



Drishti IAS Presents...

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GEOGRAPHY

(March 2023 – March 2024)



Multiple
Choice
Questions
and
Answers

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10. Libya is bordered by which of the following countries:

1. Egypt
2. Sudan
3. Chad
4. Niger
5. Algeria

Select the correct answer using the code given below:

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

11. Consider the following statements:

Statement-I: The border between Israel and Jordan is known as the Blue Line.

Statement-II: Blue Line was set by the United Nations in 2000 after Israel withdrew its military from southern Lebanon.

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

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

12. Consider the following countries:

1. Iceland
2. Latvia
3. Lithuania

How many of the above are the members of Nordic-Baltic Cooperation?

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

13. With reference to Atmospheric River, consider the following statements:

1. The atmospheric river is a long, narrow band of moisture-filled air that transports significant amounts of water vapor from the tropics to higher latitudes.
2. The "Pineapple Express" is a well-known example of atmospheric river storms that bring heavy rainfall to the US East Coast, particularly New York.

Which of the statements given above is/are correct?

- A. 1 only B. 2 only
C. Both 1 and 2 D. None of the above

14. Regarding the Pradhan Mantri Mudra Yojana, consider the following statements:

1. It is the Indian government's flagship initiative to provide affordable credit to micro and small enterprises, aiming to formalize their financial inclusion or "fund the unfunded."
2. Indian citizens with business plans for non-farm income activities under Rs 10 lakh can seek MUDRA loans.

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. Consider the following statements:

1. A Marine Heat Wave (MHW) is an extreme event when a sea region's surface temperature rises 3-4°C above its average for at least five days.
2. The Extreme Event Attribution (EEA) technique assesses how much human-induced climate change affects specific extreme weather events.

Which of the statements given above is/are not correct?

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

16. Regarding the landlocked region "Kosovo", consider the following statements:

1. Kosovo is bordered by Romania, Macedonia, Serbia, and Montenegro.
2. Its capital and largest city is Pristina
3. India has not recognised Kosovo as an independent country.

How many of the statements above are correct?

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

17. Regarding Lakshadweep Island, consider the following statements:

1. Lakshadweep, comprising 36 islands, is the largest Union Territory of India.
2. It comes directly under the control of the Centre through an administrator.
3. The entire Lakshadweep group of islands has been declared as an organic agricultural area.

How many of the above statements are correct?

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



18. Consider the following statements:

Statement-I: Atlantic Meridional Overturning Circulation (AMOC) plays a crucial role in redistributing heat globally.

Statement-II: AMOC is a large-scale oceanic circulation system that transports warm surface waters from the tropics to the northern latitudes and returns cold, deep waters from the North Atlantic back towards the equator.

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

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

19. Which of the following statements about Humboldt's enigma is/ are correct?

- 1. Humboldt's enigma questions the conventional notion that tropical regions, fueled by ample sunlight, are the primary centres of biodiversity on Earth.
- 2. India's diverse mountain ranges, except for the Himalayas, serve as ideal settings to probe Humboldt's enigma.

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

20. Consider the following statements:

- 1. The Panama Canal links the Atlantic and Pacific Oceans.
- 2. Ethiopia, Egypt, Saudi Arabia, Sudan, Eritrea, and Yemen are the countries that border the Red Sea.

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

21. With reference to the 'Thermokarst', consider the following statements:

- 1. This is a type of terrain that is characterized by irregular surfaces of marshy hollows and small hummocks.
- 2. The Batagaika crater, an example of thermokarst, is the biggest permafrost crater in the world.

3. The active rock glaciers could lead to the formation of thermokarst features.

How many of the above statements are not correct?

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

22. Regarding the Jhelum River, consider the following statements:

- 1. It originates in Tibet near Lake Mansarovar.
- 2. It is a tributary of the Indus River.
- 3. Its primary tributary is the Kishenganaga River.

Which of the statements given above is/are correct?

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

23. Which of the following features is NOT typically associated with Western Disturbances?

- A. Widespread snowfall in the Himalayas
- B. Rainfall and thunderstorms in the plains
- C. Rapid drop in temperature especially at night across North India
- D. Formation of tropical cyclones

24. With reference to the Major and Minor Ports, consider the following statements:

- 1. New Mangalore port is one of the major ports in India.
- 2. All the Minor Ports are governed under the Indian Port Act, 1908 and are owned and managed by both the State and Central Governments.

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

25. Which among the following is a part of the Lithium triangle along with Argentina and Chile?

- A. Brazil
- B. Columbia
- C. Bolivia
- D. Australia

26. Consider the following pairs:

Region	Country
1. Sistan Province	A. Iran
2. Balochistan	B. Pakistan
3. Marib	C. Afghanistan

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

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

27. Consider the following countries:

1. Kenya
2. Uganda
3. Tanzania

How many of the above share the shoreline of Lake Victoria ?

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

28. With reference to the Majuli Island, consider the following statements:

1. It is located in Arunachal Pradesh.
2. It is recognised as the second largest river island in the world.
3. The island is surrounded by the Brahmaputra River and its tributaries.

How many of the above statements are correct?

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

29. Consider the following statements:

Statement-I: The South China Sea is a marginal sea of the Western Pacific Ocean which is bordered by Brunei Darussalam, Malaysia, Indonesia, the Philippines among others.

Statement-II: South China Sea is connected by the Taiwan Strait with the Philippine Sea and by the Luzon Strait with the East China Sea.

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

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

30. Consider the following countries:

1. Burkina Faso
2. Côte d'Ivoire
3. Sierra Leone

How many of the above are the founding members of ECOWAS (Economic Community of West African States)?

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

31. Consider the following statements:

Statement-I: India Meteorological Department (IMD) is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology and allied subjects.

Statement-II: It warns against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc.

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

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

32. Regarding 'Cabo Verde', consider the following statements:

1. It is a Malaria-free country.
2. It is a group of islands situated off the east coast of Africa.
3. The majority of the population in Cabo Verde is of mixed European and African descent.

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

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

33. Consider the following statements:

1. The Indian Tsunami Early Warning Centre (ITEWC) is a part of the Indian National Centre for Ocean Information Services (INCOIS), which is based in Hyderabad.
2. ITEWC monitors sea level changes near the epicentral region and reports in case of a tsunami threat.
3. Epicentre is a point on the Earth's surface directly above the hypocenter or focus of an earthquake.

How many of the statements given above are correct?

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

34. With reference to Marapi Volcano, consider the following statements:

1. Mount Marapi is an active volcano located in Malaysia.
2. The last time the Mount Marapi volcano erupted was in 1979 and it has remained inactive since then.

Which of the following statements is/are correct?

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



35. Regarding Kenya, consider the following statements:

1. It is located in West Africa.
2. Lake Turkana, the world's largest desert lake, passes through Kenya.

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

36. With reference to factors affecting the Indian Monsoon, consider the following statements :

1. During the summer months, the landmass over the Indian subcontinent heats up rapidly, leading to the formation of a low-pressure system and monsoon winds in India.
2. The Thar Desert, also known as the Great Indian Desert, is a crucial factor in the formation of monsoon winds in India.
3. The Arabian branch of the monsoon, which moves parallel to the Thar Desert, leads to very little rainfall in the nearby regions.

How many of the statements given above are not correct ?

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

37. Regarding the Gulf of Aden, consider the following statements:

- A. It is situated between Yemen on the south coast of the Arabian Peninsula and Somalia in Africa.
- B. It connects the Red Sea to the Arabian Sea via the Strait of Bab el Mandeb.

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

38. Consider the following pairs:

Volcanic Region	Country
1. Mt. Ararat	Turkey
2. Kamchatka Peninsula	Russia
3. Eyjafjallajokull	Iceland

How many of the above pairs are correctly matched?

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

39. Consider the following statements regarding Indian Meteorological Department:

1. It works as an agency of the Ministry of Environment, Forest and Climate Change of the Government of India.

2. Headquartered in New Delhi, it is also one of the six Regional Specialized Meteorological Centres of the World Meteorological Organization.

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

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

40. Consider the following statements about Antarctic Circumpolar Current (ACC):

1. ACC links the Atlantic, Pacific and Indian Oceans and is the primary means of inter-basin exchange of heat.
2. The current flows from west to east around Antarctica.

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

41. Regarding Bhutan, consider the following statements:

1. Recently, it has announced plans to build a massive "international city" known as the Gelephu Project.
2. Bhutan shares a border with four Indian states namely West Bengal, Tripura, Manipur, and Assam.

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

42. Consider the following countries:

1. Iran
2. Saudi Arabia
3. Yemen
4. Qatar

How many of the above border the Persian Gulf?

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

43. With reference to "Saiga Antelope", consider the following statements :

1. The saiga antelope is a large, nomadic, migratory herbivore that lives across the Eurasian Steppe.
2. It is found in Kazakhstan, Mongolia, the Russian Federation, Turkmenistan, and Uzbekistan.
3. Its typical habitat consists of flat open areas covered with low-growing vegetation, allowing animals to run quickly.

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

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



44. Which of the following are India's operational research stations at Antarctica?

1. Maitri
2. Bharati
3. Dakshin Gangotri

Select the correct answer using the code given below:

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

45. With reference to El Nino and the Indian Ocean Dipole, consider the following statements:

1. El Nino is a natural phenomenon that involves a periodic warming of the surface waters in the equatorial Pacific Ocean.
2. El Nino is one of the two phases of a climate pattern called El Niño-Southern Oscillation (ENSO).
3. Indian Ocean Dipole is characterized by a disparity in sea surface temperatures between the eastern and western Indian Oceans.

How many of the statements given above are correct?

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

46. With reference to Kavach System, consider the following statements:

1. Kavach is a cab signaling train control system with anti-collision features developed by the Research Design and Standards Organisation (RDSO).
2. It acts as a vigilant watchdog over the existing signaling system, alerting the loco pilot when approaching a 'red signal' and applying automatic brakes if necessary.
3. The Indian Railways Institute of Signal Engineering & Telecommunications (IRISET) hosts the 'Centre of Excellence' for Kavach.

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

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

47. How are Earthquake Swarms a Sign of Volcanic Activity?

- A. Earthquake swarms are caused by tectonic plate movements unrelated to volcanic activity.
- B. The buoyancy of magma results in earthquake swarms due to gravitational effects.
- C. Intense heat from volcanic eruptions triggers earthquake swarms in nearby regions.
- D. Movement of magma near the Earth's surface can induce earthquake swarms, indicating potential volcanic activity.

48. With reference to volcanoes, consider the following statements:

1. Volcanic activity is linked to the movement and collision of tectonic plates.
2. Active volcanoes erupt frequently and are mostly located in the Pacific Ring of Fire, which includes New Zealand, Southeast Asia, Japan and the western coast of the Americas.
3. Santa Maria in Guatemala is among the various dormant volcanoes present in the world.

How many of the statements above are correct?

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

49. Consider the following statements:

1. Somalia is a landlocked country situated in the Horn of Africa.
2. Bajuni Islands and the Socotra Archipelago are a part of and are administered by Somalia.

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

50. Which of the following statements is/are not correct regarding the Gulf of Guinea (GoG)?

- A. It is an inlet of the Atlantic Ocean on the eastern African coast.
- B. It is found at the junction of the Prime Meridian and the Equator.
- C. The region accounts for more than 35% of the world's total petroleum reserves.
- D. Democratic Republic of Congo, Gabon, Nigeria and Ghana, all are situated along GoG.

51. With reference to Equatorial rainforests, consider the following statements:

1. These forests typically lie within 10 degrees latitude north or south of the equator.
2. They experience a hot and humid climate with temperatures consistently high year-round.
3. The vegetation in equatorial rainforests is characterized by tall trees forming a dense canopy that shades the forest floor, creating a multi-layered ecosystem.

How many of the above statements are correct?

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



52. Consider the following statements:

1. Jawahar Tunnel is a highway tunnel built under the Rohtang Pass in the eastern Pir Panjal range of the Himalayas.
2. Atal Tunnel facilitates round-the-year road connectivity between Srinagar and Jammu.
3. The Silkyara-Barkot tunnel is part of the ambitious Char Dham all-weather road project of the Central Government.

How many of the above statements are correct?

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

53. With reference to 'E Prime Layer', consider the following statements :

1. A new mysterious layer called the E Prime Layer has formed on the outer part of the Earth's Mantle.
2. This layer developed because surface water penetrated deep into the planet, changing the composition of the outer region of the Earth's Mantle.
3. The E Prime layer carries significant implications, shedding light on the interconnected geochemical processes that link surface water cycles with the Earth's Crust.

How many of the statements given above are correct?

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

54. Consider the following locations:

1. Galathea Bay
2. Indira Point
3. Car Nicobar Island
4. Little Andaman Island
5. Barren Island

Arrange these locations from North to south and choose the correct order:

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

55. With reference to Gondwana Coalfields in India, consider the following statements :

1. Gondwana coalfields are mainly confined to extra-peninsular regions.
2. It is found in Damodar (Jharkand-West Bengal), Mahanadi (Chhattisgarh-Odisha), Godavari (Maharashtra), and Narmada valleys.
3. Carbon content is very low in Gondwana Coals but it is rich in moisture and sulphur.

How many of the statements given above are not correct ?

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

56. Tantalum, the term seen recently in the news, is a:

- A. Rare metal discovered in the Sutlej river sand in Punjab
- B. New cryptocurrency launched by Elon Musk
- C. Type of artificial intelligence that can mimic human emotions
- D. New asteroid discovered by NASA's James Webb Space Telescope

57. The Ben Gurion Canal was sometimes in the news. It is related to

- A. Israel, connecting the Mediterranean Sea with the Gulf of Aqaba
- B. Egypt, connecting the Red Sea with the Nile River
- C. Turkey, connecting the Black Sea with the Mediterranean Sea
- D. Panama, connecting the Atlantic Ocean with the Pacific Ocean

58. Regarding the ice sheet, consider the following statements:

1. Greenland ice sheet and Antarctica ice sheet are the two major ice sheets in the world today.
2. Together, they contain about two-thirds of all the freshwater on Earth.

Which of the statements given above is/are correct?

- A. 1 only B. 2 only
C. Both 1 and 2 D. Neither 1 and 2

59. Consider the following statements regarding South-China Sea:

1. The South-China Sea is bordered by China and Taiwan to the West.
2. The Indo-Chinese peninsula (including Vietnam, Thailand, Malaysia, and Singapore) borders the South-China Sea to the North.
3. The major islands and reef formations in the South China Sea are the Spratly Islands, Paracel Islands only.

How many of the above statements are correct?

