of the Securities and Exchange Board of India Act, 1992. There are six credit agencies in India viz, CRISIL, CARE, ICRA, SMREA, Brickwork Rating, and India Rating and Research Pvt. Ltd.

**Statement 2 is correct:** ICRA Limited is a public limited company, and was set up in 1991 in Gurugram. The company was formerly known as the Investment Information and Credit Rating Agency of India Limited.

**Statement 3 is correct:** Brickwork Ratings is recognised as the External Credit Assessment Agency (ECAI) by the Reserve Bank of India (RBI). They carry out credit ratings in India. Brickwork Rating was established in 2007 and promoted by Canara Bank. It offers ratings for bank loans, SMEs, corporate governance rating, municipal corporation, capital market instrument and financial institutions.

64. **Option (b) is correct.**

**Explanation:**

**Statement 1 is incorrect:** There is no mandate that the Governor of RBI will be the chairman of the Bank Board Bureau (BBB).

**Statements 2 & 3 are correct:** The BBB is empowered to select the heads of the Public Sector Banks and also helps PSBs to develop strategies and capital raising plans.

The broad agenda of the Banks Board Bureau is to administer the state-owned lenders.

65. **Option (c) is correct.**

**Explanation:** Convertible bonds are hybrid securities that offer investors the best of both stocks and bonds. Like any other bond, they provide a guaranteed income stream and pay back the amount you originally lent the company.

Convertible bonds typically carry lower interest rates payment than straight corporate bonds, the savings in interest expense may be significant. Investors accept the lower interest payments because the conversion option offers the opportunity to benefit from increases in the stock price.

Governments might use indexation as a way to potentially alleviate the negative effects, inflation can have on the recipients of transfer payments and entitlements. Such as Social Security payments are indexed to the annual increase in the Consumer Price Index.

66. **Option (d) is correct.**

**Explanation:** The SCO currently comprises eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan).

**Missile Technology Control Regime:** On 27 June, India became a full member of the MTCR after a "deal" was struck with Italy, and this marks the first entry into any multilateral export control regime for India.

**Asian Infrastructure Investment Bank:** On 24 October 2014, twenty-one countries signed a Memorandum of Understanding (MOU) regarding the AIIB in Beijing, China: Bangladesh, Brunei, Cambodia, Kazakhstan, Kuwait, Laos, Malaysia, Myanmar, Mongolia, Nepal, Oman, Pakistan, Philippines, Qatar, Singapore, Sri Lanka, Thailand, Uzbekistan, Vietnam including India.

67. **Option (c) is correct.**

**Explanation:**

**Statement 1 is correct:** According to a forecast by Pricewaterhouse Coopers in February 2017, Vietnam is one of the fastest-growing economy of the world's economies, with a potential annual GDP growth rate of about 5.1%. This would make its economy the 10<sup>th</sup>-largest in the world by 2050.

**Statement 3 is correct:** Vietnam's economic growth is linked to global supply chains and focus on exports.

**Statement 4 is correct:** Vietnam has low labour costs and stable exchange rates which attract global investments.

68. **Option (d) is correct.**

*Explanation:* The Reserve Bank of India is responsible for maintaining price stability and controlling inflation in the country.

It is the responsibility of the MPC, but RBI itself plays a large role in the MPC and carries out the task of the Monetary Policy Committee.

So, the RBI is the correct answer if MPC is not given in the options.

69. **Option (a) is correct.**

*Explanation:* NFTs typically contain references to digital files such as photos, videos, and audio. Because NFTs are uniquely identifiable, they are different from cryptocurrencies, which are fungible. The market value of the NFT is associated with the digital file it references.

Non-fungible tokens (NFTs) are cryptographic assets on a blockchain with unique identification codes and metadata that distinguish them from each other. Unlike cryptocurrencies, NFTs cannot be traded or exchanged at equivalency hence statement 3 is incorrect. This differs from fungible tokens like cryptocurrencies, which are identical to each other. Therefore, it can serve as a medium for commercial transactions. Also, it cannot be replicated.

NFTs can represent real-world items like artwork and real estate.

“Tokenizing” are the real-world tangible assets makes buying, selling, and trading them more efficient while reducing the probability of fraud.

