

98. *The equator of the Earth passes through which of the following countries?*
- 1. Kenya
  - 2. Somalia
  - 3. Brazil
  - 4. Bolivia

Select the correct answer using the codes given below:

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

99. *Consider the following landforms:*
- 1. Playas
  - 2. Mushroom rocks
  - 3. Eskers
  - 4. Barchans
  - 5. Drumlins
  - 6. Seif dunes

Which of the above landforms are typically found in desert regions?

- A. 2, 3, 4, 5, and 6 only  
B. 1, 2, 4, and 6 only      C. 1, 2, 3, 4, 5, and 6  
D. 1, 2, 4, and 5 only

100. *With reference to lakes in India, which of the following statements are correct?*
- 1. Wular Lake in Jammu and Kashmir is the largest freshwater lake in the country.
  - 2. Chilika Lake is the largest brackish water lake in India and was once a part of the Bay of Bengal.
  - 3. Vembanad Lake of Kerala is the smallest man-made lake in India.
  - 4. Lonar Lake in Maharashtra is the result of a meteorite impact.

Select the correct answer using the code given below:

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

\* \* \* \* \* **END** \* \* \* \* \*

SET **A**

Questions: **100**  
Duration: **45min**

**Geography and Climatology**

*A collection of multiple-choice questions on geography and climatology.*

1. *Which of the following changes occur in the upper atmospheric circulation during the summer season in India?*
- A. Both the westerly jet stream and the tropical easterly jet stream intensify over the Indian Peninsula.
  - B. The westerly jet stream withdraws from the northern plains of India, and the tropical easterly jet stream becomes active over the Indian Peninsula.
  - C. The westerly jet stream shifts southward, while the tropical easterly jet stream remains inactive.
  - D. The westerly jet stream strengthens over the Indian Peninsula, while the tropical easterly jet stream weakens.
2. *With reference to Prevailing Winds, consider the following statements:*
- 1. The Coriolis effect makes wind systems twist counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
  - 2. Areas from Atacama of South America to the arid Kalahari of Africa, are part of the horse latitudes.
  - 3. Doldrums is the area around the tropics with weak prevailing winds and unusually calm weather.

Which of the statements given above is/are correct?

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

3. *Consider the following statements regarding tropical rainforests:*

- Statement I:**  
The soil in tropical rainforests is poor in nutrients.
- Statement II:**  
Intense rainfall in tropical rainforest regions leads to leaching.

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

- A. Statement I is incorrect, but Statement II is correct.
  - B. Both Statement I and Statement II are correct, and Statement II is the correct explanation for Statement I.
  - C. Statement I is correct, but Statement II is incorrect.
  - D. Both Statement I and Statement II are correct, but Statement II is not the correct explanation for Statement I.
4. *Which of the following evidence provides support for the Continental Drift theory?*
- 1. Placer deposits of gold in the Ghana coast.
  - 2. Glacial tillite deposits of the Gondwana System.
  - 3. Similarities in rocks on either side of the mid-oceanic ridges
  - 4. Occurrence of Lemurs in India, Madagascar and Africa.

Select the correct answer using the code given below :

- A. 1, 2 and 3 only      B. 1, 3 and 4 only  
C. 1, 2 and 4 only      D. 2 and 3 only
5. *Which of the following statements is not correct regarding the Western Ghats and Eastern Ghats?*
- A. The highest peak of Eastern Ghats is Mahendragiri.
  - B. The highest peak of Western Ghats is Anai Mudi.
  - C. The height of the Western Ghats generally decreases from north to south
  - D. Eastern and the Western Ghats meet each other at the Nilgiri hills

6. Consider the following statements:
- 1. The movement of tectonic plates is driven by convection currents in the Earth's mantle.
  - 2. Subduction zones are commonly associated with divergent plate boundaries.
- Which of the statements given above is/are not correct?
- A. Both 1 and 2      B. 2 only  
C. 1 only            D. Neither 1 nor 2
7. The presence of the Peninsular Plateau is seen as far as in the northwestern part of India, where it is covered by the crescent shaped longitudinal sand ridges known as:
- A. Kayals            B. Playas  
C. Parabolic dunes    D. Barchans
8. With reference to lunar and solar eclipses, consider the following statements:
- 1. A lunar eclipse occurs when the Earth comes between the Sun and the Moon, while a solar eclipse occurs when the Moon comes between the Sun and the Earth.
  - 2. A solar eclipse can only be observed during the new moon, whereas a lunar eclipse can only occur during the full moon.
- Which of the statements given above is/are correct?
- A. Neither 1 nor 2      B. Both 1 and 2  
C. 2 only                D. 1 only
9. Consider the following features:
- 1. Equable climate with moderately warm summers and fairly mild winters.
  - 2. Precipitation is experienced almost throughout the year with maximum in winter or autumn.
  - 3. Deciduous forests are predominant natural vegetation with great lumbering value.
- Which of the following climate types is correctly associated with the features given above?
- A. Cool Temperate Western Margin (British Type) Climate  
B. Tropical Monsoon Climate  
C. China type Climate  
D. Cool Temperate Eastern Margin (Laurentian) Climate