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

60. With reference to the geographical location of Chabahar port, consider the following statements:

1. It is Iraq's only oceanic port.
2. It is situated in Sistan and Baluchistan Province, on the Makran coast.
3. There are two main ports in Chabahar namely, the Shahid Kalantari port and the Shahid Beheshti port.

How many of the statements given above are correct?

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

61. With reference to the Cyclones, consider the following statements:

1. Cyclones in the Arabian Sea are relatively more frequent and intense than those of the Bay of Bengal.
2. The Bay of Bengal usually has higher sea surface temperatures, providing the necessary energy and moisture for cyclone formation and intensification.
3. The convergence of winds in the BOB, combined with the Coriolis Force (resulting from the Earth's rotation), creates an environment suitable for cyclone genesis.

How many of the above statements are not correct?

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

62. With reference to Tibetan Plateau in Asia, consider the following statements:

1. Tibet is the highest region on Earth, with an average elevation of 6,900 meters.
2. The highest elevation in Tibet is Mount K2.
3. In 2023, Tibetan leaders signed a treaty dictated by China known as the "Seventeen Point Agreement".

How many of the statements given above are correct?

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

63. Consider the following states:

1. Haryana 2. Panjab
3. Himachal Pradesh 4. Delhi

How many of the above states are associated with Sutelej Yamuna Link (SYL) Canal?

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

64. With reference to Gaza Strip, consider the following statements:

1. The Gaza Strip shares borders with Lebanon in the southwest and Israel to the north and east.

2. The term "open air prison" has been widely used by academics to characterise the conditions in Gaza.

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

65. With reference to the Ken river, consider the following statements:

1. It originates in Madhya Pradesh (MP) and is the tributary of Yamuna.
2. Rajghat, Paricha and Matatila dams are over Ken river.
3. Ken River passes through Panna tiger reserve.

How many of the statements above are correct?

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

66. With reference to Sinai Peninsula, consider the following statements:

1. The Sinai Peninsula is a triangle-shaped peninsula in Israel.
2. The peninsula includes the Suez Canal, which is a man-made waterway that connects the Mediterranean Sea to the Persian Sea.

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

67. Consider the following statements:

1. The Amazon river basin covers parts of Guyana, Colombia, Ecuador, Bolivia, Suriname, French Guiana, and Venezuela.
2. The Amazon rainforest is bound by the Andes mountain to the east and Atlantic Ocean to the west.

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

68. Consider the following statements:

1. Marine clouds primarily form from sulfates and sea salt crystals.
2. In clean maritime air, marine clouds have larger droplets with higher light reflection.
3. The process of Marine Cloud Brightening (MCB) can reduce the frequency and severity of coral bleaching events.

How many of the above statements are correct?

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



69. Consider the following pairs:

Cyclone	Country
1. Typhoons	a. Southeast Asia
2. Hurricanes	b. Northwest Australia
3. Tornados	c. West Africa and Southern US

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

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

70. Which of the following countries border Kosovo?

- A. Albania, Montenegro, Serbia, and North Macedonia
B. Albania, Bulgaria, Serbia, and Romania
C. Bosnia and Herzegovina, Croatia, Serbia, and Hungary
D. Greece, Turkey, Serbia, and Bulgaria

71. With reference to geographical characteristics of Tanzania, consider the following statements:

- It is among the top 10 countries in the world with the most international borders.
- Ngorongoro Crater, which is the world's largest intact volcanic caldera is located in Tanzania.

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

72. Consider the following statements:

- It originates near Mahabaleshwar (Satara) in Maharashtra.
- It is the second biggest river in peninsular India after the Godavari River.
- It is a mighty east flowing river of peninsular India.
- Its left bank tributaries include the Bhima, the Musi and the Munneru.

Which one of the following Rivers is related to the characteristics mentioned above?

- A. Krishna River
B. Mahanadi River
C. Kaveri River
D. Penner River

73. Consider the following pairs:

Regions often mentioned in news	Geographical Location
1. West Bank :	Located between Israel and Syria.
2. Gaza :	Located between Israel and Egypt
3. Golan Heights :	Located in Jordan

How many of the above pairs are correctly matched?

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

74. Consider the following countries:

- Russia
- Georgia
- Armenia
- Iran
- Turkey

Which of the above have borders with Azerbaijan?

- 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

75. Which of the following statements is/are correct regarding 'Gabon'?

- Gabon is a Central African landlocked country.
- It shares land borders with Cameroon, Equatorial Guinea, Democratic Republic of Congo (DRC), and Kenya.
- Gabon is widely described as 'Africa's last Eden'; the Loango National Park is one of the country's best wildlife-watching spots.
- All options are correct.

76. Consider the following following statements about 'Golden Globe Race':

- The Golden Globe Race is a non-stop, multi-player, unassisted yacht race around the world which was held for the first time in 1968-69.
- The sailing takes a stipulated route, rounding the three great capes, Cape Agulhas in South Africa, Cape Leeuwin in Australia and Cape Horn in Chile.

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

77. Consider the following statements:

- El Nino and La Nina represent the cool and warm phases of the El Nino-Southern Oscillation (ENSO) cycle respectively.
- El Nino typically results in decreased rainfall in the western Pacific region, including countries like Indonesia and Australia.
- El Nino has adverse effect on south-west monsoon of India but La Nina has no effect on monsoon climate.

How many of the above given statements are correct?

- A. Only one
B. Only two
C. Only three
D. None of the above

78. Which of the following countries share land borders with Myanmar?

1. Bangladesh
2. Cambodia
3. Laos
4. Thailand
5. Vietnam

Select the correct answer using the codes given below:

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

79. Which of the following is correct regarding the Kermadec-Tonga subduction zone?

- A. The Pacific Plate is pushed under the Indo-Australian Plate
- B. The Juan de Fuca plate slide beneath the North American Plate
- C. The Caribbean plate is pushed under the North American Plate
- D. The Nazca plate slides beneath the South American Plate

80. Which one of the following correctly describes the Indian Ocean Dipole (IOD)?

- A. It is defined by differences in sea surface temperature between the Arabian Sea and the eastern Indian Ocean, influencing rainfall variability in the region.
- B. It is defined by variations in sea surface temperature between the Red Sea and the Mediterranean Sea, leading to increased rainfall in North Africa.
- C. It is defined by differences in atmospheric pressure between the northern and southern Indian Ocean, contributing to monsoon patterns in Southeast Asia.
- D. It is defined by shifts in ocean currents in the South Pacific, affecting marine ecosystems around Australia.

81. Crown shyness is a term sometimes seen in the news. It refers to:

- A. A phenomenon where some people avoid wearing crowns or tiaras due to social anxiety.
- B. A phenomenon where the tops of some trees do not touch each other, creating gaps in the sky between them.
- C. A phenomenon where some animals hide their heads under their fur or feathers to escape predators.
- D. A phenomenon where some plants produce less flowers or fruits due to environmental stress.

82. Consider the following statements:

1. The National Disaster Relief Fund (NDRF) is funded by the Central Government through budgetary provisions or any other sources as decided by the Finance Commission.

2. The Central Government contributes 75% to the State Disaster Response Fund (SDRF) in general states and 90% in northeastern and Himalayan states.

3. SDRF is headed by the Chief Secretary of the state.

How many of the statements given above are not correct?

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

83. Consider the following Nations:

1. Saudi Arabia
2. United Arab Emirates
3. Indian
4. Kuwait

How many of the above nations are not associated with the West Coast Refinery Project?

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

84. With reference to the Western Disturbance, consider the following statements:

1. Western Disturbances are a series of cyclonic storms that originate in the Mediterranean region.
2. Its trajectory changes as per the position of the Sun.
3. While the storm systems occur throughout the year, they travel to India mostly between December and April.

How many of the above statements are correct?

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

85. Consider the following statements related to basic magma:

1. It is rich in ferromagnesian minerals
2. It is associated with shield volcanoes.
3. It is commonly associated with the oceanic crust.

How many of the statements given above are correct?

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

86. What geological feature is commonly observed in the aftermath of extinct or inactive volcanoes?

- A. Broad shield volcanoes
- B. Dormant craters
- C. Filled craters forming lakes
- D. Continuous gas emissions



96. Consider the following statements with respect to 'River Devika Rejuvenation Project':

1. This project was launched under the National River Conservation Plan (NRCP).
2. Devika River originates from the hilly Suddha Mahadev temple in the Udhampur district of Jammu and Kashmir.
3. It flows down towards eastern Punjab where it merges with the Beas River.

How many of the above statements are not correct?

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

97. Consider the following countries:

1. Libya
2. Mauritania
3. Burkina Faso
4. Mali
5. Ghana
6. Benin

How many of the above have borders with Niger?

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

98. Consider the following statements:

1. India is ranked third in the world in terms of building large dams.
2. Hirakud Dam in Odisha built on river Mahanadi is the oldest and longest dam in India.

Which of the statements given above is/are not correct?

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

99. Which of the following statements is/are correct?

1. Flash Droughts involve rapid moisture evaporation from the atmosphere, creating ideal conditions for fire spread.
2. The Island of Maui has one active volcano, Haleakalā.
3. In India, Mizoram has seen the highest incidence of forest fires over the last two decades.

Select the correct answer using the code given below:

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

100. Originating from Brahma Giri Hill, this river courses through approximately 800 km before meeting the Bay of Bengal; recognized as one of India's seven sacred rivers, it hosts the Ranganthittu Bird Sanctuary and is fed by tributaries like Harangi, Hemavati, Kabini, and Bhavani. The river described in the provided information is -

- A. Krishna
- B. Godavari
- C. Cauvery
- D. Mahanadi

101. Consider the following countries:

1. Venezuela
2. Brazil
3. Guyana
4. Colombia
5. French Guyana
6. Peru

How many of the above-mentioned countries share a land border with Suriname?

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

102. Which of the following options correctly arranges the epochs of the Neogene Period in chronological order from oldest to youngest?

- A. Pliocene, Holocene, Pleistocene, Miocene
- B. Miocene, Pliocene, Pleistocene, Holocene
- C. Pleistocene, Holocene, Miocene, Pliocene
- D. Holocene, Pleistocene, Pliocene, Miocene

103. Which of the following lakes is accurately described as "one of the biggest artificial lakes in Meghalaya, situated about 15 km from Shillong, created as a reservoir as part of a dam construction project on the Barapani River"?

- A. Umiam Lake
- B. Chilika Lake
- C. Dal Lake
- D. Vembanad Lake

104. The North Sea is the border of which of the following countries?

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

Select the correct answer using the code given below:

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

105. Consider the following countries:

1. Great Britain
2. Denmark
3. Norway
4. Germany
5. Netherlands
6. Poland

How many of the above-mentioned countries share a land border with the North Sea?

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

106. With reference to the North Sea Route (NSR), consider the following statements:

1. The NSR is the shortest shipping route for freight transportation between Europe and countries of the Asia-Pacific region.
2. This route spans across the Arctic Ocean, encompassing the Barents Sea, Kara Sea, Laptev Sea, and East Siberian Sea.



115. Consider the following statements regarding 'Flash Floods':

- Flash floods are sudden, rapid and high-volume floods that occur within a few hours of heavy rainfall or other triggering events.
- They occur when heavy rainfall exceeds the capacity of the soil and drainage systems to absorb it.

Which of the statements given above is/are not correct?

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

116. Consider the following statements regarding 'Madden-Julian Oscillation (MJO)':

- MJO is an eastward moving disturbance of clouds, rainfall, winds, and pressure.
- When the cycle of the MJO is longer, it brings better monsoon conditions in 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

117. With reference to the World Meteorological Organization (WMO), consider the following statements:

- It is an intergovernmental organization with a membership of 193 Member States and Territories.
- India is not a member of WMO.
- It is headquartered in Geneva, Switzerland.

Which of the statements given above is/are correct?

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

118. Consider the following statements regarding 'Land Reclamation':

- Land reclamation refers to the process of creating new land or expanding the existing landmass by artificially filling in or reclaiming areas from water bodies.
- Artificial islands for migratory birds and marine life can be created by the Land Reclamation.

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

119. Consider the following statements:

- Permafrost is essentially any ground that stays frozen for at least two years straight.
- Permafrost regions are always covered with snow.

Which of the statements given above is/are not correct?

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

120. With reference to the Chenab River, consider the following statements:

- It rises in the upper Himalayas in the Lahaul and Spiti district of Himachal Pradesh state.
- It flows through the Jammu region of Jammu and Kashmir into the plains of Punjab, Pakistan.
- It is formed by the confluence of two rivers, Chandra and Bhaga.

Which of the statements given above is/are correct?

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

121. Which of the following statements is/are correct?

- Land subsidence refers to the gradual sinking or settling of the Earth's surface, usually due to the compaction of underground layers of soil, rock, or other materials.
- Excessive groundwater extraction has been identified as the underlying cause of land subsidence incidents in Joshimath, Uttarakhand, and the plains of Punjab, Haryana, Delhi, and Faridabad.
- The National Capital Region (NCR) in India experienced an average annual sinking rate of 15 mm from 2011-2017.

Select the correct answer using the code given below:

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

122. Consider the following statements:

- Glacier is any large mass of perennial ice that originates on land by the recrystallisation of snow or other forms of solid precipitation.
- Drumlins are smooth oval shaped ridge-like features composed mainly of glacial till with some masses of gravel and sand.

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

123. With reference to the heatwaves, consider the following statements:

- Heatwave need not be considered till the maximum temperature of a station reaches at least 40°C for Plains and at-least 30°C for Hilly regions.
- An increase of 5°C to 6°C from the normal temperature is considered to be heat wave condition.

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



124. Consider the following statements:

1. The Son River is the 2nd-largest southern (right bank) tributary of the Ganges after the Yamuna River.
2. It flows through four states: Chhattisgarh, Madhya Pradesh, Uttar Pradesh, and Bihar.
3. It originates near Amarkantak Hill in the Gaurela-Pendra-Marwahi district of Chhattisgarh and finally merges with the Ganges River near Patna in Bihar.

Which of the statements given above is/are correct?

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

125. Consider the following pairs:

Match1

Match2

- | | | |
|------------------|---|---------|
| 1. Indus Gorge | : | Kashmir |
| 2. Bryce Canyon | : | US |
| 3. Niagara Falls | : | Canada |

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

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

126. Consider the following statements regarding overturning circulation:

1. It is a global network of ocean currents that redistributes heat, carbon, and nutrients across the world's oceans.
2. The sinking of dense, oxygen-rich water from the surface drives the deeper limb of the overturning circulation.
3. Overturning circulation plays a crucial role in maintaining climate stability on Earth.
4. Melting Antarctic ice increases the formation of Antarctic bottom water.

How many of the above statements is/are correct?