NFTs can also function to represent individuals’ identities, property rights, etc.

They are an ideal vehicle to digitally represent physical assets like real estate and artwork because they are based on blockchains. They can also work to remove intermediaries and connect artists with audiences or for identity management. Also, they can remove intermediaries, simplify transactions, and create new markets.

70. **Option (a) is correct.**

*Explanation:* Only one pair is correct.

1. Ghataprabha - Karnataka
2. Gandhi Sagar - Madhya Pradesh
3. Indira Sagar - Madhya Pradesh
4. Maithon - Jharkhand

71. **Option (c) is correct.**

*Explanation:* The Labour Bureau has released the Statistics on Industrial Disputes, Closures,

Retrenchments and Lay-offs in India. Based on the voluntary returns received every month from the Labour Departments of the States and Union Territories and the Regional Labour Commissioners.

72. **Option (a) is correct.**

*Explanation:*

**Statement 1 is correct:** Coal Controller is the statistical authority with respect to coal and lignite statistics. Entrusted with the responsibility of carrying out the Annual Coal & Lignite survey and publishing of Provisional Coal Statistics and Coal Directory of India.

**Statement 2 is correct:** The function of the Coal Controller’s Organisation (CCO) is entrusted with the task of monitoring captive mines.

**Statement 3 is correct:** The Coal Controller Organization is the competent authority to hear any objection to the Central Government’s Notification relating to the acquisition of coal-bearing land, and to furnish its reports to the Central Govt.

73. **Option (a) is correct.**

*Explanation:* The Governor can make regulations related to the scheduled area after consulting the tribe's advisory council. Such regulations may prohibit or restrict the transfer of land by a tribal to a non-tribal member or among members of the scheduled tribes, it also regulate the allotment of land to members of the scheduled tribes.

**Statement b is incorrect:** Tribal advisory council is an advisory body, not a governing body.

Statement c and d are incorrect (self explanatory).

74. **Option (d) is correct.**

*Explanation:*

**Statement 1 is incorrect:** ISC (Indian Sanitation Coalition) is a multi-stakeholder platform that brings together the private sector, government, financial institutions, civil society groups, media, donors/bi-lateral/multilateral, experts etc. all together to work in the sanitation space to drive sustainable sanitation through a partnership model.

**Statement 2 is incorrect:** The National Institute of Urban Affairs (NIUA) is India’s leading national think tank on urban planning and development. As a hub for generation and dissemination of cutting-edge research in the urban sector. NIUA seeks to provide innovative solutions to address the challenges that India is facing in its fast urbanising time.



75. **Option (c) is correct.**

*Explanation:* The Central Ground Water Authority has been constituted under Section 3(3) of the Environment (Protection) Act, 1986. It acts to regulate and control the development and management of groundwater resources in the country.

76. **Option (a) is correct.**

*Explanation:* The United Nations Credentials Committee is a committee of the United Nations General Assembly (UNGA).

The committee is appointed at the beginning of each regular session of the General Assembly. It consists of 9 members. They are appointed by the General Assembly on the proposal of the President.

Its main purpose is to report to the Assembly regarding the credentials of the body's representatives.

77. **Option (a) is correct.**

*Explanation:* Polar Code is an international code for ships operating in polar waters. This Code covers the full range of design, construction, equipment, operational, training, search & rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles.

78. **Option (d) is correct.**

*Explanation:* UNGA may grant non-member states, international organizations and other entities Permanent Observer Status.

The General Assembly decided that observer status would be confined to States and inter-governmental organizations whose activities cover matters of interest to the Assembly.

Permanent Observers can participate in the sessions and workings of the General Assembly and maintain missions at the United Nations Headquarters.

79. **Option (d) is correct.**

*Explanation:* The Tea Board of India is an autonomous and statutory body created under the Tea Act, 1953, headquartered in Kolkata. Its offices are located in Kolkata, London, Moscow and Dubai

80. **Option (a) is correct.**

*Explanation:* Greenwashing is a process of conveying a false impression or providing misleading information about how products of a company are more environmentally sound. It is considered an unsubstantiated claim to deceive consumers into believing that the products of a company are environment friendly.