10. With reference to the islands of India, consider the following statements:
- 1. Lakshadweep islands are the emerged part of a mountain chain and lie on a ridge which extends southward
  - 2. Atolls are a prominent feature found in Lakshadweep group of islands.
  - 3. The Nine degree channel separates the Minicoy island from the other islands in Lakshadweep.
- Which of the statements given above is/are correct?
- A. 3 only                      B. 1, 2 and 3  
C. 1 and 2 only            D. 2 and 3 only
11. Consider the following pairs:
- |                      |   |             |
|----------------------|---|-------------|
| 1. Baltic Sea        | - | Sweden      |
| 2. Red Sea           | - | Egypt       |
| 3. Caspian Sea       | - | Afghanistan |
| 4. Mediterranean Sea | - | Spain       |
- How many of the pairs given above are correctly matched?
- A. Only two                      B. Only one  
C. Only three                    D. All four
12. Consider the following pairs:
- |                     |   |              |
|---------------------|---|--------------|
| 1. Humboldt Current | - | Cold Current |
| 2. Falkland Current | - | Warm Current |
| 3. Agulhas Current  | - | Warm Current |
| 4. Oyashio Current  | - | Cold Current |
- How many of the above pairs are correctly matched?
- A. All four                      B. Only one  
C. Only three                    D. Only two

93. Consider the following statements regarding the Thunderstorms:
- 1. Thunderstorms are the result of rapid descent of cool air, leading to the formation of nimbostratus clouds.
  - 2. Lightning is the result of electrical charges building up in clouds during thunderstorms.
  - 3. Thunder is caused by the rapid expansion of air surrounding a lightning bolt due to intense heat.
- Which of the statements given above is/are correct?
- A. 1, 2 and 3 only      B. 3 only  
C. 1 and 2 only        D. 2 and 3 only
94. With reference to temperature of Ocean Water, consider the following statements:
- Statement I:**  
The temperature of ocean water steadily declines with increasing depth.
- Statement II:**  
The amount of sunlight reduces with increasing depth of the ocean.
- Which one of the following is correct in respect of the above statements?
- A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.  
B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.  
C. Statement-I is incorrect but Statement II is correct  
D. Statement-I is correct but Statement-II is incorrect.

95. Consider the following statements:
- Statement I:**  
Relative humidity decreases when the air temperature increases, even if the water vapor in the air remains constant.
- Statement II:**  
Higher temperature increases the air's capacity to hold water vapor.
- Which of the following is correct in respect of the above statements ?
- A. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.  
B. Statement-I is incorrect but Statement II is correct.  
C. Statement-I is correct but Statement-II is incorrect.  
D. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
96. Consider the following statements:
- 1. Dun formation can be observed in the Uttaranchal Himalayas.
  - 2. Shiwalik formation can be observed in the Arunachal Himalayas.
  - 3. Duar formation can be observed in the Darjeeling and Sikkim Himalayas.
- Which of the statements given above are correct?
- A. 1 and 3 only                      B. 2 and 3 only  
C. 1 and 2 only                    D. 1, 2 and 3
97. Consider the following statements:
- Statement I:**  
West-flowing peninsular rivers generally form estuaries rather than deltas.
- Statement II:**  
Peninsular rivers flowing through rift valleys have a steep descent into the sea.
- Which one of the following is correct in respect of the above statements?
- A. Statement-I is incorrect but Statement II is correct  
B. Statement-I is correct but Statement-II is incorrect  
C. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I  
D. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I

88. Consider the following statements regarding India's coastal plains:

Statement I:

The western coastal plains provide more favorable conditions for the development of ports compared to the eastern coastal plains.

Statement II:

The western coastal plains are narrower than the eastern coastal plains.

Statement III:

Western coastal plains are characterized by more developed deltas compared to the eastern coastal plains.

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

- A. Neither Statement II nor Statement III is correct
- B. Both Statement II and Statement III are correct, but only one of them explains Statement I.
- C. Both Statement II and Statement III are correct, and both explain Statement I.
- D. Only one of the Statements II and III is correct, and that explains Statement I.