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

127. Consider the following statements:

1. Coffee plantation practices in India takes place in ecologically sensitive regions of the Western and Eastern Ghats.
2. Tamil Nadu accounts for approximately 70% of India's total coffee production.

3. Arabica and Robusta are the two varieties of coffee that are found in India.

Which of the statements given above is/are correct?

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

128. Consider the following statements regarding 'Eretmoptera Murphyi':

1. Eretmoptera murphyi is changing the soil composition of Antarctica's Signy Island.
2. Eretmoptera Murphyi is a native species on Antarctic Signy Island.

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

129. Consider the following statements:

1. Kiru Hydro Electric Project is proposed on River Ravi, located in Kishtwar district of J&K.
2. The project is envisaged as a Run of River Scheme and uses the natural downward flow of rivers to capture the kinetic energy of water.
3. Other projects on Ravi River are Ratle Hydro Electric Project, and Salal Dam.

Which of the statements given above is/are correct?

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

130. Which of the following statements is/are correct?

1. The India State of Forest Report (ISFR) 2021 classifies Goa's forest cover as "Moderately fire prone."
2. Over the last two decades, Mizoram has seen the highest forest fires.
3. Forest Fire Prevention and Management Scheme (FFPM) is implemented by Forest Survey of India.

Select the correct answer using the code given below:

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

131. Which of the following statements regarding the 38th parallel line is/are correct?

1. The 38th parallel is a line of latitude that forms part of the border between North Korea and South Korea.

2. The 38th parallel was established as part of the Yalta Conference.

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

132. Consider the following statements regarding Vembanad Lake:

- It is the largest Ramsar site in India.
- It is a source of four rivers: Meenachil, Achankovil, Pampa and Manimala.

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

133. In the context of the Nicobar Islands, which of the following represents the correct top-to-bottom arrangement for the islands listed below?

- A. Car Nicobar, Terassa, Little Nicobar, Great Nicobar
B. Car Nicobar, Little Nicobar, Great Nicobar, Terassa
C. Little Nicobar, Great Nicobar, Terassa, Car Nicobar
D. Little Nicobar, Terassa, Car Nicobar, Great Nicobar

134. With reference to hydrogen power projects, consider the following statements:

- Disasters linked to hydropower projects in the Himalayan region have increased in recent years.
- Phata-Byung hydropower project is located on river Ganga.

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

135. Consider the following statements regarding 'Subansiri River'

- It is the largest tributary of the Upper Brahmaputra River.
- The Subansiri Lower Hydroelectric project has been constructed as a gravity dam.

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

136. Consider the following pairs:

Pass	Link/Feature
------	--------------

- | | |
|---|--|
| 1. Fotu La Pass - Sikkim with Autonomous Region of Tibet, China. | |
| 2. Rohtang Pass - Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh. | |
| 3. Shipika La Pass - Kinnaur district of Himachal Pradesh with Autonomous Region of Tibet, China. | |
| 4. Jelep La Pass - Leh with Kargil of Ladakh. | |

Which one of the following pairs is/are correctly matched?

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

137. Consider the following statements related to Small Island Developing Nations

- They were recognized as a distinct group of developing countries at the UN Conference on Environment and Development.
- They are located only in the Pacific Ocean.

Select the correct answer from the code given below:

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

138. Consider the following pairs:

Tourist Destination	Location
---------------------	----------

- | | |
|---------------------|---------------------|
| 1. Tawang Monestry | : Arunachal Pradesh |
| 2. Kamakhya Temple | : Odisha |
| 3. Nohkalikai Falls | : Tripura |
| 4. Dzukou Valley | : Nagaland |

How many pairs given above are correctly matched?

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

139. Consider the following statements:

- Kurmis are a landowning farming community.
- The Kurmali language is a member of the Indo-Aryan language family and belongs to the Bihari language family.

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



140. Consider the following statements related to Ocean floor:

- Continental Shelf is the shallowest and widest part of the ocean floor.
- Continental Slope is home to deep sea creatures such as octopuses and squids.

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

141. Which of the following Indian states share border with Myanmar?

- Arunachal Pradesh
- Nagaland
- Manipur
- Mizoram
- Tripura

Select the correct answer using the code given below:

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

142. Consider the following statements regarding Drug Menace:

- The golden crescent area comprises Thailand, Myanmar, Vietnam and Laos.
- The golden triangle area includes Pakistan, Afghanistan and Iran.

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

143. Consider the following statements regarding Hakki Pikki tribe:

- The tribe is a semi-nomadic tribe traditionally engaged in bird catching and hunting.
- Their society is patriarchal, and polygamy is a norm.
- They are considered to have ancestral roots with Maharana Pratap.
- It is a scheduled tribe in Karnataka.

Which of the statements given above is/are correct?

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

144. With reference to Zero Shadow Day, consider the following statements:

- It occurs when the Sun is exactly overhead.
- This event happens twice a year at every point on Earth between the Tropic of Cancer and the Tropic of Capricorn.

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

145. Which of the following discontinuities lies between the Mantle and Crust of the earth?

- A. Repetti discontinuity
B. Guttenberg discontinuity
C. Moho discontinuity
D. Lehmen discontinuity

146. With reference to the Zoji La Pass, consider the following statements:

- It is a high mountain pass located in the Kargil district of Ladakh.
- It is Asia's longest and strategic bi-directional tunnel.

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

147. With reference to the Gulf of Mannar, consider the following statements:

- It is an inlet of the Indian Ocean, between southwestern India and eastern Maldives.
- It is bounded to the northeast by Rameswaram (island) and Adam's (Rama's) Bridge (a chain of shoals).
- It is noted for its pearl banks and sacred chank.

Which of the statements given above is/are correct?

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

148. With reference to River Gandak, consider the following statements:

- It is a significant river that flows through the northern part of India and Nepal.
- The major tributaries of the river include the Mayangadi, Bari, Trisuli, Panchand.

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

149. With reference to Vernal Equinox, which of the following statements is correct?

- A. It occurs in the Southern Hemisphere in September.
B. It marks the beginning of spring in the Northern Hemisphere.
C. It is caused by the Earth's rotation on its axis only.
D. It is also known as the Summer Solstice.

150. With reference to Atmospheric Rivers, consider the following statements:

- They typically occurred only in the extratropical North Pacific/Atlantic region.
- One of the atmospheric rivers is called the Pineapple Express.

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

151. With reference to Earth Hour, consider the following statements:

- Earth Hour is an annual event that encourages people to turn off non-essential lights for one hour as a symbol of their commitment to the planet.
- The theme for 2023 earth hour is invest in our planet
- The government of India offers incentives to businesses and organizations that participate in Earth Hour by reducing their energy consumption

Which of the statements given above is/are correct?

- A. 1 and 2 only B. 2 and 3 only
C. 1 and 3 only D. None of the above

152. Consider the following statements regarding Western Disturbances:

- It is a series of cyclonic storms that originate in the Mediterranean region.
- It is the primary source of snowfall that replenishes the Himalayan glaciers during winter.
- The absence of Western Disturbances caused the north Indian plains to experience severe cold waves and cold days in December 2022.

Which of the statements given above is/are correct?

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

153. Consider the following statements:

- The Aravallis is one of the oldest fold mountain on Earth.
- The highest peak in the Aravalli Range is Guru Peak on Mount Abu.

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

154. Regarding the Great Rift Valley, consider the following statements:

- It is a massive geological formation that stretches around from northern Syria to central Mozambique in East Africa.
- It is home to the Nile River.
- The valley divides into the Eastern Rift and the Western Rift.

Which of the statements given above is/are correct?

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

155. Which of the following statements is true about firnification?

- A. Firn is a type of sedimentary rock formed from compacted snow.
B. Firn is a transitional stage between snow and glacier ice.
C. Firnification occurs when ice melts and freezes repeatedly, forming layers of ice.
D. Firnification is a process that occurs exclusively in polar regions.

156. With reference to Khondalite Stones, consider the following question:

- It is a type of metamorphic rock that is found in the Western Ghats region of India.
- They are commonly used as a decorative stone in construction.

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



ANSWERS

1. Ans: B

Exp:

- The Prime Minister of India inaugurated the **Sudarshan Setu** (also known as the Okha-Beyt Dwarka Signature Bridge), **India's longest cable-stayed bridge** connecting the Okha mainland and the Beyt Dwarka island in Gujarat. **Hence, statement 1 is correct.**
- **Bet Dwarka, is the second largest island off the Gujarat coast, after the Union Territory of Diu. Hence, statement 2 is not correct.**
- The bridge, constructed as a part of **National Highway (NH) 51** that runs along the sea coast of **Saurashtra**, was built by the NH division of Gujarat Roads and Buildings Department.
 - ◆ **Atal Setu** is the longest bridge in India and also the longest sea bridge in the country. **Hence, statement 3 is not correct.**

2. Ans: C

Exp:

- Cairns Group:
 - ◆ **Established:** 1986 in Cairns, Australia
 - ◆ **Members:** 19 agricultural exporting countries, including Argentina, Australia, Brazil, Canada, Pakistan, and New Zealand.
 - India is not a Member of Cairns Group.
 - ◆ **Stance:** Advocates for **liberalization of agricultural trade**, meaning they generally support reducing tariffs, subsidies, and other trade barriers that hinder the **free flow of agricultural products across borders**. They believe this will benefit all countries by promoting efficiency and economic growth.
- **Hence, Option C is correct.**

3. Ans: A

Exp:

- The **Black Sea is linked to the Sea of Marmara through the Bosphorus Strait** and then to the Aegean Sea (an elongated embayment of the Mediterranean Sea) through the Dardanelles Strait. **Hence, statement 1 is not correct.**
- The Black Sea is also connected to the **Sea of Azov by the Strait of Kerch**.
- Hence, statement 2 is correct.
- The Black Sea is bordered by Ukraine to the north and northwest, Russia and Georgia to the east, Türkiye to the south, and Bulgaria and Romania to the west.
- Also, The bordering countries of the Black Sea can be remembered as **BURGeR-T**: Bulgaria, Ukraine, Russia, Georgia, Romania and Türkiye).

- Moldova does not have a border with the Black Sea. It only has access through the Danube River. **Hence, statement 3 is not correct.**

4. Ans: A

Exp:

Ganga:

- The Ganga originates as **Bhagirathi** from Gangotri Glacier, Uttarakhand at an elevation of 3, 892 m. **Hence, statement 1 is correct.**
- Many small streams comprise the headwaters of the Ganga. The important among these are Alaknanda, Dhauliganga, Pindar, Mandakini and Bhilangana.
- At Devprayag, where Alaknanda joins **Bhagirathi**, the river acquires the name Ganga. **Hence, statement 2 is not correct.**
 - ◆ It traverses 2525 km before flowing into the Bay of Bengal.

5. Ans: C

Exp:

Shipra (Khipra) River:

- It is a tributary of the Chambal River in Madhya Pradesh and flows across the Malwa Plateau. **Hence, statement 1 is correct.**
- It originates in the Vindhya Range from a hill called Kakri-Tekdi. **Hence, statement 2 is correct.**
- Khan and Gambhir are its major tributaries. **Hence, statement 3 is correct.**

6. Ans: D

Exp:

Black Sea:

- The Black Sea is **bordered by** Ukraine to the north and northwest, Russia and Georgia to the east, Türkiye to the south, and Bulgaria and Romania to the west.



- **Hence, option D is correct.**

7. Ans: A

Exp:

- Findings of the **State of the Global Climate 2023** report released by the World Meteorological Organization (WMO):

Contrasting Heating and Cooling Patterns in the North Atlantic:

- While the majority of the world's oceans are experiencing warming, relatively small regions, **such as the subpolar North Atlantic Ocean**, are experiencing cooling. **Hence, Statement 1 is correct.**
- This cooling is linked to the slowdown of the **Atlantic Meridional Overturning Circulation (AMOC)**, a system of ocean currents.
 - AMOC is a system of **ocean currents that circulates water within the Atlantic Ocean**, bringing warm water **north and cold water south**. **Hence, Statement 2 is correct.**
- Hence, Both Statement I and Statement II are correct, and Statement II is the correct explanation for Statement I.

8. Ans: C

Exp:

Democratic Republic of Congo (DRC):

- It is 2nd largest country in Africa and the 11th largest in the world. **Hence, statement 1 is correct.**

- Kinshasa, the capital of the Democratic Republic of the Congo, sits on the Congo River, the only African river that twice intersects the equator. **Hence, statement 2 is correct.**

9. Ans: C

Exp:

Bhutan:

- Bhutan, a **landlocked country**, is situated between India and China. **Hence, statement 1 is correct.**
- The longest river in Bhutan is the **Manas River**. **Hence, statement 2 is correct.**
- India is Bhutan's **largest trading partner**, accounting for over 80% of Bhutan's total imports and exports. **Hence, statement 3 is correct.**

10. Ans: D

Exp:

- Libya:
 - Libya is bordered by the **Mediterranean Sea** to the north, Egypt to the east, Sudan to the southeast, Chad to the south, Niger to the southwest, Algeria to the west, and Tunisia to the northwest.
- Hence, option D is correct.**

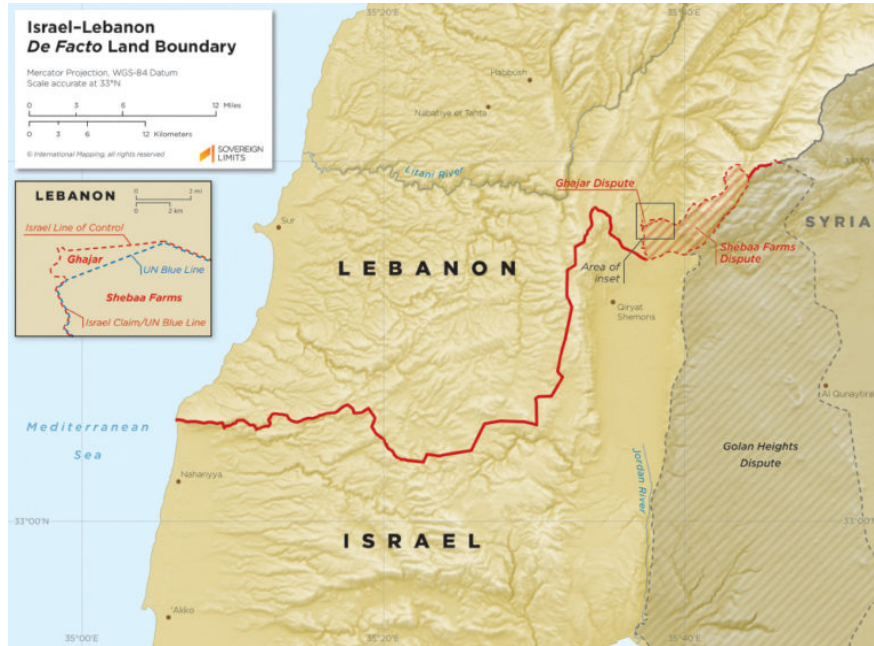


11. Ans: D

Exp:

- The “Blue Line” refers to the demarcation line that separates the city of Jerusalem into two parts: West Jerusalem, which is predominantly Jewish, and East Jerusalem, which is predominantly Palestinian. This demarcation was established following the 1949 armistice between Israel and Jordan and was meant to be a temporary border.