81. **Option (d) is correct.**

*Explanation:* High clouds are often thin and do not reflect very much. They let lots of the Sun's warmth in. They radiate less energy into space than the lower, warmer clouds. Thus, high clouds work to "trap" more energy than low clouds. Low clouds are usually quite thick and reflect lots of sunlight in to space. Low clouds are excellent reflectors. But, low clouds don't stop the longwave energy from escaping to space. Therefore, low clouds help to cool the Earth.

82. **Option (c) is correct.**

*Explanation: Bidibidi Refugee Settlement:* It is a refugee camp in northwestern Uganda. It is home to over 270,000 South Sudanese refugees. Dadaab refugee camps were established 30 years ago to accommodate Somalis fleeing their country's civil war in the 1990s or who came during the famine in the year 2011.

83. **Option (c) is correct.**

*Explanation:* The Organization of Turkic States, formerly called the Turkic Council or the Cooperation Council of Turkic Speaking States, is an international organization. The organisation comprises prominent independent Turkic countries: Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey and Uzbekistan.

84. **Option (b) is correct.**

*Explanation:* India's Bhadla Solar Park in Rajasthan is the largest solar power park in the world. Kerala's Cochin International Airport Ltd is the first airport in the world that would be running fully on solar power.

85. **Option (d) is correct.**

*Explanation: Statement 1 is correct*

The innocent passage has been codified in the United Nations Convention on the Law of the Sea (UNCLOS III), which was adopted in 1982. It is also called the Law of the Sea Treaty. Its purpose is to establish a comprehensive set of rules governing the oceans and to replace previous U.N. Conventions on the Law of the Sea, 1958 (UNCLOS I) and 1960 (UNCLOS II). Since these two conventions were believed to be inadequate.

The term 'Innocent Passage' is defined under international law (Article 19) referring to the ship or aircraft's right to enter and pass through another's territory so long as it is not prejudicial to the peace, good order or security of the other state.



86. **Option (b) is correct.**

**Explanation:** Senkaku/Diaoyu Islands **Dispute:** Japan and China claim the uninhabited (called Senkaku in Japan and Diaoyu in China) Islands, as their own, but Japan has administered them since 1972. More recently, there has been a flare-up in the region. The government of Japan said it had protested to China regarding a set of names recently assigned by Beijing to seabed zones in the East China Sea, which includes the Senkaku/Diaoyu islands.

The chain of island, claimed by China, Taiwan and Japan, is made up of 5 islets and 3 barren rocks covering an area of 7 Km<sup>2</sup>.

87. **Option (c) is correct.**

**Explanation: 1 is incorrectly matched:** Chad is facing security challenges associated with conflict in bordering countries.

**2 is correctly matched:**

The president of Guinea was detained after a successful military coup in the West African nation. This coup was led by special task forces led by Colonel Mamady Doumbouya, the head of Guinean Special Forces.

**3 is correctly matched:**

The economy of Lebanon collapsed after it defaulted on about \$31 bn of Eurobonds in March 2020, with its currency sinking > 90 % against the US dollar on the black market. Political bickering and indecision by the earlier parliament forced the economy into a tailspin.

**4 is correctly matched:**

Tunisia's President Kais Saied extended his months-long suspension of parliament until new elections in December 2022, while calling for a July referendum on constitutional reforms.

88. **Option (b) is correct.**

**Explanation: 1st pair is correctly matched:**

One of the great crossroads of ancient civilizations is a broad peninsula that lies between the Black Sea and the Mediterranean Sea. It is called Asia Minor (Lesser Asia) by the Romans. The land is the Asian part of modern Turkey, across Thrace. It lies across the Aegean Sea to the east of Greece and is usually known as by Anatolia.

**3rd pair is incorrectly matched:**

Cabo Delgado is a region in Mozambique.

**Pair 4 is incorrectly matched:**

Catalonia is a region of Spain.

89. **Option (a) is correct.**

**Explanation:** In a significant verdict, the Bombay High Court has ruled that wild animals including tigers should be treated as "government property for all purposes" and any damage caused by them should be compensated by the Government.