89. With reference to Major sea routes, consider the following pairs:

- |                   |   |
|-------------------|---|
| 1. Panama Canal   | Connects the Atlantic and Pacific Ocean     |
| 2. Malacca Strait | Connects the Indian and Pacific Ocean       |
| 3. Suez Canal     | Connects the Mediterranean with the Red Sea |

How many pairs given above are correctly matched?

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

90. Statement-I: Warming sea waters, worsened by El Nino, triggered the recent global mass coral bleaching event.

Statement-I:

Warming sea waters, worsened by El Nino, triggered the recent global mass coral bleaching event.

Statement-II:

At elevated temperatures, zooxanthellae algae produce toxins harmful for coral, leading to rare mass bleaching events

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

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

91. Consider the following pairs:

- |                      |                 |
|----------------------|-----------------|
| 1. Mettur            | - River Cauvery |
| 2. Hirakud           | - Mahanadi      |
| 3. Bhakra            | - Godavari      |
| 4. Rana Pratap Sagar | - Chambal       |

How many of the pairs given above are correct?

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

92. "They are found in higher latitudes and altitudes with softwood evergreen trees. Silver Fox and Mink are common animals found here".

With reference to the types of forests found in India, which of the following is the best described forest?

- A. Tropical moist deciduous forests
- B. Tropical dry deciduous forests
- C. Mangrove forests
- D. Coniferous forests.

13. Consider the following statements:

Statement I:

Extra tropical cyclones do not necessarily require a water body for their formation and can develop over land.

Statement II:

Extra-tropical cyclones derive their energy from the horizontal temperature gradient created by the interaction of warm and cold air masses.

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

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

14. Consider the following statements regarding the Plate Tectonics :

- 1. Tectonic plates are composed of both oceanic and continental lithosphere.
- 2. The strips of magnetic field along the mid-oceanic ridges help in determining the rates of plate movement.
- 3. Along divergent plate boundaries, subduction carries plates into the mantle.

Which of the statements given above is/are correct?

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

15. Water vapor is a crucial component of the Earth's atmosphere that:

- 1. Increases in concentration with altitude.
- 2. Is most abundant in polar regions due to low temperatures and reduced evaporation rates.
- 3. Acts as a greenhouse gas, helping to regulate Earth's temperature.
- 4. Has no significant impact on weather patterns or atmospheric stability.

How many of the statements given above are correct?

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

16. Consider the following statements:

- 1. Nearly half of the solar insolation is absorbed by the surface of earth.
- 2. Snow and ice-covered areas have higher albedo than the upper clouds.

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 regarding Montane Forests:

- 1. Himalayan ranges show a succession of vegetation from the tropical to the tundra, which change with the altitude.
- 2. Deodar, a highly valued endemic species grows mainly in the western part of the Himalayan range.
- 3. The southern slopes of the Himalayas carry a thicker vegetation cover

How many of the statements are correct?

- A. All Three
- B. Only One
- C. None
- D. Only Two

18. Consider the following statements with reference to Cloud Seeding.

- 1. It works only when there are enough pre-existing clouds in the atmosphere.
- 2. Silver iodide can be used in cloud seeding.

Which of the statements given above is/are correct?

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

19. With reference to Distribution of Rainfall across the world, consider the following statements:

- 1. Rainfall generally decreases as one moves away from the equator towards the poles.
- 2. The rainfall is more over the landmasses than on the oceans of the world.
- 3. Inland regions of continents tend to experience higher rainfall as compared to coastal areas.

Which of the statements given above is/are correct?

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

20. Consider the following pairs
- |                   |  |
|-------------------|--|
| 1. Mango Shower   | - Kerala and coastal Karnataka         |
| 2. Blossom Shower | - Kerala and nearby areas              |
| 3. Nor Westers    | - Bengal and Assam                     |
| 4. Loo            | - Northern plains from Punjab to Bihar |
- Which of the above pairs are correctly matched?
- A. 1, 2, 3, and 4      B. 1, 3, and 4 only  
C. 1, 2, and 3 only      D. 2, 3, and 4 only
21. With reference to the Mangrove Forests of India, consider the following statements:
1. Mangroves are found in all the coastal states of India.
  2. The deltas of the Ganga and Godavari are covered by Mangrove vegetation.
  3. Andaman and Nicobar islands have the maximum mangrove cover in the country.
- How many of the statements given above are correct?
- A. None      B. Only one  
C. All three      D. Only two
22. Consider the following statements regarding a solar eclipse:
1. A total solar eclipse occurs when the Earth is positioned directly between the Moon and the Sun, blocking the Sun's light.
  2. Corona, the Sun's outermost atmosphere, is visible during a partial solar eclipse but not during a total solar eclipse.
- Which of the statements given above is/are correct?
- A. Neither 1 nor 2      B. 1 only  
C. Both 1 and 2      D. 2 only
23. With reference to Winter solstice, consider the following statements
1. Winter solstice marks the shortest day of the year
  2. It happens when the Earth's north pole is near to the Sun.
  3. It occurs in the month of June in the Southern Hemisphere.
- Which of the statements given above are correct?
- A. 1 and 3 only      B. 1 and 2 only  
C. 2 and 3 only      D. 1, 2 and 3