- The Blue Line is not a physical barrier but rather a conceptual line on maps used to indicate the division between Israeli and Jordanian-controlled areas.
- The border between Israel and Lebanon is known as the “Blue Line”. Hence, Statement I is not correct.
- It was set by the United Nations in 2000 after Israel withdrew its military from southern Lebanon. Hence, statement II is correct.
- Hence, Statement-I is incorrect, but Statement-II is correct.



12. Ans: C

Exp:

- **Nordic-Baltic Cooperation:**
 - ◆ The Nordic-Baltic cooperation is an informal regional cooperation format established in 1992, bringing together 5 Nordic (Finland, Sweden, Norway, Denmark, and Iceland) and 3 Baltic countries (Estonia, Latvia, and Lithuania).
 - ◆ Sweden holds the chairmanship of the NB8 in 2024.
- Hence, option C is correct.

13. Ans: B

Exp:

About Atmospheric River:

- The atmospheric river is a long, narrow band of moisture-filled air that transports significant amounts of water vapor from the tropics to higher latitudes.

Hence, statement 1 is correct.

- It is often associated with mT (Maritime Tropical) air mass.
- The “Pineapple Express” is a well-known example of atmospheric river storms that bring heavy rainfall to the US West Coast, particularly California. Hence, statement 2 is not correct.
 - ◆ This name originates from the fact that these storms draw moisture from the tropical waters near the Hawaiian Islands, resembling a “express” train of moisture originating from the vicinity of Hawaii, which is often associated with pineapples.

14. Ans: C

Pradhan Mantri Mudra Yojana:

- It is the Indian government’s flagship initiative to provide affordable credit to micro and small enterprises, aiming to formalize their financial inclusion or “fund the unfunded.” Hence, statement 1 is correct.

- Any Indian citizen with a business plan for a non-farm sector income-generating activity, including manufacturing, processing, trading, or the service sector, and requiring credit of less than **Rs 10 lakh**, can seek Micro Units Development & Refinance Agency Ltd. (MUDRA) loans under PMMY from a bank, Micro finance Institutions (MFI), or Non-Banking Financial Company (NBFC). **Hence, statement 2 is correct.**

15. Ans: D

Exp:

- A **Marine Heat Wave (MHW)** is an extreme weather event. It occurs when the surface temperature of a particular region of the sea rises to 3 or 4 degrees Celsius above the average temperature for at least five days. **Hence, statement 1 is correct.**
 - According to the National Oceanic and Atmospheric Administration (NOAA), MHWs can last for weeks, months or even years.
- The **Extreme Event Attribution (EEA)** technique determines the extent to which human-induced climate change influences the likelihood and severity of specific extreme weather events. **Hence, statement 2 is correct.**

16. Ans: C

Exp:

Key Facts About Kosovo:

- Kosovo, which has a majority Albanian population and a minority of Serbs, is a landlocked region bordered by Albania, Macedonia, Serbia, and Montenegro. Hence, Statement 1 is not correct
- Its capital and largest city is Pristina. Hence, Statement 2 is correct.
- According to the World Bank, Kosovo is a parliamentary republic and upper-middle-income country. It declared independence from Serbia on 17th February 2008 and is recognised as an independent country by more than 100 United Nations members.
 - India, Brazil, China, Russia, and Mexico have not recognised Kosovo** as an independent country. **Hence, Statement 3 is correct.**
 - However, Serbia does not recognize Kosovo as an independent state and continues to claim it as the Autonomous Province of Kosovo and Metohija.

17. Ans: B

Exp:

- Lakshadweep:**
 - India's **smallest** Union Territory, Lakshadweep is an archipelago consisting of 36 islands with an area of 32 sq km. **Hence, statement 1 is not correct.**

- It is a uni-district Union Territory and comprises 12 atolls, three reefs, five submerged banks, and ten inhabited islands.
- All Islands are 220 to 440 km away from the coastal city of Kochi in Kerala, in the emerald Arabian Sea.
- It is directly under the control of the Centre through an administrator. **Hence, statement 2 is correct.**

- There are three main groups of islands:**

- Amindivi Islands (Northernmost Islands)
- Laccadive Islands
- Minicoy Island (southernmost island)
 - All are tiny islands of Coral origin (Atoll) and are surrounded by fringing reefs.
 - The Capital is Kavaratti and it is also the principal town of the Union Territory.

- Organic Agricultural Area:** The entire Lakshadweep group of islands has been declared as an organic agricultural area under the Participatory Guarantee System (PGS) of India. **Hence, statement 3 is correct.**

18. Ans: A

Exp:

Atlantic Meridional Overturning Circulation (AMOC):

- AMOC plays a crucial role in redistributing heat globally, influencing regional and global climates, especially moderating temperatures in Europe, North America, and near the Equator. **Hence, statement I is correct.**
- AMOC is a large-scale oceanic circulation system that transports **warm surface waters from the tropics** to the northern latitudes and returns cold, deep waters from the **North Atlantic** back towards the equator. **Hence, statement II is correct.**
- Hence, option A is correct because both Statement-I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I.

19. Ans: A

Exp:

Humboldt's Enigma:

- Sparked by Alexander von Humboldt's observations, it questions the conventional notion that tropical regions, fueled by ample sunlight, are the primary centres of biodiversity on Earth.
- Humboldt's enigma has garnered increased attention in the field of ecology as researchers seek to **understand the unexpected biodiversity found in mountain ecosystems.**



- India's diverse mountain ranges, including the Himalayas especially Eastern Himalayas, serve as ideal settings to probe Humboldt's enigma.
- Hence, option A is correct.

20. Ans: A

Exp:

- The Panama Canal is an artificial 82 km waterway in Panama that connects the **Atlantic Ocean with the Pacific Ocean**. The canal cuts through the Isthmus of Panama and is a key conduit for maritime trade. Hence, **statement 1 is correct**.
- The Red Sea is a seawater inlet of the Indian Ocean, lying between Africa and Asia. The countries bordering the Red Sea are Egypt, Saudi Arabia, Yemen, Sudan, Eritrea and **Djibouti (and not Ethiopia)**. Hence, **statement 2 is not correct**.

21. Ans: D

Exp:

- Thermokarst is a type of terrain that is characterized by irregular surfaces of marshy hollows and small hummocks (ridges), formed by the thawing of ice-rich permafrost. Hence, **statement 1 is correct**.
- The active rock glaciers could lead to the formation of thermokarst features, such as ponds or lakes, that could alter the hydrology, ecology, and carbon cycle of the region. Hence, **statement 3 is correct**.
- The Batagaika crater is an example of thermokarst, it is the biggest permafrost crater in the world, it belongs to the Sakha Republic, Russia. Hence, **statement 2 is correct**.

22. Ans: B

Exp:

Jhelum Basin of the Kashmir Himalayas :

- The Jhelum basin is drained by the upper Jhelum River, which **originates from a deep spring at Vernag at Anantnag**, situated at the base of the Pir Panjal range in the Kashmir Valley; the river passes through Srinagar and Wular Lake before entering Pakistan. Hence, **statement 1 is not correct**.
- As a **tributary of the Indus River**, the Jhelum contributes to the larger river system in the Indian subcontinent.
 - ◆ The river flows through Jammu and Kashmir and into Pakistan, where it joins the Chenab River. Hence, **statement 2 is correct**.
- **The primary tributary is the Kishenganga (Neelum) River**. The Kunhar River, another significant tributary, connects Pakistan-occupied Kashmir and Pakistan via

the Kohala Bridge in the Kanghan Valley. Hence, **statement 3 is correct**.

23. Ans: D

Exp:

- Western disturbances are extratropical storms that originate in the Mediterranean region and bring sudden winter rain and snow to the northwestern parts of the Indian subcontinent. They are driven by the westerlies and do not form tropical cyclones. Hence, **option B is correct**.

24. Ans: A

Exp:

Major and Minor Ports:

- Number of Major Ports:
 - ◆ There are **12 major ports and 200 non-major ports** (minor ports) in the country.
 - ◆ **Major ports** include Deendayal (erstwhile Kandla), Mumbai, JNPT, Marmugao, New Mangalore, Cochin, Chennai, Kamarajar (earlier Ennore), V O Chidambaranar, Visakhapatnam, Paradip and Kolkata (including Haldia). Hence, **statement 1 is correct**.
- Major Ports vs Minor Ports:
 - ◆ Ports in India are classified as Major and Minor Ports according to the jurisdiction of the Central and State government as defined under the Indian Ports Act, 1908.
 - ◆ All the **12 Major Ports are governed under the Major Port Trusts act, 1963 and are owned and managed by the Central Government**.
 - ◆ All the Minor Ports are governed under the Indian Port Act, 1908 and are owned and managed by the State Governments. Hence, **statement 2 is not correct**.

25. Ans: C

Exp:

- Khanij Bidesh India Limited (KABIL) has signed an agreement with Argentina's State-owned CAMYEN for exploration and development of five lithium brine blocks.
- **Argentina** is part of the world's "**Lithium Triangle**", along with **Chile and Bolivia**.
 - ◆ The three nations together have more than half of the world's total lithium resources.
 - ◆ Argentina also has the distinction of having the 2nd-largest lithium resources, 3rd-largest lithium reserves and 4th-largest lithium production in the world.
- Hence, **option C is correct**.

26. Ans: B

Exp:

- **Sistan** and Baluchestan province is the second largest province of the 31 provinces of **Iran**, after Kerman province, with an area of 180,726 km². It is in the southeast of the country, bordering Afghanistan and Pakistan, and its capital is the city of Zahedan. **Hence, pair 1 is correctly matched.**
- **Balochistan** is a province of **Pakistan**. Located in the southwestern region of the country, Balochistan is the largest province of Pakistan by land area but is the

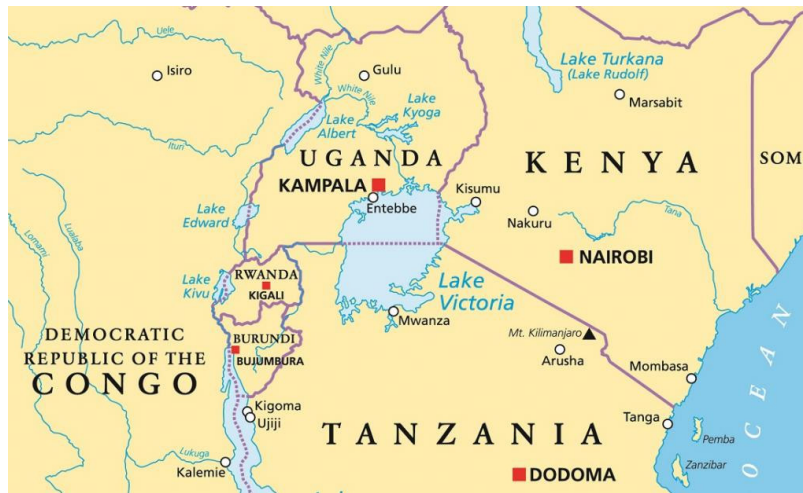
least populated one. **Hence, pair 2 is correctly matched.**

- **Marib** is the capital city of Marib Governorate, **Yemen**. **Hence, pair 3 is not correctly matched.**

27. Ans: C

Exp:

- **Lake Victoria** is the largest lake in Africa and the **world's second-largest freshwater lake**. Its shoreline is shared by **Kenya (6%), Uganda (43%), and Tanzania (51%)**.
- **Hence, option C is correct.**



28. Ans: A

Exp:

Key Facts Related to Majuli Island :

- Majuli is a river island located in the Brahmaputra River in the northeastern state of **Assam**, India. **Hence, statement 1 is not correct.**
- It is recognized as the **largest river island** in the world. **Hence, statement 2 is not correct.**
- The island is surrounded by the Brahmaputra River and its tributaries, creating a unique fluvial landform. Wetlands known as Beels and Chaporis (islets) contribute to the ecological diversity of the region. **Hence, statement 3 is correct.**

- It is connected by the **Taiwan Strait** with the **East China Sea** and by the **Luzon Strait** with the **Philippine Sea** (both marginal seas of the Pacific Ocean). **Hence, statement II is not correct.**

◆ The South China Sea is a contested maritime area that is the subject of territorial disputes between six countries: **China, Brunei, Taiwan, Vietnam, Malaysia, and the Philippines.**

- Hence, option C is correct because Statement-I is correct and Statement-II is not correct.

30. Ans: C

Exp:

- **About ECOWAS (Economic Community of West African States):** It is a regional grouping aimed to promote economic integration and shared development of the West African sub-region.
 - ◆ It was established in May 1975 by 15 West African countries in **Lagos, Nigeria.**
- **Founding members:** Benin, **Burkina Faso**, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau,

29. Ans: C

Exp:

- The South China Sea is a marginal sea of the **Western Pacific Ocean**. It is bordered by Brunei Darussalam, Malaysia, Indonesia, the Philippines, Singapore, Thailand, Vietnam and China. **Hence, statement I is correct.**



Liberia, Mali, Mauritania, Niger, Nigeria, **Sierra Leone**, Sénégal, and Togo.

- **Headquarters:** Abuja, Nigeria.
- **Hence, option C is correct.**

31. Ans: A

Exp:

- India Meteorological Department (IMD) is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology and allied subjects. **Hence, statement 1 is correct**
- It warns against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc., which causes destruction of life and property. **Hence, statement 2 is correct.**
- Statement 2 is correctly explaining the statement 1.
- **Hence, option A is correct.**

32. Ans: B

Exp:

- Recently, the World Health Organization (WHO) has declared Cabo Verde as a Malaria-free country. **Hence, statement 1 is correct.**
- **Geographical Location:**
 - ◆ Cabo Verde, also known as Cape Verde, is a group of islands situated off the west coast of Africa. **Hence, statement 2 is not correct.**
 - ◆ It is located near Senegal and is the closest point to the African continent.
- Archipelago Structure:
 - ◆ The country is composed of ten islands and five islets.
 - ◆ These are divided into two main groups: the windward islands (Barlavento) and the leeward islands (Sotavento).
- Population:
 - ◆ The majority of the population in **Cabo Verde is of mixed European and African descent. Hence, statement 3 is correct.**
 - ◆ **People of this mixed heritage** are often referred to as “mestiço” or “Crioulo.”
- Capital:
 - ◆ The capital city of Cabo Verde is Praia.
- Languages:
 - ◆ Portuguese is the official language.
 - ◆ Cape Verdean Creole, or simply Creole, is also widely spoken and is considered a significant part of the cultural identity.