The law governing the subject of wildlife, the Wildlife (Protection) Act, 1972, does not discriminate between animals found in protected areas and outside. The law provides for equal protection for wild animals irrespective of where they are found.

If the wild animal becomes a danger to the human life or is diseased or disabled beyond recovery, it can be allowed to be captured or killed by the competent authority, the Chief Wildlife Warden of the State. This provision applies to wild animals listed in the Schedule I of the WPA, 1972. Mere apprehension or fear that a wild animal could endanger human life is not a ground for capture or killing of animals.

90. **Option (a) is correct.**

**Explanation:** Fungus and insects are two hyper-diverse groups of organisms that have interacted for millennia. Over time, some insects have come to rely on fungi for a variety of resources, including room and board. Ants, wasps, beetles and a variety of other insects have adapted to using fungi primarily for reinforcing structures or as sources of food, with the most extreme examples resulting in the cultivation of fungal crops. Some of these are the mushroom-farming ants and termites, and the wood-boring beetles and wasps.

91. **Option (b) is correct.**

**Explanation:** Dhauli is located in Odisha.

Erragudi or Yerragudi is located in Andhra Pradesh.

Jaugada is located in Odisha.

Kalsi is located in Uttarakhand.

92. **Option (b) is correct.**

**Explanation: 1st pair is correctly matched:**

**The Chandellas of Bundelkhand:**

The Chandellas of Bundelkhand initially ruled as feudatories of the Gurjara-Pratiharas of Kannauj, and were involved in conflicts with the Pratiharas, the Palas, and the Kalachuris of Chedi (bordered the Chandellas on the south). They are well-known for their art and architecture, most notably for the fully developed Nagara-style temples at their original capital Khajuraho.

Nannuka (c.831–845 CE) was the founder king of the Chandell Kingdom.

Jayashakti and Vijayashakti (c. 865 – 885 CE) – Son of Vakpati (successor of Nannuka), Jayashakti (Jeja) and Vijayashakti (Vija) consolidated the Chandella power. According to a Mahoba inscription, the Chandella territory was named “Jejakabhukti” after Jayashakti.

Jayashakti also belonged to the Chandela Dynasty.

**3rd pair is correctly matched:**

**The Pratihara dynasty:**

The Pratiharas were also called as the Gurjara – Pratiharas, as they originated from the Gurjaras who were primarily pastoralists and fighters.

Nagabhatta II (c. 800 – 833 CE) - Nagabhatta II was succeeded by his son Ramabhadra, who ruled shortly, and was succeeded by his son Mihira Bhoja.

Bhoja I or Mihir Bhoja (c.836–885 CE) - Grandson of Nagabhatta II proved to be the most successful and popular ruler of Pratiharas.

Thus, Bhoja was king from the Pratihara Dynasty.

93. **Option (b) is correct.**

*Explanation:* Sangam Literature has references to material culture and war tactics and ethics. The varna system wasn't practiced, but it was known.

94. **Option (a) is correct.**

*Explanation:* Yoga Vasistha was translated into Persian multiple times throughout the Mughal Dynasty, as commanded by Akbar, Jahangir, and Dara Shikoh. Nizam al-Din Panipati completed one of these translations, known as the Jug-Basisht, in the late 16<sup>th</sup>-century AD.

95. **Option (a) is correct.**

*Explanation:* Ramanuja was born in Tamil Nadu in the 11th century. He was deeply influenced by the Alvars. He firmly believed - intense devotion to Vishnu was the best means to attain salvation. He propounded the doctrine of Vishishtadvaita.

Vishisht meaning is qualified, and Advaita means is the oneness of the individual soul and the Supreme God. In other words, it means qualified oneness wherein the soul, even when united with the Supreme God, remained distinct.

The new strand of bhakti that developed in northern India was greatly inspired by Ramanujam's doctrine.

96. **Option (a) is correct.**

*Explanation:* Somnath Temple at Somnath (Gujrat) is one of the most sacred pilgrimage sites for Hindus, and it is believed to be first among the twelve Jyotirlinga shrines of Shiva. A description of the temple was given by Al-Biruni, an Arab traveller, and that was so glowing that it prompted a visit in 1024 by a most unwelcome tourist – the legendary looter Mahmud of Ghazni from Afghanistan.