24. With reference to the different layers of the Sun, consider the following pairs:
- |                |  |
|----------------|--|
| 1. Photosphere | - Outermost layer                        |
| 2. Core        | - Site of nuclear fusion                 |
| 3. Corona      | - Usually not visible through naked eyes |
- How many of the above pairs are correctly matched?
- A. Only one pair      B. All three pairs  
C. None      D. Only two pairs
25. Consider the following islands:
1. South Andaman
  2. Little Andaman
  3. Car Nicobar
  4. Little Nicobar
  5. Great Nicobar
- Which of the following represents the correct north-to-south arrangement of the above islands in Indian Ocean?
- A. 2-1-3-4-5      B. 1-2-3-4-5  
C. 1-2-3-5-4      D. 2-1-4-5-3
26. Consider the following statements regarding the Northern Plains of India:
1. Western part of northern plains has Doabs
  2. Ganga plains extend between Ghaggar and Teesta rivers.
  3. Northern plains are flat land with no variations in its relief.
- Which of the above statements is/are correct?
- A. 1 and 2 only      B. 2 and 3 only  
C. 1, 2 and 3      D. 1 only
27. The Red Sea is red primarily due to:
- A. A type of blue-green algae called Trichodesmium Erythraeum  
B. High concentration of iron oxide in the water  
C. Refraction of light at the air-water surface  
D. Scattering caused by sea surface water molecules

80. Which of the following phenomena are likely to occur when a cold air mass pushes into a warm air mass?
1. A sudden drop in temperature in the affected region.
  2. Intense thunderstorms due to rapid uplift of warm air.
  3. Gradual and steady precipitation over a large area.
  4. Formation of cumulonimbus clouds.
- Select the correct answer using the code given below:
- A. 1 and 2 only      B. 2 and 3 only  
C. 1, 3, and 4 only      D. 1, 2, and 4 only
81. Which of the factors given below are favourable conditions for a Heatwave?
1. Prevalence of hot dry air over a region
  2. Presence of moisture in the upper atmosphere
  3. Cloudy sky
  4. Large amplitude anticyclonic flow over the area
- Select the correct options from the code given below:
- A. 2 and 4 only      B. 1 and 2 only  
C. 1 and 4 only      D. 1 and 3 only
82. Consider the following states:
1. Telangana
  2. Tamil Nadu
  3. Andhra Pradesh
  4. Maharashtra
- How many of the states listed above are part of the Krishna River Basin?
- A. Only one      B. Only two  
C. Only three      D. All four
83. Consider the following statements:
1. Inland waterways are economical for the transportation of bulk goods.
  2. Inland waterways are a pollution free mode of transportation.
  3. The Inland Waterways Authority of India regulates the development of inland waterways in India.
- Which of the statements given above are correct?
- A. 2 and 3 only      B. 1 and 2 only  
C. 1 and 3 only      D. 1, 2 and 3

84. Consider the following statements regarding meteotsunamis:
1. Meteotsunamis are larger in size compared to seismic tsunamis.
  2. They are caused by the impact of asteroids.
  3. Meteotsunamis decrease in size as they enter shallow water.
- How many of the statements given above are correct?
- A. None      B. All three  
C. Only one      D. Only two
85. "In this atmospheric circulation, air near the surface flows towards the pole following the general direction of west to east, while air higher in the atmosphere moves equatorward and westward. This circulation was first to account for westerly winds between 35° and 60° N/S, which are caused by friction".
- Which of the following options is correctly associated with the description given above?
- A. Polar cell      B. Ferrel cell  
C. Hadley cell      D. Madden-Julian Oscillation
86. With respect to Thermohaline Circulation, consider the following statements :
1. These ocean currents are driven by differences in water density.
  2. These are faster than the wind-driven surface ocean currents.
  3. They originate in the equatorial regions of the Earth.
- Which of the statements given above is/are correct?
- A. 1 only      B. 1, 2 and 3  
C. 2 and 3 only      D. 1 and 2 only
87. With reference to the Indian Monsoon, consider the following statements:
1. Rainfall over the central part of the country in mid-June is caused by the Arabian Sea branch of the monsoon.
  2. Onset of the monsoon is gradual but withdrawal is more sudden in nature.
  3. Most of the Islands in India receive monsoon showers almost a month before the arrival of monsoon on the Indian mainland.
- How many of the above statements are correct?
- A. Only one      B. All three  
C. Only two      D. None

75. Consider the following statements :

**Statement-I:**

Coriolis Force deflects the wind to the right direction in the northern hemisphere and to the left in the southern hemisphere.