33. Ans: C

Exp:

- The **Indian Tsunami Early Warning Centre (ITEWC)**, part of the Indian National Centre for Ocean Information Services (INCOIS) in Hyderabad, confirmed that **India faces no tsunami threat** despite a 7.5 magnitude **earthquake** near Honshu, Japan. **Hence, statement 1 is correct.**
- The Pacific Ocean Tsunami Warning Centre (PTWC) and Japan Meteorological Agency (JMA) issued a tsunami bulletin for Japan.
- **ITEWC monitors sea level changes** near the epicentral region and reports in case of a tsunami threat. **Hence, statement 2 is correct.**
 - ◆ Epicentre is a point on the Earth's surface directly above the **hypocenter (or focus) of an earthquake**. It is the location on the surface of the Earth that is directly above the earthquake's point of origin within the Earth's crust. **Hence, statement 3 is correct.**

34. Ans: D

Exp:

- **Mount Marapi**, which means “**Mountain of Fire**”, is the most active volcano on Sumatra island, Indonesia. **Indonesia** sits on the **Pacific's “Ring of Fire”** and has 127 active volcanoes. **Hence, statement 1 is not correct.**
- Its most deadly **eruption** was in **April 1979**, when 60 people were killed. **Recently**, the **Marapi volcano** erupted, ejecting **ash** up to 3,000 meters (9,840 feet) into the air and causing casualties. **Hence, statement 2 is not correct.**



35. Ans: B

Exp:

Kenya:

- **Kenya** is located in **East Africa**. **Hence, statement 1 is not correct.**

- ◆ Its terrain rises from a low coastal plain on the **Indian Ocean** to mountains and plateaus at its center.
- Kenya's location between the **Indian Ocean** and **Lake Victoria** means that people from all over **Africa** and the **Middle East** have traveled and traded across it for centuries.
 - ◆ This has created a diverse culture with many ethnic groups and languages.
- The bones of one of the earliest human ancestors ever found were discovered in **Kenya's Turkana Basin**.
 - ◆ **Lake Turkana**, the **world's largest desert lake**, is part of the **Omo-Turkana basin**, which stretches into four countries: **Ethiopia, Kenya, South Sudan** and **Uganda**. **Hence, statement 2 is correct.**

36. Ans: D

Exp:

- The **Himalayas** are a **major factor in the formation of the monsoon winds** in India.
- During the **summer months, the landmass over the Indian subcontinent heats up** rapidly, leading to the formation of a low-pressure system. **Hence, Statement 1 is correct.**
 - ◆ The Himalayas, which act as a barrier, prevent the cool, dry air from the north from flowing into the region, resulting in a pressure gradient that draws in warm, moist air from the Indian Ocean.
- The Thar Desert, also known as the **Great Indian Desert**, is a crucial factor in the formation of monsoon winds in India. **Hence, Statement 2 is correct.**
- It acts as a **rain shadow area for the Bay of Bengal branch of the monsoon**, meaning that it receives very little rainfall due to the barrier created by the **Aravalli Mountain range**.
 - ◆ Thus, the Arabian branch of the monsoon, which moves parallel to the Thar Desert, also leads to very little rainfall in the nearby regions. **Hence, Statement 3 is correct.**

37. Ans: C

Exp:

Gulf of Aden:

- The Gulf of Aden, an **arm of the Indian Ocean** is situated between **Yemen on the south coast of the Arabian Peninsula** and **Somalia in Africa**. **Hence, statement 1 is correct.**
 - ◆ It is **bounded to the south by Somalia** and the **Socotra Islands**, **north by Yemen**, **east by the Arabian Sea**, and west by Djibouti.

- The gulf – roughly 900 kilometers long and 500 kilometers wide is an important waterway for transporting Persian Gulf oil.
- The **Gulf connects the Red Sea to the Arabian Sea** via the **Strait of Bab el Mandeb**. **Hence, statement 2 is correct.**
 - ◆ It forms an essential oil transport route between Europe and the Far East.

38. Ans: C

Exp:

Volcano-Prone Regions in the World:

- **Mid-Continental Belt:**
 - ◆ This belt includes the volcanoes of Alps mountains, Mediterranean Sea (Stromboli, Vesuvius, Etna, etc.), volcanoes of Aegean Sea, **Mt. Ararat (Turkey)**, Elburz, Hindu Kush and Himalayas. **Hence, pair 1 is correctly matched**
- Circum-Pacific Belt:
 - ◆ The **Pacific Ring of Fire** has a total of **452 volcanoes**.
 - ◆ Most of the active volcanoes are found on its western edge, from the **Kamchatka Peninsula in Russia**, through the **islands of Japan** and **Southeast Asia**, to **New Zealand**. **Hence, pair 2 is correctly matched.**
- Mid Atlantic Ridge:
 - ◆ The Mid-Atlantic Ridge **separates the North and South American Plate from the Eurasian and African Plate**. Iceland is located on the **Mid-Atlantic Ridge**, technically the longest mountain range in the world, but on the **floor of the Atlantic Ocean**.
 - ◆ Iceland is home to **33 active volcanoes**, the **highest in Europe**. This unique landscape has given Iceland the epithet, '**Land of Fire and Ice**'.
 - **Eyjafjallajokull**, one of **Iceland's most famous volcanoes**, erupted in **2010**, causing a widespread **ash cloud**. **Hence, pair 3 is correctly matched.**

39. Ans: B

Exp:

India Meteorological Department:

- IMD was **established in 1875**. It is the **National Meteorological Service** of the country and the principal government agency in all **matters relating to meteorology and allied subjects**.
 - ◆ It works as an **agency of the Ministry of Earth Sciences** of the Government of India. **Hence, statement 1 is not correct.**



- It is headquartered in **New Delhi**.
- IMD is also one of the **six Regional Specialized Meteorological Centres** of the **World Meteorological Organization**.
- Hence, **statement 2 is correct**.

40. Ans: C

Exp:

Antarctic Circumpolar Current (ACC):

- ACC is the only current in the global ocean to close upon itself in a circumpolar loop.
 - ◆ This trait makes the ACC the most important current in the Earth's climate system because it **links the Atlantic, Pacific and Indian Oceans and is the primary means of inter-basin exchange of heat**, carbon dioxide, chemicals, biology and other tracers. **Hence, statement 1 is correct.**
- The ACC is created by the combined effects of strong westerly winds across the Southern Ocean, and the big change in surface temperatures between the Equator and the poles. **The current flows from west to east around Antarctica. Hence, statement 2 is correct.**
- Ocean density increases as water gets colder and as it gets more salty. The warm, salty surface waters of the subtropics are much lighter than the cold, fresher waters close to Antarctica.
 - ◆ The depth of constant density levels slopes up towards Antarctica. The westerly winds make this slope steeper, and the ACC rides eastward along it, faster where the slope is steeper, and weaker where it's flatter.

41. Ans: A

Exp:

- Recently, Bhutan's King has announced plans to build a massive "international city" in an area of over 1,000 sq. km. on its border with Assam. This project is known as the Gelephu Project. Hence, statement 1 is correct.
- Bhutan shares a border with four Indian states namely West Bengal, Sikkim, Assam, and Arunachal Pradesh. Hence, statement 2 is not correct.

42. Ans: C

Exp:

- The Persian Gulf is bordered by Iran, Iraq, Kuwait, Saudi Arabia, Bahrain, Qatar, the United Arab Emirates, and Oman. **Hence, option C is correct.**
- The Persian Gulf is connected to the Gulf of Oman by the Bab al-Mandab Strait.
 - ◆ The Strait of Hormuz is situated between Qeshm Island and the Iranian coast in the north and the

Musandam Peninsula of the Arabian Peninsula in the south.

- Persian Gulf countries are major producers of crude oil and natural gas.

43. Ans: C

Exp:

- The saiga antelope is a large, nomadic, migratory herbivore that lives across the Eurasian Steppe. Hence, Statement 1 is correct.
 - ◆ It's found in Kazakhstan, Mongolia, the Russian Federation, Turkmenistan, and Uzbekistan. Hence, Statement 2 is correct.
- It belongs to the family of Bovidae (order Artiodactyla).
- The Saiga has two subspecies: Saiga tatarica tatarica (found in most of the range) and Saiga tatarica mongolica (found only in Mongolia).
- Typical habitat consists of flat open areas covered with low-growing vegetation, allowing animals to run quickly. Hence, Statement 3 is correct.
- They have an unusual hanging nose, which makes them look like a camel, although they are goat-sized, and male saigas have horns.

44. Ans: A

Exp:

India's Major Initiatives Related to Antarctica:

- India acceded to the Antarctic Treaty in 1983, received the consultative status on the 12th September, 1983.
- National Centre for Polar and Ocean Research (erstwhile National Centre for Antarctic and Ocean Research) is India's premier R&D institution responsible for the country's research activities in the Polar and Southern Ocean realms.
- The Indian Antarctic Act of 2022 regulates visits and activities in Antarctica, covering mineral protection, native plant conservation, and banning non-native bird introductions.
- Presently, India has two operational research stations at Antarctica – Maitri and Bharati.
 - ◆ Dakshin Gangotri was the first station to be built before 1985 but is no longer operational.
- Hence, **option A is correct.**

45. Ans: C

Exp:

- El Nino:
 - ◆ It is a natural phenomenon that involves a periodic warming of the surface waters in the equatorial Pacific Ocean. Hence, statement 1 is correct.

- The word “El Niño” means “Little Boy” in Spanish.
- It is one of the two phases of a climate pattern called El Niño-Southern Oscillation (ENSO). Hence, statement 2 is correct.

◆ Over India, it has the effect of suppressing the monsoon rainfall.

● Indian Ocean Dipole (IOD):

◆ The IOD is an atmosphere-ocean phenomenon that occurs in the Indian Ocean.

◆ It's characterized by a disparity in sea surface temperatures between the eastern and western Indian Oceans. Hence, statement 3 is correct.

46. Ans: C

Exp:

Kavach System:

- Kavach is a cab signaling train control system with anti-collision features developed by the Research Design and Standards Organisation (RDSO) in association with three Indian vendors. Hence, Statement 1 is correct.
 - ◆ It has been adopted as our National Automatic Train Protection (ATP) System.
- It adheres to Safety Integrity Level-4 (SIL-4) standards and acts as a vigilant watchdog over the existing signaling system, alerting the loco pilot when approaching a 'red signal' and applying automatic brakes if necessary to prevent overshooting the signal. Hence, Statement 2 is correct.
 - ◆ The system also relays SoS messages during emergency situations.
- It features centralized live monitoring of train movements through the Network Monitor System.
 - ◆ The Indian Railways Institute of Signal Engineering & Telecommunications (IRISET) in Secunderabad, Telangana hosts the 'Centre of Excellence' for Kavach. Hence, Statement 3 is correct.

47. Ans: D

Exp:

- Earthquake swarms are sequences of mostly small earthquakes with no identifiable mainshock.
 - ◆ They can be caused by various factors, such as tectonic plate movements, fluid injection or extraction, or magma movement.
- When magma moves near the Earth's surface, it creates pressure and stress in the surrounding rocks, which can result in fractures and seismic waves.
- These seismic waves are detected as earthquake swarms, and can indicate that a volcanic eruption is imminent or ongoing. **Hence, option D is correct.**

◆ For example, the recent eruption of the Cumbre Vieja Volcanic Ridge in La Palma, Canary Islands, was preceded by a series of seismic swarms that started in late October 2021.

- Therefore, earthquake swarms can be a sign of volcanic activity, especially if they occur near active volcanoes or along tectonic plate boundaries.

48. Ans: B

Exp:

- About:
 - ◆ Volcanoes are openings or vents where lava, rocks, and steam erupt onto the Earth's surface.
 - ◆ They result from both their own eruptions and the general formation of the planet through the movement and collision of tectonic plates.
- Types of Volcanoes:
 - ◆ Based on Frequency of Eruption:
 - Active Volcanoes:
 - They erupt frequently and are mostly located in the Pacific Ring of Fire, which includes New Zealand, Southeast Asia, Japan and the western coast of the Americas. Hence, statement 1 is correct.
 - ◆ About 90% of all earthquakes worldwide strike within this region.
 - Volcanic activity is linked to the movement and collision of tectonic plates. Hence, statement 2 is correct.
 - Examples include Kilauea in Hawaii and Santa Maria in Guatemala. Hence, statement 3 is not correct.
 - Dormant Volcano:
 - These are not extinct but have not erupted in recent history. The dormant volcanoes may erupt in future.
 - Example: Mount Kilimanjaro, located in Tanzania, also the highest mountain in Africa, is known to be a dormant volcano.
 - Extinct or Inactive Volcanoes:
 - These have not worked in the distant geological past.
 - Example: Dhinodhar hill, Gujarat.

49. Ans: D

Exp:

- Somalia is situated in the Horn of Africa, bordered by the Gulf of Aden to the north, the Indian Ocean to the east, Kenya and Ethiopia to the west, and Djibouti to the northwest. Hence, statement 1 is not correct.
 - ◆ Mogadishu is the capital and largest city in Somalia.
- The country features diverse landscapes including arid plains, plateaus, highlands, and mountain ranges.



- ◆ The northern part of Somalia includes the Golis Mountains, while the southern region is characterized by savannas and grasslands.
- Somalia has several islands off its coast, including the Bajuni Islands and the Socotra Archipelago, which includes islands like Socotra, Abd al Kuri, and Samha. However, the Socotra Archipelago is administered by Yemen. Hence, statement 2 is not correct.

50. Ans: A

Exp:

Gulf of Guinea (GoG):

- It is an inlet of the Atlantic Ocean on the western African coast, extending westward from Cape Lopez in Gabon to Cape Palmas in Liberia. Hence, statement A is not correct.
- It is found at the junction of the Prime Meridian and the Equator at 0°0'N and 0°0'E. Hence, statement B is correct.
 - ◆ Major rivers that drain into the Gulf of Guinea include the Volta and Niger rivers.