Bhagvan Shree Krishna is believed to have built Somnath temple with Sandalwood.

The later sources of history account for several desecrations by Muslim invaders during 11th to 18th century A.D. The modern temple was reconstructed with the resolve of Sardar Patel who visited the ruins of Somnath temple in 1947. Then, the President of India, Dr. Rajendra Prasad, did the Pran-Pratistha at the existing temple in May 1951.

97. **Option (d) is correct.**

*Explanation:* The T cells can wipe out infected or cancerous cells. These cells also direct the immune response by helping B lymphocytes to eliminate the invading pathogens. The B cells create antibodies.

98. **Option (d) is correct.**

*Explanation:* Natural nanoparticles are formed from magma spewing volcanoes; others are formed by forces such as oceanic breakers, tides, river currents, etc.

Among the metal oxide NPs present in cosmetic products, amorphous silica (SiO<sub>2</sub>), zinc oxide (ZnO) and particularly titanium dioxide (TiO<sub>2</sub>) is the most frequent. Materials of nano-size have properties (optical, chemical, magnetic, biological, electrical, and mechanical) which are completely different from the properties of the same material in bulk. These new properties may cause a problem if nano-particles are unintentionally released – very few of these particles exist in nature, and we as humans have not been exposed to them throughout evolution. Therefore, we cannot be sure that our body has developed defense mechanisms to deal with them.

The organization for cancer research of the World Health Organization have classified one type of carbon nanotubes (Mitsui 7) as potentially carcinogenic in humans (IARC 111).

**99. Option (d) is correct.**

*Explanation:* To measure the age of animal and plant remains from the more recent past, scientists use a radioactive isotope of carbon, carbon-14, as their clock. As carbon-14 decays, with a half-life of about 5,730 years, it becomes nitrogen-14. Using carbon-14 clock, scientists have dated bones, campfires and other objects as old as 60,000 years, and in some cases even older.

DNA barcoding uses specific regions of DNA to identify the species. Initiatives are taking place all around the world to generate DNA barcodes for all groups of living organisms and to make these data publically available to help, understand, conserve, and utilize the world's biodiversity. For terrestrial plants, the core DNA barcode markers are two sections of coding regions within the chloroplast, part of the genes, *rbcL* and *matK*. To create high quality databases, each plant, i.e., DNA barcoded needs to have a herbarium voucher that accompanies the *rbcL* and *matK* DNA sequences. The quality of the DNA sequences, primers used, and trace files should also be accessible to the users of data. Multiple individuals should be DNA barcoded for each species to check for errors and allow for intra-specific variation. The world's herbaria provide a rich resource of already preserved and identified material, and these can be used for DNA barcoding as well as by collecting

fresh samples from the wild. These protocols explain the whole DNA barcoding process, from the collection of plant material from the wild or the herbarium, how to extract and amplify the DNA, and how to check the quality of the data after sequencing.

**100. Option (b) is correct.**

*Explanation:* Acid rain occurs when sulfur dioxide ( $\text{SO}_2$ ) and nitrogen oxides ( $\text{NO}_x$ ) are emitted into the atmosphere and transported by wind and air currents. The  $\text{SO}_2$  and  $\text{NO}_x$  react with water, oxygen and other chemicals and form sulfuric and nitric acids. These then mix with water and other materials before falling to the ground.

While a small portion of the  $\text{SO}_2$  and  $\text{NO}_x$  which causes acid rain is from natural sources such as volcanoes. Most of it comes from the burning of fossil fuels. The major sources of  $\text{SO}_2$  and  $\text{NO}_x$  in the atmosphere are:

- Burning of fossil fuels to generate electricity. 2/3rd of  $\text{SO}_2$  and one-fourth of  $\text{NO}_x$  in the atmosphere come from electric power generators.
- Vehicles and heavy equipment.
- Manufacturing, oil refineries and other industries.

Winds can blow  $\text{SO}_2$  and  $\text{NO}_x$  over long distances and across borders making acid rain a problem for everyone and not just those who live close to these sources.