**Statement-II:**

The revolution of the earth is the primary cause of the direction of the wind.

**Statement-III:**

The Coriolis force is directly proportional to the angle of latitude.

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

- A. Only one of the Statements II and III is correct and that explains Statement-I
- B. Both Statement-II and Statement-III are correct and both of them explain Statement-I
- C. Only one of the Statements II and III is correct and that does not explain Statement-I
- D. Both Statement-II and Statement III are correct, but only one of them explains Statement-I

76. Geostrophic winds, which travel parallel to isobars, are the result of which of the following factors?

- A. Negligible presence of wind resistance in the upper atmosphere.
- B. Influence of the Earth's rotation acting perpendicular to the wind flow.
- C. Dominance of thermal convection over horizontal pressure gradients.
- D. Equilibrium between the Coriolis force and the pressure gradient force.

77. Consider the following statements:

**Statement-I:**

Polar Jet streams are strongest during winters in both the northern and southern hemisphere.

**Statement-II:**

During winters, the thermal contrast decreases and the intensity of the high pressure center at the pole increases.

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

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

78. Mr. X lives in Itanagar and wants to watch the live streaming of the India Pakistan match which is scheduled to held in New York on June 9, 2024. New York is located at 75°W Meridian. Match starts at 10:30 A.M. EDT (Eastern Daylight Time) in New York.

Considering 1 hour of daylight savings into account in New York, when should Mr. X be on his television set to watch the match?

- A. 3:30 AM IST on 9th June.
- B. 8:00 PM IST on 9th June.
- C. 8:00 PM IST on 8th June
- D. 10:00 PM IST on 9th June

79. With reference to the 'Cyclones', consider the following statements:

- 1. The extra-tropical cyclones have a clear frontal system which is not present in the tropical cyclones.
- 2. The tropical cyclones move from east to west but the extra-tropical cyclones move from west to east.
- 3. There is no landfall of extra-tropical cyclones in India.

How many of the statements given above are correct?

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

28. Consider the following statements:

- 1. The retreat of the monsoon is marked by clear skies and a rise in temperature, known as 'October heat'.
- 2. The direction of the monsoon winds is reversed due to differences in air pressure.

Which of the statements above is/are correct?

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

29. A particular state in India is characterized by the following features:

- 1. Predominance of tropical deciduous forests.
- 2. Presence of red and yellow soils across large areas
- 3. Annual rainfall ranges between 200 cm and 400 cm.

Which one of the following states exhibits all the above characteristics?

- A. Kerala
- B. Karnataka
- C. Chhattisgarh
- D. Andhra Pradesh

30. With reference to the Northeastern Hills of India, consider the following statements:

- 1. Patkai Bum Hill is merged into Barail Range.
- 2. Garo, Khasi and Jaintia Hills lie to the north of the Barail Range.
- 3. Barail range separates the Brahmaputra and Barak river basins.

How many of the statements given above are correct?

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

31. Consider the following statements about landforms created by river systems:

- 1. Oxbow lakes are formed when a wide meander from the main stem of a river is cut off to create a lake.
- 2. Alluvial fans are typically formed in the high gradient regions of mountain fronts where rivers emerge from steep valleys onto flat plains

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

32. Consider the following statements:

- 1. Equator records the highest temperature of ocean water due to direct sunlight.
- 2. The winds blowing from the land towards the ocean lead to upwelling of cold water from below.
- 3. Gulf stream lowers the temperature near the eastern coast of North America

Which of the statements given above is/are correct?

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

33. Consider the following statements:

**Statement-I:**

Mid-ocean ridges are sites of hydrothermal vent ecosystems, hosting life independent of solar energy.

**Statement-II:**

A mid-oceanic ridge is composed of two chains of mountains separated by a large depression.

**Statement-III:**

The vast majority of volcanic activity on the planet occurs along the mid-ocean ridge.

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

- A. Both Statement-II and Statement-III are correct and both of them explain Statement-I
- B. Only one of the Statements II and III is correct and that explains Statement-I
- C. Neither Statement-II nor Statement-III is correct
- D. Both Statement-II and Statement III are correct, but only one of them explains Statement-I

34. Consider the following statements:

- 1. Atmospheric conduction process is primarily limited to the troposphere.
- 2. Atmospheric advection creates diurnal weather variations in the middle latitudes.

Which of the statements given above is/are correct?