- The GoG is one of the world's most dangerous gulfs because of the widespread piracy that has severely affected many countries in West Africa along with other international countries.
- The GoG region accounts for more than 35% of the world's total petroleum reserves. Hence, statement C is correct.
 - ◆ Several minerals including diamonds, uranium, copper, etc., are found here.
 - ◆ The principal economic activities of the Gulf of Guinea region are petroleum exploration, mining and gas flaring, port operations, and fishing.
- The 16 coastal countries that are situated along the Gulf of Guinea are Angola, Benin, Cameroon, Cote d'Ivoire, Democratic Republic of Congo, Republic of Congo, Guinea, Equatorial Guinea, Guinea-Bissau, Gabon, Nigeria, Ghana, São Tomé and Príncipe, Togo and Sierra Leone. Hence, statement D is correct.
- Hence, option A is correct.

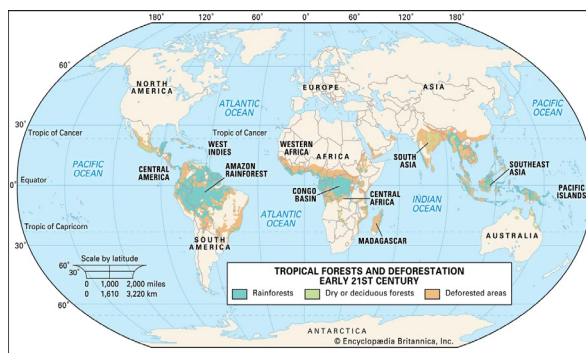


51. Ans: C

Exp:

Equatorial Rainforests:

- About:
 - ◆ Equatorial rainforests are lush, biodiverse forests found near the equator in tropical regions.
 - ◆ These forests typically lie within 10 degrees latitude north or south of the equator and are characterized by high temperatures and heavy rainfall throughout the year. Hence, statement 1 is correct.



● **Key Features:**

- ◆ **Climate:** They experience a hot and humid climate with temperatures consistently high year-round, usually averaging around 25-27°C (77-81°F). Rainfall is abundant, often exceeding 2,000 millimeters (80 inches) annually, leading to the term “rainforest.” Hence, statement 2 is correct.
- ◆ **Biodiversity:** Equatorial rainforests are among the most diverse ecosystems on Earth, housing an incredibly rich variety of plant and animal species.
 - These forests contain a myriad of species of trees, plants, insects, birds, mammals, and other organisms, many of which are endemic to these regions.
- ◆ **Flora and Fauna:** The vegetation in equatorial rainforests is characterized by tall trees forming a dense canopy that shades the forest floor, creating a multi-layered ecosystem. Hence, statement 3 is correct.
 - A variety of plant species, including epiphytes (plants growing on other plants), lianas (climbing vines), and numerous species of trees, contribute to the rich biodiversity.

52. Ans: A

Exp:

- **Atal Tunnel:** Atal Tunnel (also known as Rohtang Tunnel) is a highway tunnel built under the Rohtang Pass in the eastern Pir Panjal range of the Himalayas on the Leh-Manali Highway in Himachal Pradesh, India. **Hence, statement 1 is not correct.**
- **Jawahar Tunnel:** It is also called Banihal Tunnel. The length of the tunnel is 2.85 km.
 - ◆ The tunnel facilitates round-the-year road connectivity between Srinagar and Jammu. Hence, statement 2 is not correct.
- Recently, an under-construction Silkyara-Barkot tunnel along the Yamunotri National Highway in Uttarkashi district, Uttarakhand, collapsed, trapping a significant number of workers inside.
 - ◆ The Silkyara-Barkot tunnel is part of the ambitious Char Dham all-weather road project of the Central Government. **Hence, statement 3 is correct.**

53. Ans: D

Exp:

- According to research conducted at the Advanced Photon Source of Argonne National Lab and PETRA III of Deutsches Elektronen-Synchrotron in Germany, a

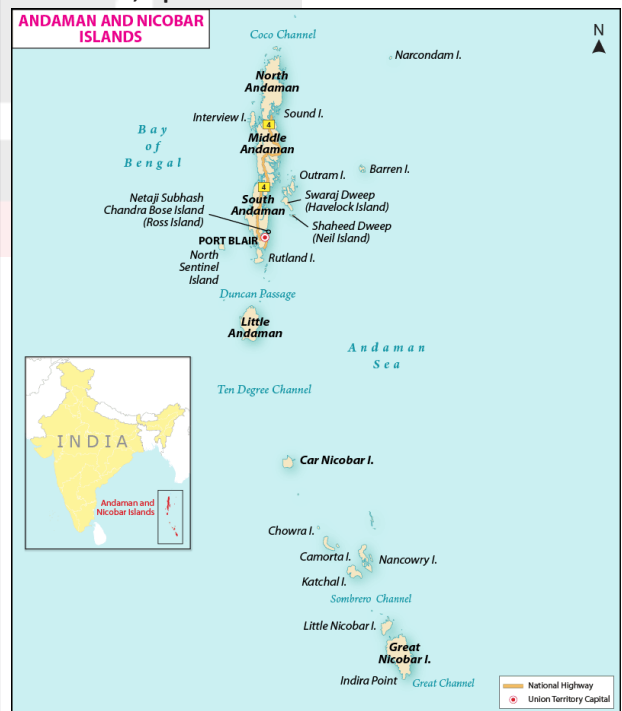
new mysterious layer called the E prime layer has formed on the outer part of the Earth's core. **Hence, Statement 1 is not correct.**

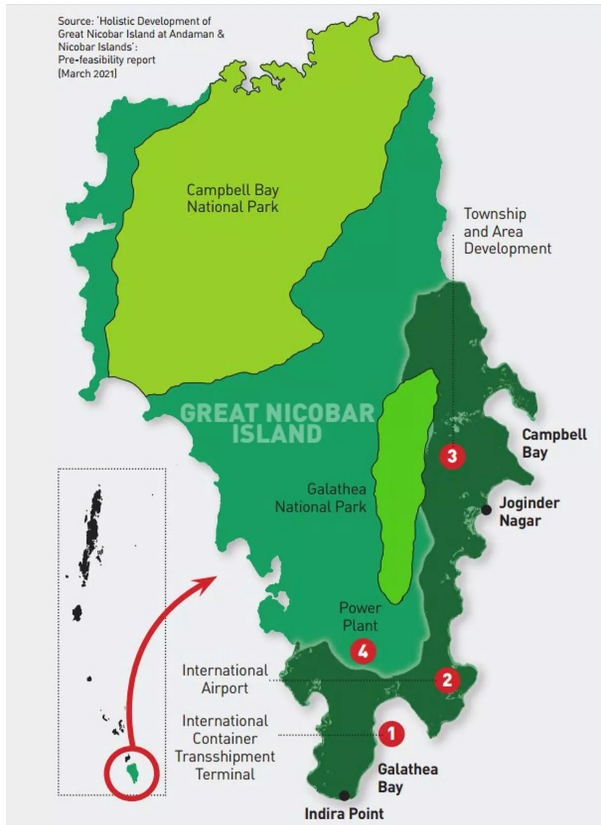
- ◆ This happened because surface water penetrated deep into the planet, changing the composition of the outer region of the liquid metal core. Hence, Statement 2 is not correct.
- Observations by scientists highlight the chemical reactions occurring when subducted water interacts with core materials under high pressure.
- This interaction results in the creation of a distinct layer in the outer core characterized by high hydrogen content and low silicon levels, forming a film-like structure.
- This finding suggests a more intricate global water cycle than previously recognized. The altered core layer carries significant implications, shedding light on the interconnected geochemical processes that link surface water cycles with the deep metallic core. Hence, Statement 3 is not correct.

54. Ans: D

Exp:

- The correct order from North to south is -
 - ◆ Barren Island, Little Andaman Island, Car Nicobar Island, Galathea bay, Indira Point.
- **Hence, Option D is correct.**





55. Ans: B

Exp:

- Gondwana Coal Fields (250 million years old):
 - ◆ Gondwana coal makes up to 98% of the total reserves and 99% of the production of coal in India.
 - ◆ Gondwana coal forms India's metallurgical grade as well as superior quality coal.
 - ◆ It is found in Damodar (Jharkand-West Bengal), Mahanadi (Chhattisgarh-Odisha), Godavari (Maharashtra), and Narmada valleys. Hence, Statement 2 is correct.
- Tertiary Coal Fields (15 – 60 million years old):
 - ◆ Carbon content is very low but is rich in moisture and sulphur. Hence, Statement 3 is not correct.
 - ◆ Tertiary coalfields are mainly confined to extra-peninsular regions. Hence, Statement 1 is not correct.
 - ◆ Important areas include Assam, Meghalaya, Nagaland, Arunachal Pradesh, Jammu and Kashmir, Himalayan foothills of Darjeeling in West Bengal, Rajasthan, Uttar Pradesh, and Kerala.

56. Ans: A

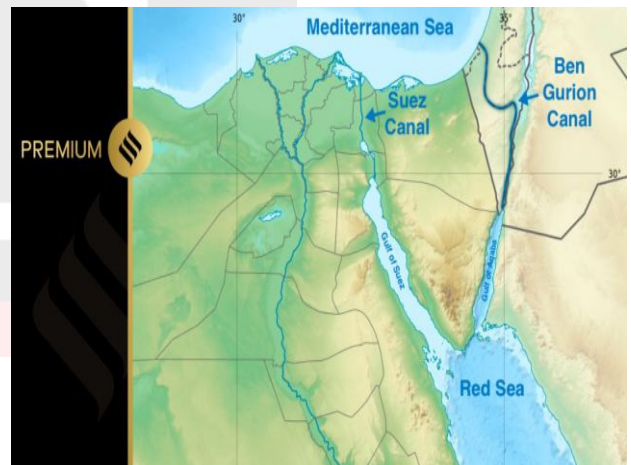
Exp:

- **Tantalum**, a rare metal with remarkable properties, has been discovered in the sands of the **Sutlej River in Punjab** by a team of researchers from the Indian Institute of Technology (IIT), Ropar.

57. Ans: A

Exp:

- The Ben Gurion Canal is a proposed sea-level canal that would cut through the Negev Desert in Israel, starting from the Gulf of Aqaba (the eastern arm of the Red Sea) and extending to the Eastern Mediterranean coast. **Hence, option A is correct.**
- The canal would provide an alternative maritime route between Europe and Asia, bypassing the Suez Canal, which is controlled by Egypt and runs north to south across the Isthmus of Suez in Egypt, connecting the Mediterranean Sea and the Red Sea.
- The other options are incorrect because they refer to different canals or waterways that are not related to the Ben Gurion Canal project.



58. Ans: C

Exp:

Ice Sheet:

- An ice sheet is essentially a mass of glacial ice that covers more than 50,000 square kilometres of land — roughly large enough to blanket Uttarakhand in ice.
- There are two major ice sheets in the world today: Greenland ice sheet and Antarctica ice sheet. Hence, statement 1 is correct.
- Together, they contain about two-thirds of all the freshwater on Earth. Hence, statement 2 is correct.

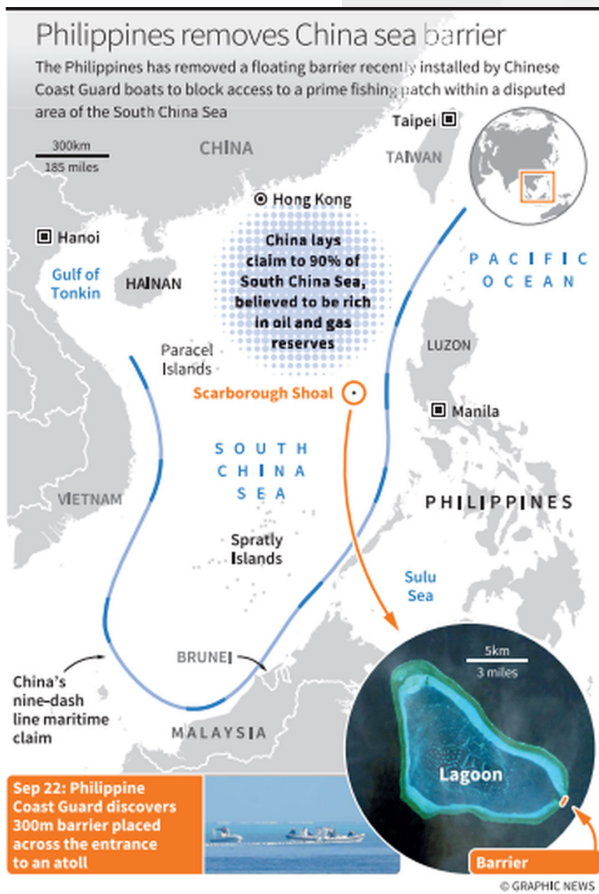
59. Ans: D

Exp:

South-China Sea:

- The South-China Sea is bordered by China and Taiwan to the north, the Indo-Chinese peninsula (including Vietnam, Thailand, Malaysia, and Singapore) to the west, Indonesia and Brunei to the south, and the Philippines to the east (referred to as the West Philippine Sea).
 - ◆ It is connected by the Taiwan Strait with the East China Sea and by the Luzon Strait with the Philippine Sea (both marginal seas of the Pacific Ocean). Hence, both statements 1 and 2 are not correct.
- The major island and reef formations in the South China Sea are the Spratly Islands, Paracel Islands, Pratas, the Natuna Islands and Scarborough Shoal.

Hence, statement 3 is not correct.



60. Ans: B

Exp:

Chabahar Port:

- Chabahar is Iran's only oceanic port. Hence, statement 1 is not correct.
- It is situated in Sistan and Baluchistan Province, on the Makran coast. Hence, statement 2 is correct.
- There are two main ports in Chabahar – the Shahid Kalantari port and the Shahid Beheshti port. Hence, statement 3 is correct.
 - ◆ The Shahid Kalantari port was developed in the 1980s.
 - ◆ Iran had offered India the project of developing the Shahid Beheshti port which was well received by India.



61. Ans: A

Exp:

- Cyclones in the Bay of Bengal (BOB) are relatively more frequent and intense than those of the Arabian Sea. Hence, Statement 1 is not correct.
 - ◆ The Bay of Bengal typically sees multiple cyclonic events during the tropical cyclone season, which is primarily from April to December.
- The BOB usually has higher sea surface temperatures, especially during the pre-monsoon and post-monsoon seasons, providing the necessary energy and moisture for cyclone formation and intensification. Hence, Statement 2 is correct.
- The convergence of winds in the BOB, combined with the Coriolis Force (resulting from the Earth's rotation), creates an environment suitable for cyclone genesis. These converging winds form areas of low pressure, which can develop into tropical disturbances and cyclones. Hence, Statement 3 is correct.