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

35. Consider the following statements :

**Statement-I:**

Tamil Nadu coast receives very little rainfall during the southwest monsoon season.

**Statement-II:**

Tamil Nadu coast lies in the rainshadow area of the Bay of Bengal branch of the south west monsoon and parallel to the Arabian Sea branch of southwest monsoon.

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

- A. Statement-I is correct, but Statement-II is incorrect
- B. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- C. Statement-I is incorrect, but Statement II is correct
- D. Both Statement-I and Statement-II are correct, but Statement-II is not the correct explanation for Statement-I

36. Consider the following statements:

**Statement I:**

Cyclones in the Northern part of Bay of Bengal are favourable for onset of monsoon.

**Statement II:**

Clockwise circulation of cyclones brings the monsoon trough towards the Indian subcontinent.

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

- A. Statement I is correct but statement II is incorrect.
- B. Statement I is incorrect but statement II is correct
- C. Both statement I and statement II are correct and statement II is not the correct explanation for statement I.
- D. Both statement I and statement II are correct and statement II is the correct explanation for statement I.

37. Consider the following statements:

- 1. Aluminium is the largest found element in the Earth's crust.
- 2. Silicon is the largest found element in the Earth's core.

Which of the statements given above is/are correct?

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

38. Consider the following pairs:

- |            |              |
|------------|--------------|
| 1. Manipur | - Bangladesh |
| 2. Tripura | - Myanmar    |
| 3. Sikkim  | - Bhutan     |

How many of the above pairs are correctly matched?

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

39. Consider the following statements:

**Statement I:**

An unprecedented triple-dip La-Nina event, extended by climate change led to decline in air quality over Peninsular India.

**Statement II:**

Triple dip La Nina event supported the transport of pollutants from North India towards Peninsular India.

- A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-1.
- B. Statement-I is incorrect Statement-II is correct.
- C. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-1.
- D. Statement-1 is correct but Statement-II is incorrect.

40. In the context of recent GI tag to Majuli masks, consider the following statements:

- 1. Majuli is the largest river island in the world and is situated in Assam
- 2. Majuli mask-making tradition was first introduced by the Ahom kings in the 17th century.

Which of the statements given above is/are correct?

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

41. Consider the following statements:

- 1. Convective rainfall occurs where the mountains act as the barriers in the path of moisture-loaded air.
- 2. Cyclonic rainfall occurs where the movement of moist air parcels to low-pressure areas due to pressure differences.

Which of the statements given above is/ are correct?

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

69. Consider the following statements:

**Statement I:**

Volcanoes are generally not located around the transform boundaries.

**Statement II:**

At transform boundaries, the tectonic plates slide horizontally past one another resulting in neither creation nor destruction of the Earth's crust.

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

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

70. Consider the following statements:

- 1. El Nino results in decreased upwelling of Ocean water in Eastern Pacific Ocean.
- 2. Southern Oscillation is the phenomenon of occurrence of higher pressure conditions over eastern Pacific in comparison to the eastern Indian Ocean.
- 3. La Nina enforces the negative pressure difference between Eastern Pacific Ocean and Eastern Indian ocean resulting in increased monsoon activity in the Indian Subcontinent.

Which of the statements given above is/are correct?

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

71. Arrange the major sources of water on Earth's surface in descending order based on their contribution to the planet's total water volume:

- A. Oceans > Glaciers > Groundwater > Freshwater Lakes
- B. Groundwater > Glaciers > Freshwater Lakes > Biosphere
- C. Glaciers > Freshwater Lakes > Groundwater > Atmosphere
- D. Groundwater > Lakes > Soil Moisture > Streams and Rivers

72. With reference to the Earthquake Waves, consider the following statements:

**Statement-I:**

The shadow zone of Secondary-waves is much larger than that of Primary-waves.

**Statement-II:**

Secondary-waves can travel through only solid mediums, whereas the Primary-waves can travel through all mediums like gaseous, liquid and solid.

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

- A. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- B. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- C. Statement-I is incorrect but Statement II is correct
- D. Statement-I is Correct but Statement-II is incorrect

73. With reference to the Salinity in the Oceans, consider the following statements:

- 1. The highest salinity is observed near the equator.
- 2. North Sea has high salinity due to the influx of saline water from the North Atlantic Drift.

Which of the statements given above is/are correct?

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

74. With reference to the Indian Ocean Dipole (IOD), consider the following statements:

- 1. The positive IOD leads to the warming of the western Indian Ocean.
- 2. The negative IOD leads to lowering of pressure in western Indian ocean.

Which of the statements given above is/are correct?

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



63. Consider the following statements:

**Statement I:**

Raised sea-beaches are a common landform feature found along the Kathiawar coast.