62. Ans: D

Exp:

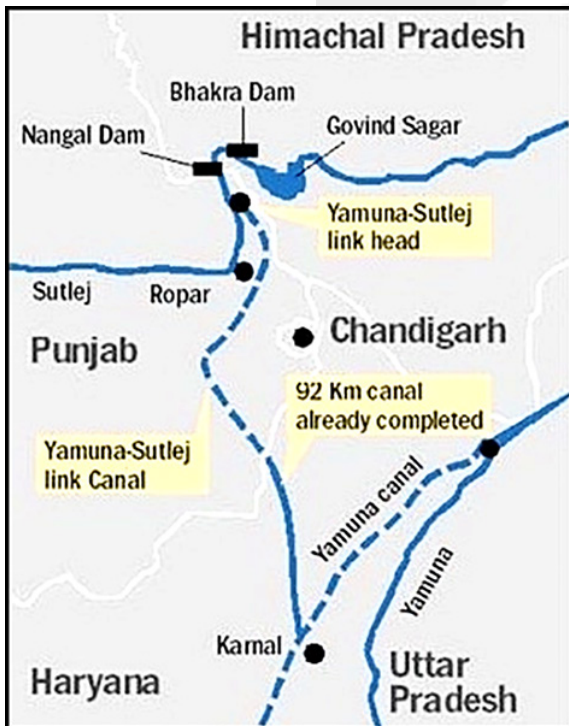
- Tibet is the highest region on Earth, with an average elevation of 4,900 meters. Hence, statement 1 is not correct.
- The highest elevation in Tibet is Mount Everest. Hence, statement 2 is not correct.
- In 1951 Tibetan leaders were forced to sign a treaty dictated by China. The treaty, known as the "Seventeen Point Agreement", professes to guarantee Tibetan autonomy and to respect the Buddhist religion but also allows the establishment of Chinese civil and military headquarters at Lhasa (Tibet's capital). Hence, statement 3 is not correct.

63. Ans: B

Exp:

- Sutlej-Yamuna Link Canal Dispute is associated with the Punjab and Haryana states of India.
- Sutlej Yamuna Link (SYL) Canal runs about 121 km in Punjab and 90 km in Haryana.

Hence, option B is correct.



64. Ans: B

Exp:

- The Gaza Strip is situated in the eastern Mediterranean basin, sharing borders with Egypt in the southwest and

Israel to the north and east. To the west, it is bounded by the Mediterranean Sea. Hence, statement 1 is not correct.



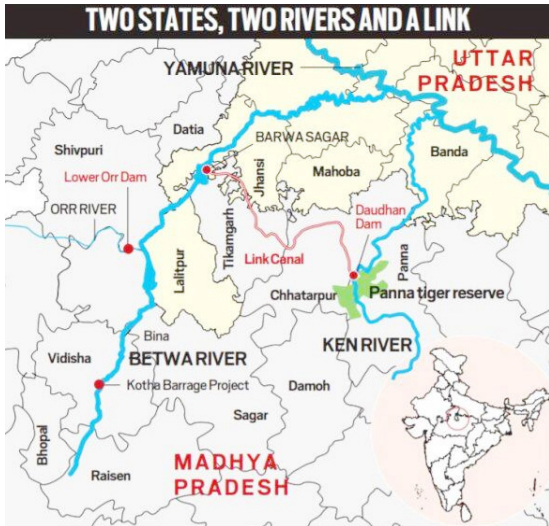
- Gaza Strip is one of the most densely populated areas globally, with over 2 million residents living in a tiny area.
 - ◆ The term "open air prison" has been widely used by academics, activists, and journalists to characterise the conditions in Gaza. Hence, statement 2 is correct.

65. Ans: B

Exp:

Ken and Betwa Rivers:

- Ken and Betwa rivers originate in MP and are the tributaries of Yamuna. Hence, statement 1 is correct.
- Ken meets with Yamuna near Banda district of Uttar Pradesh and Betwa joins Yamuna in Hamirpur district of UP.
- Rajghat, Paricha and Matatila dams are over Betwa river. Hence, statement 2 is not correct.
- Ken River passes through Panna tiger reserve. Hence, statement 3 is correct.



- Amazon Rainforest are large tropical rainforests occupying the drainage basin of the Amazon River and its tributaries in northern South America and covering an area of 6,000,000 square km.
 - ◆ The Amazon Basin supports the world’s largest rainforest, which accounts for more than half the total volume of rainforests in the world.
- Comprising about 40% of Brazil’s total area, Peru, and also parts of Guyana, Colombia, Ecuador, Bolivia, Suriname, French Guiana, and Venezuela, the Amazon River Basin is the world’s largest drainage system. Hence, statement 1 is correct.
- It is bounded by the Guiana Highlands to the north, the Andes Mountains to the west, the Brazilian Central Plateau to the south, and the Atlantic Ocean to the east. Hence, statement 2 is not correct.

66. Ans: D

Exp:

- The Sinai Peninsula is a triangle-shaped peninsula in Egypt. Hence, statement 1 is not correct.

68. Ans: B

- Mechanism of Marine Cloud Brightening:
 - ◆ In clean maritime air, clouds primarily form from sulfates and sea salt crystals, which are relatively scarce, leading to larger droplets with lower light reflection. Hence, statement 1 is correct but statement 2 is not correct.
 - ◆ Marine cloud brightening (MCB) seeks to boost marine cloud reflectivity (albedo), making clouds whiter and brighter.
 - It involves using water cannons or specialized vessels to release fine sea water droplets into the atmosphere.
 - As these droplets evaporate, they leave behind salt particles, serving as cloud condensation nuclei that foster the formation of denser, brighter clouds.



- The peninsula is bordered by the Mediterranean Sea to the north, the Red Sea to the south, and the Gulf of Aqaba to the east. The peninsula includes the Suez Canal, which is a man-made waterway that connects the Mediterranean Sea to the Red Sea. Hence, statement 2 is not correct.

67. Ans: A

Exp:



● **Potential Benefits:**

- ◆ MCB has the potential to lower sea surface temperatures in targeted areas, potentially reducing the frequency and severity of coral bleaching events. Hence, statement 3 is correct.
- ◆ This could provide a lifeline for corals, enabling their survival and recovery while the world transitions away from fossil fuels.

69. Ans: B

Exp:

- In Southeast Asia cyclones are called Typhoons. Hence, pair 1 is correctly matched.
- In North Atlantic and Eastern Pacific it is called Hurricanes. Hence, pair 2 is not correctly matched.
- In West Africa and Southern USA it is called Tornadoes. Hence, pair 3 is correctly matched.
- Hence, Option (b) is correct.

70. Ans: A

Exp:

- Kosovo is a landlocked country in Southeast Europe that borders four other countries:
 - ◆ Albania to the southwest
 - ◆ Montenegro to the west
 - ◆ Serbia to the north and east
 - ◆ North Macedonia to the southeast
- Hence, Option A is correct.



71. Ans: C

Exp:

Key Facts Related to Tanzania:

- About: Tanzania is the largest country in East Africa. With eight neighbors, it is among the top 10 countries in the world with the most international borders. Hence, statement 1 is correct.
 - ◆ The islands of Zanzibar, Pemba and Mafia are also a part of Tanzania.



- Capital: Dar es Salaam is the administrative capital of the country while Dodoma is the legislative capital.
- Currency: Tanzanian shilling
- Landform:
 - ◆ Its northern region has the southern part of Lake Victoria, which is the source of the River Nile.
 - Also, in the north is the World famous Ngorongoro Crater, which is the world's largest intact volcanic caldera. Hence, statement 2 is correct.
 - ◆ The Northeastern part of the country is mountainous. This region is home to Mount Meru, an active volcano, and Mount Kilimanjaro, the tallest mountain in Africa and the highest single free-standing mountain in the world.
 - ◆ In the west lies Lake Tanganyika, the world's second deepest lake.
 - ◆ The eastern region has coastal lowlands along the Indian Ocean.

72. Ans: A

Exp:

Krishna River:

- Source: It originates near Mahabaleshwar (Satara) in Maharashtra.
 - ◆ It is the second biggest river in peninsular India after the Godavari River.

- Drainage: It runs from four states Maharashtra (303 km), North Karnataka (480 km) and the rest of its 1300 km journey in Telangana and Andhra Pradesh before it empties into the Bay of Bengal.
- Tributaries:
 - ◆ Right Bank Tributaries: The Ghatprabha, the Malprabha and the Tungabhadra.
 - ◆ Left Bank Tributaries: The Bhima, the Musi and the Munneru



- Hydropower Development:
 - ◆ The major Hydro Power stations in the basin are Koyna, Tungabhadara, SriSailam, Nagarjuna Sagar, Almatti, Naryanpur, Bhadra.
- Mythology:
 - ◆ Krishna is a mighty east flowing river of peninsular India. It is the same river as Krsnavena in the Puranas or Krsnaveni in the Yoginitra.
 - ◆ It is also known as Kanhapenna in Jatakas and Kanhapena in the Hathigumpha inscription of Kharavela.
- Hence, option A is correct.

73. Ans: A

Exp:

- West Bank: The West Bank is sandwiched between Israel and Jordan. One of its major cities is Ramallah, the de facto administrative capital of Palestine. Israel took control of it in the 1967 war and has over the

years established settlements there. Hence, pair 1 is not correct.

- Gaza: The Gaza Strip located between Israel and Egypt. Israel occupied the strip after 1967, but relinquished control of Gaza City and day-to-day administration in most of the territory during the Oslo peace process. In 2005, Israel unilaterally removed Jewish settlements from the territory, though it continues to control international access to it. Hence, pair 2 is correct.
- Golan Heights: The Golan Heights is a strategic plateau that Israel captured from Syria in the 1967 war. Israel effectively annexed the territory in 1981. Recently, the USA has officially recognized Jerusalem and Golan Heights as a part of Israel. Hence, pair 3 is not correct.

Israel's boundaries today



74. Ans: B

Exp:

Azerbaijan:

- Azerbaijan is a country in Asia that is bordered by Russia, Georgia, Armenia, and Iran.
 - ◆ The east of the country is bordered by the Caspian Sea.
 - ◆ Much of the north and west is covered by the Caucasus Mountains.
- Capital city: Baku.
- Azerbaijan is abundant in oil and natural gas.
- Yanar Dağ, a famous site in Azerbaijan, has a natural eternal fire fueled by seeping natural gases, burning for over 65 years along the Caspian Sea. This unique phenomenon aligns with Azerbaijan's nickname, "The Land of Fire."

- Hence, option B is Correct.



75. Ans: C

Exp:

Coup in Gabon:

- About: Gabon, a Central African nation, rich in oil but plagued by poverty and political instability, has witnessed another coup attempt by a group of mutinous soldiers who claimed to have seized power and placed the President of the country under house arrest.
 - Coup attempt took place due to allegations of election fraud and corruption against Gabon's President Ali Bongo Ondimba, reflecting the growing discontent within the nation.
- Geography:
 - Gabon, a country surrounded by the Atlantic Ocean in the west, is a former French colony and retains strong ties to France and French language and culture. The capital is Libreville. Hence, statement 1 is not correct.
 - It shares land borders with Cameroon, Equatorial Guinea, and Republic of Congo. Hence, statement 2 is not correct.
 - Gabon has a population of 2.3 million (2021) and forests covering 88% of its territory.
 - Gabon is widely described as 'Africa's last Eden', the Loango National Park is one of the country's best wildlife-watching spots. Hence, statement 3 is correct.



- Hence, statement 1 is not correct.

76. Ans: D

Exp:

- Abhilash Tomy, former Commander in the Indian Navy who became the first Indian to go around the world on a sailboat solo has now attained another record of completing a solo circumnavigation when he made podium finish at the Golden Globe Race (GGR), 2022.
 - He is currently working with the Indian Space Research Organisation (ISRO) on its manned space mission, Gaganyaan, advising on recovery of astronauts at sea.
 - He is working to assist in the recovery of astronauts once the capsule splashes into the sea on return.
- The Golden Globe Race is a non-stop, solo, unassisted yacht race around the world which was held for the first time in 1968-69. Hence, statement 1 is not correct.-
 - The second edition of the race was held 50 years later, in 2018.
 - The sailing is along a stipulated route, rounding the three great capes, the Cape of Good Hope in South Africa, Cape Leeuwin in Australia and Cape Horn in Chile. Hence, statement 2 is not correct.

77. Ans: A

Exp:

El Nino-Southern Oscillation (ENSO):

- It is a climate phenomenon resulting from the interaction between ocean and atmospheric conditions.
 - ◆ The “southern oscillation” component refers to differences in sea-level air pressure over the western and eastern Pacific Oceans.
- El Nino and La Nina represent the warm and cool phases of the El Nino-Southern Oscillation (ENSO) cycle. Hence, statement 1 is not correct.
 - ◆ El Nino and La Nina episodes typically occur every 2 to 7 years. La Nina events may last between one and three years.
 - However, it is rare for El Nino events to last longer than a year.
 - ◆ Multi-year El Niño and La Nina events are those that persist for more than one year without returning to normal conditions in between.
 - In 2023, La Nina concluded a three-year period, and El Nino made its presence felt. Such long-lasting ENSO phases are unusual.
- Impacts of El Nino:
 - ◆ El Niño is characterised by an unusual warming of waters in the eastern equatorial Pacific, which has a high correlation with warmer summers in India.
 - ◆ The Impacts of El Nino are:
 - Rains on the western coast of South America
 - Drought in Northern Australia, Indonesia and India. Hence, statement 2 is correct.
 - Storms and Hurricanes in East Pacific
- La-Nina episode represents periods of below average sea-surface temperature across the east central Equatorial Pacific.
 - ◆ Global climate La Nina impacts tend to be opposite those of El Nino impacts. In the tropics, ocean temperature variations in La Nina also tend to be opposite those of El Nino. Hence, statement 3 is not correct.

78. Ans: B

Exp:

- From the map given above, it can be seen that Myanmar shares land borders with Thailand, Laos, China, India and Bangladesh.

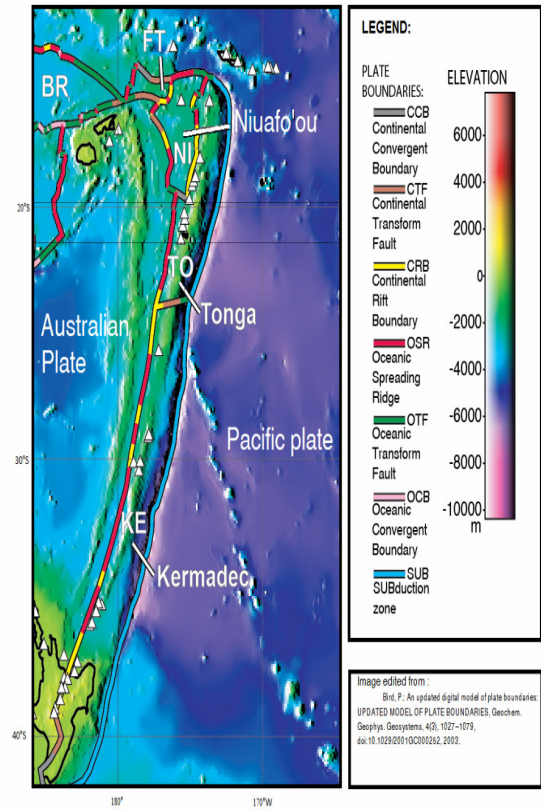


- Hence, option B is correct.