**Statement II:**

Vertical slow movements of the Earth's crust cause uplift or subsidence over thousands of years.

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

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

64. Recently, the West Coast of North America witnessed life-threatening storms primarily related to Atmospheric rivers. In this context, consider the following statements regarding the Atmospheric rivers:

- 1. Atmospheric rivers are long, narrow corridors of concentrated water vapor transport.
- 2. Most atmospheric rivers are weak systems that often provide beneficial rain or snow.
- 3. Atmospheric rivers primarily occur during summer of the respective hemisphere

Select the correct answer using the code given below:

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

65. Consider the following statements:

- 1. The Khadar is a new alluvium deposited by the rivers along their course.
- 2. The Bhabar is a narrow belt of coarse gravel lying parallel to the Shiwaliks.
- 3. The Terai belt is a swampy area where the streams disappear.
- 4. Bhangar is the older alluvium lies above the floodplains of the rivers.

How many of the statements given above are correct?

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

66. With respect to anti-cyclones, consider the following statements:

- 1. An anticyclone is a wind system that rotates around a centre of high atmospheric pressure in a counterclockwise direction in the Northern Hemisphere.
- 2. They are generally smaller than cyclones.
- 3. They are usually accompanied by violent storms and bad weather.

Which of the statements given above are not correct?

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

67. With reference to the Metamorphic Rocks, consider the following statements:

- 1. They are formed out of existing rocks undergoing recrystallisation.
- 2. Foliation is an essential characteristic of these rocks.
- 3. Limestone and granite are examples of metamorphic rocks.

How many of the statements given above are correct?

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

68. The Indian Standard Time (IST) line passes through which of the following states?

- 1. Bihar
- 2. Uttar Pradesh
- 3. Jharkhand
- 4. Chhattisgarh
- 5. Odisha
- 6. Andhra Pradesh

Select the correct answer using the codes given below:

- A. 1, 3 and 4 only      B. 2, 4, 5 and 6 only
- C. 2, 3, 5 and 6 only      D. 2, 3, 4 and 5 only

42. Consider the following statements:

**Statement I:**

Temperature inversions are more common in polar regions compared to lower latitudes.

**Statement II:**

A long winter night, cloudy sky, and moving air create ideal conditions for temperature inversion.

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

- A. Both Statement I and Statement II are correct, and Statement II is the correct explanation for Statement I.
- B. Statement I is correct, but Statement II is incorrect.
- C. Both Statement I and Statement II are correct, but Statement II is not the correct explanation for Statement I.
- D. Statement I is incorrect, but Statement II is correct.

43. Consider the following statements about Temperature Inversion:

- 1. Temperature inversion occurs when the normal lapse rate is reversed.
- 2. Surface inversion promotes stability in the lower layers of the atmosphere.
- 3. Air drainage is a type of temperature inversion that occurs in hilly regions.

How many of the above statements are correct?

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

44. Consider the following statements regarding the mountain passes in India:

- 1. Bomdi-La links Sikkim with the Tibetan capital, Lhasa.
- 2. Diphu Pass lies at the tri-junction of India, China, and Myanmar.
- 3. Khardung La is situated north of Leh in the Ladakh Range, and links the Indus and Shyok river valleys.

How many of the statements given above are correct?

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

45. Consider the following statements with reference to 'Coral reefs':

- 1. Barrier reef is the first stage of reef formation according to Darwin's Subsidence Theory.
- 2. Cold currents provide favourable conditions for growth of reef building corals.
- 3. Corals are included in Schedule-I list of Wildlife Protection Act, 1972.

How many of the above given statements are correct?

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

46. Which of the following statements regarding Black Soils in India is not correct?

- A. These soils are also known as 'Regur Soil' and 'self-ploughing' soils.
- B. Black soils are rich in lime, iron, magnesia, and alumina.
- C. The black color of these soils is attributed to the presence of Titaniferous magnetite.
- D. Black soils are generally sandy in texture and saline in nature.

47. With reference to Dharwar Rock system, consider the following statements:

- 1. The Dharwar rocks are mineral rich rocks present only in southern states of India.
- 2. It is the first metamorphic sedimentary rock in India.
- 3. Uranium deposits occur in the Dharwar rocks.

Which of the statements given above are correct?

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

48. With reference to different types of cloud, consider the following statements:

- 1. Nimbus clouds are shapeless masses of thin vapour which are formed at very high altitudes.
- 2. Cirrus are thin and detached white clouds.
- 3. Cumulus clouds exist in patches and they have a flat base.
- 4. Stratus clouds are generally formed due to mixing of air masses of different temperatures or due to loss of heat.

How many of the above statements are correct?

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

49. Consider the following statements with reference to Tropical Easterly Jet Streams:

- 1. It causes the reversal in upper air circulation.
- 2. The advent of easterly jet streams is held responsible for the burst of the monsoon in India.
- 3. It does not extend beyond 15°N latitude in the upper atmosphere.

How many of the above statements are correct?

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

50. Kosi River is known for causing significant destruction in Bihar due to its frequent meandering. What is the primary reason for the Kosi River's frequent change in course?

- A. Heavy sediment deposition due to erosion in the upper Himalayan catchment raises the riverbed, leading to frequent changes in course.
- B. Its riverbed is composed of hard rocks, which restrict sediment deposition and force the river to alter its path.
- C. River's flow is controlled by numerous dams and barrages, which direct it to new courses periodically.
- D. Kosi River flows through a region of stable tectonic activity, leading to sediment accumulation.

51. Consider the following statements:

Statement-I:

Carbon dioxide contributes to the Greenhouse effect primarily by the absorption of outgoing terrestrial radiation.

Statement-II:

Carbon dioxide is transparent to incoming solar radiation but opaque to outgoing terrestrial radiation.

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

- A. Statement-I is incorrect but Statement II is correc
- B. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- C. Statement-I is Correct but Statement-II is incorrect
- D. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I

52. Consider the following statement regarding grasslands:

- 1. Campos grasslands fall under influence of Trade Winds while Pampas under influence of Westerlies
- 2. Campos are vast grasslands with short and nutritious grasses while Pampas consist of tall grass.

Which of the statements given above is/are correct?

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

53. Consider the following ocean-atmospheric conditions:

- 1. Surface air temperature over northwest Europe.
- 2. Mean Sea Level pressure in East Asia.
- 3. Warm water volume of the equatorial Pacific Ocean.

Which of the above conditions are taken into account by The Earth System Science Organisation (ESSO) and Indian Meteorological Department (IMD) while making the monsoon forecast in April every year?

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

54. Arrange the following Hill Ranges from North to South:

- 1. Nallamala Hills
- 2. Anaimalai Hills
- 3. Sechachalam Hills
- 4. Mahadeo Hills

Select the correct answer using the code given below:

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

55. With reference to neap tides, consider the following statements:

- 1. Neap tides occur when the Sun, Earth, and Moon form a right angle.
- 2. The difference between high tide and low tide is minimal during neap tides.
- 3. Neap tides occur twice a month.

Which of the statements given above are correct?

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

56. Consider the following statements with reference to the Indian Monsoon:

- 1. Northward shift of Inter Tropical Convergence Zone(ITCZ) causes onset of southwest monsoon.
- 2. The weather is marked by clear skies and a decrease in temperature during the retreating monsoon season.
- 3. Tamil Nadu coast receives heavy rainfall from the Bay of Bengal branch of the Southwest Monsoon

Which of the statements given above is/are correct?

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

57. Consider the following statements:

- 1. Shifting of Monsoon trough closer to the foothills of the Himalayas leads to a sharp decrease in rainfall over most parts of India.
- 2. Inter-Tropical Convergence Zone (ITCZ) is a belt of low-pressure air currents that circle the Earth near the Equator.

Which of the statements given above is/are correct?

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

58. Consider the following:

- 1. Labrador current
- 2. Agulhas current
- 3. Kuroshio current

How many of the above are cold ocean currents?

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

59. Consider the following statements:

- 1. Indian plate consist of both convergent and divergent types of boundaries.
- 2. The Himalayas were formed due to the sinking of the Eurasian plate below the Indian Plate.
- 3. Deccan traps were formed due to volcanic eruptions after the Himalayan mountain building was started.

How many of the statements given above are correct?

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

60. The Black Sea is a unique ecosystem facing several environmental challenges. Which of the following is the least likely to be a significant contributor to low oxygen levels in the deep waters?

- A. Warming sea surface temperatures leading to reduced solubility of oxygen.
- B. Poor mixing between the salty bottom layer and a less salty surface layer of Black sea
- C. Physical barriers like the Bosphorus Strait restricting deep water exchange with the Mediterranean.
- D. Increased nutrient runoff from surrounding rivers, promoting algal blooms

61. Consider the following statements:

- 1. The solar output received at the top of the atmosphere remains constant through out the year.
- 2. The insolation received by the earth on 3rd January is slightly more than the amount received on 4th July.

Which of the statements given above is/are correct?

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

62. Consider the following statements:

- 1. More than 90% of the Indian rivers are drained into the Bay of Bengal region.
- 2. Sahyadris act as a water divide between the Arabian Sea drainage and Bay of Bengal drainage.
- 3. In comparison to river basins, watershed regions are smaller.

How many of the statements given above are correct?

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