79. Ans: A

Exp:

- A recent study reveals that during the Hunga Tonga-Hunga Ha’apai volcano eruption in January 2022, ejected rock and ash rapidly collapsed into the ocean, forming a high-speed and destructive underwater debris flow.



- The Hunga Tonga-Hunga Ha'apai volcano is a submarine volcano in the South Pacific Ocean. It's located 40 miles north of Tongatapu, Tonga's main island.
- The volcano is part of the Kermadec-Tonga subduction zone, where the Pacific Plate is pushed under the Indo-Australian Plate, forming a long chain of volcanoes and islands.
- Hence, option A is correct.

80. Ans: A

Exp:

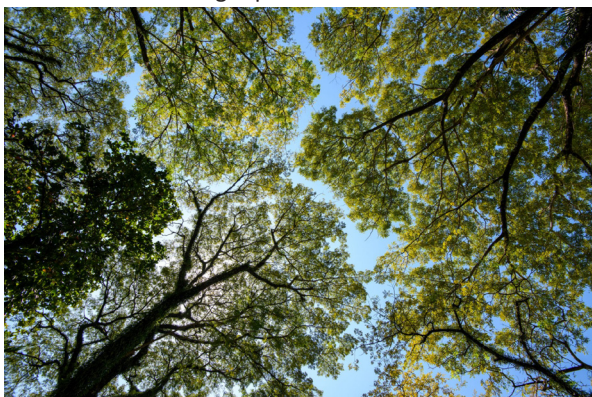
Indian Ocean Dipole (IOD):

- The Indian Ocean Dipole (IOD) is defined by the difference in sea surface temperature between two areas (or poles, hence a dipole) – a western pole in the Arabian Sea (western Indian Ocean) and an eastern pole in the eastern Indian Ocean south of Indonesia.
- The IOD affects the climate of Australia and other countries that surround the Indian Ocean Basin, and is a significant contributor to rainfall variability in this region.
- Hence, option A is correct.

81. Ans: B

Exp:

- Crown shyness is a phenomenon common in temperate deciduous forests, where the tops of some trees do not touch each other, creating gaps of sky between them.
 - ◆ It is observed in many species of trees, such as black mangroves, camphor, and Japanese larch.
 - ◆ Scientists have different hypotheses to explain why crown shyness happens, such as reducing competition for light, preventing disease transmission, or avoiding physical damage from wind.
 - ◆ Crown shyness creates intricate patterns and enhances light penetration in the forest.



- Hence, option B is correct.

82. Ans: D

Exp:

National Disaster Relief Fund (NDRF) and State Disaster Response Fund (SDRF):

- NDRF:
 - ◆ The NDRF is mentioned in the 2005 Disaster Management Act.
 - ◆ The NDRF supplements SDRF of a State, in case of a disaster of severe nature, provided adequate funds are not available in SDRF.
 - ◆ The NDRF is funded by the Central Government through budgetary provisions or any other sources as decided by the Finance Commission. Hence, statement 1 is correct.
- SDRF:
 - ◆ The SDRF is constituted under Disaster Management Act, 2005.
 - ◆ SDRFs exist for the states and are the primary funds available to state governments for responses to notified disasters.
 - ◆ The Central Government contributes 75% to the SDRF in general states and 90% in northeastern and Himalayan states. Hence, statement 2 is correct.
 - ◆ The SDRF is to be used only for meeting the expenditure for providing immediate relief to the victims of notified calamities like Cyclones, Droughts, Earthquakes, Fires, Floods, Tsunamis, hailstorms, landslides, avalanches, cloud bursts, pest attacks and frost/cold waves.q
 - According to a publication of the National Disaster Management Authority from November 2019, "The state government is primarily responsible for undertaking rescue, relief and rehabilitation measures in the event of a disaster." But these can be supplemented with Central assistance.
 - ◆ SDRF is administered by the State Executive Committee (SEC), which is headed by the Chief Secretary of the state. Hence, statement 3 is correct.

83. Ans: A

Exp:

- The West Coast Refinery Project is a trilateral project involving ARAMCO(oil company of Saudi Arabia), ADNOC(oil company of the United Arab Emirates) and Indian Companies.

- A joint task force was established to expedite the West Coast Refinery Project.
- The task force will work on channeling the promised USD 100 billion investment from Saudi Arabia for this project.
- The West Coast refinery project is India's first and largest greenfield refinery.
- Hence, option A is correct.

84. Ans: C

Exp:

Western Disturbance:

- Western Disturbances are a series of cyclonic storms that originate in the Mediterranean region, travel over 9,000 km to bring winter rains to northwest India. Hence, statement 1 is correct.
 - ◆ A Western Disturbance collects moisture from the Mediterranean Sea, Black Sea, and Caspian Sea and traverses over Iran and Afghanistan before hitting the western Himalayas.
- While the storm systems occur throughout the year, they travel to India mostly between December and April because the trajectory of the subtropical westerly jet stream, which transports them, shifts during the winter months to the rim of the Himalayas. Hence, statement 3 is correct.
 - ◆ For the rest of the year, the jet stream travels from above the Himalayas to the Tibetan Plateau and China. Its trajectory changes as per the position of the Sun. Hence, statement 2 is correct.

85. Ans: C

Exp:

- Magma is the term for the molten or semi-molten rock that exists under the surface of the Earth. Magma can erupt from volcanoes as lava.
- Basic magma, also known as basaltic magma, has a relatively low viscosity compared to other types of magma. It is rich in ferromagnesian minerals but poor in silica. Hence, statement 1 is correct.
 - ◆ These magmas have the ability to travel long distances and give rise to the formation of expansive shield volcanoes with gently sloping profiles, often covering extensive geographical areas. Hence, statement 2 is correct.
 - ◆ These magmas are often associated with mid-ocean ridges, where they create vast shield volcanoes that stretch along the ocean floor. Hence, statement 3 is correct.

86. Ans: C

Exp:

- Inactive or extinct volcanoes are those that have not erupted in recent geological history and are not expected to erupt again in the foreseeable future. One common feature associated with these volcanoes is the filling of their craters with water, forming lakes.
 - ◆ This occurs because over time, rainwater accumulates in the crater, creating a body of water. Such volcanic crater lakes can often be found in areas that were once active volcanic zones but have since become dormant or extinct.
 - ◆ A well-known example of a volcanic crater lake is Crater Lake in Oregon, US, which was formed inside the caldera of Mount Mazama, a volcano that became extinct after a cataclysmic eruption thousands of years ago.
- Hence, option C is correct.

87. Ans: A

Exp:

● **Status of Phosphorus in India:**

- ◆ India is the world's largest importer of phosphorus, primarily sourcing it from West African deposits contaminated with cadmium. Hence, statement 1 is correct.
- ◆ According to Indian Minerals Yearbook 2018, in case of apatite, the country is fully dependent upon imports, while the Rock Phosphate production is only from two states namely, Rajasthan and Madhya Pradesh. Hence, statement 2 is not correct.

● **Phosphorus Overuse:**

- ◆ Excessive fertilizer application leads to phosphorus runoff into water bodies. Excessive phosphorus promotes algal blooms, depleting oxygen in water bodies and causing fish deaths. Hence, statement 3 is not correct.

88. Ans: A

Exp:

- Joshimath is a hilly town located on the Rishikesh-Badrinath National Highway (NH-7) in Chamoli district of Uttarakhand
 - ◆ Hence, statement 1 is not correct.
- The town is traversed by running streams with a high gradient from Vishnuprayag, a confluence of the Dhauliganga and the Alaknanda rivers.
 - ◆ Hence, statement 2 is not correct.



- It is home to one of the four cardinal 'Maths' or monasteries established by Adi Shankara - Sringeri in Karnataka, Dwarka in Gujarat, Puri in Odisha and Joshimath near Badrinath in Uttarakhand. Hence, statement 3 is correct.

89. Ans: D

Exp:

Indo-Pacific Region:

- The Indo-Pacific region is one of the most populous and economically active regions of the world which includes four continents: Asia, Africa, Australia and America.
 - ◆ The dynamism and vitality of the region is self-evident, 60% of the world's population and 2/3rd of the global economic output makes this region a global economic centre.
 - ◆ Hence, statement 1 is not correct.
- In its geographical dimension, America considers the area from the shores of Africa to the shores of America. Hence, statement 2 is not correct.

90. Ans: C

Exp:

- According to the Central Water Commission (CWC), the live storage in the 150 reservoirs was 113.417 billion cubic metres (BCM) as of 31st August, 2023, which was 63% of their total live storage capacity.
 - ◆ This was about 23% less than the storage during the same period in 2022 and about 10% less than the average of the last 10 years.
- The water levels in the reservoirs varied across different regions and river basins. The southern region, which had a rainfall deficiency of 60% in August, had the lowest storage level of 49% of its combined capacity. Some of the river basins that had highly deficient or deficient water levels were:
 - ◆ Highly Deficient:
 - Pennar basin in Karnataka and Andhra Pradesh. Hence, Pair 2 is correctly matched.
 - Mahanadi basin in Chhattisgarh and Odisha
 - ◆ Deficient:
 - Subarnarekha, Brahmani and Vaitarni basins in Jharkhand, West Bengal and Odisha. Hence, Pair 1 is correctly matched.
 - Kaveri basin in Karnataka and Tamil Nadu
 - Mahi basin in western India
 - Krishna basin in Maharashtra, Karnataka and Telangana. Hence, Pair 3 is correctly matched.
- All three pairs are correctly matched. Therefore, option C is correct.

91. Ans: C

Exp:

- ◆ The Black Sea Grain initiative endeavors to tackle escalating food prices emanating from supply chain disruptions because of Russian actions in the world's 'breadbasket'.
- ◆ The deal brokered by the United Nations (UN) and Turkey, was signed in Istanbul in July, 2022.
- ◆ The Initiative specifically allows for commercial food and fertilizer (including ammonia) exports from three key Ukrainian ports in the Black Sea – Odesa, Chornomorsk, Yuzhny/Pivdennyi. Hence, option (c) is correct.

92. Ans: D

Exp:

- Heat waves are prolonged periods of excessively hot weather that can cause adverse impacts on human health, the environment, and the economy.
- IMD Criteria for Declaring Heat Wave in India:
 - ◆ Heat wave is **considered if the maximum temperature of a station reaches at least 40°C** or more for Plains and at least 30°C or more for Hilly region

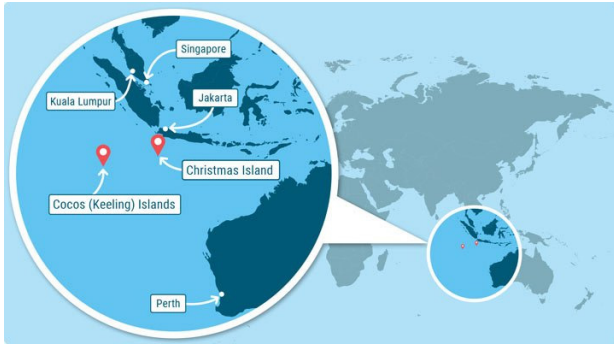
Favorable conditions for Heat wave:

- Transportation / Prevalence of hot dry air over a region (There should be a region of warm dry air and appropriate flow pattern for transporting hot air over the region).
- Absence of moisture in the upper atmosphere (As the presence of moisture restricts the temperature rise).
- The sky should be practically cloudless (To allow maximum insulation over the region).
- Large amplitude anti-cyclonic flow over the area.
- Therefore, all statements are correct.
- Heat waves generally develop over Northwest India and spread gradually eastwards & southwards but not westwards (since the prevailing winds during the season are westerly to northwesterly). But on some occasions, heat waves may also develop over any region in situ under the favorable conditions.

93. Ans: B

Exp:

- Indian Navy and Indian Air Force aircraft recently visited Australia's Cocos (Keeling) Islands (CKI) in the Southern Indian Ocean, strengthening strategic reach and interoperability between India and Australia's militaries in the Indian Ocean.
- Hence, option B is correct.



94. Ans: B

Exp:

- Southwest monsoon winds from the Arabian Sea and the Bay of Bengal blow southwest to northeast over the peninsular region due to a pressure gradient between north and south. Hence, statement 1 is correct.
- The moist air from the southwest reaches the Tibetan Plateau, forced to ascend due to the higher elevation of the plateau the air rises, and condenses leading to the formation of clouds and eventually rainfall. Hence, statement 2 is correct.

95. Ans: D

Exp:

Causes of Urban Flooding:

- Encroachments on Drainage Channels: Due to increased land prices and less availability of land new developments have come up in low-lying areas of cities, such as encroachments over lakes, Wetlands and riverbeds.
- ◆ Ideally, the natural drains should have been widened to accommodate the higher flows of stormwater.
- ◆ But on the contrary, there have been large scale encroachments without widening the natural drains, leading to decrease in the capacity of the natural drains resulting in flooding.
- Pollution of water bodies: This is the contamination of water sources with harmful substances, such as chemicals, plastics, or sewage. This can reduce the quality and quantity of water available for human use and also affect the aquatic ecosystems.
- ◆ Pollution can also clog up the drainage systems and hinder the flow of water.
- Uninformed Release of Water from Dams:

Unplanned and sudden release of water from dams and lakes lead to floods in an urban area, without giving the public enough time to respond.

- ◆ Example: Chennai Floods 2015 due to release of water from Chembarambakkam Lake.
- ◆ The July 2023 flood in Delhi was magnified by 2 lakh cusecs of water discharged from the Hathnikund Barrage into the Yamuna river.
 - Illegal Mining: Illegal mining of river sand and quartzite for use in building construction deplete the natural bed of the rivers and lakes.
- ◆ It causes soil erosion and reduces the water retention capacity of the waterbody increasing the speed and scale of water flow.
- ◆ Example: Jaisamand Lake- Jodhpur, Cauvery river- Tamil Nadu.
 - All of the given are causes of Urban Flooding. Hence, option D is the Correct answer.

96. Ans: A

Exp:

- 'River Devika Rejuvenation Project' was launched under the National River Conservation Plan (NRCP). Hence, statement 1 is correct.
- Devika River originates from the hilly Suddha Mahadev temple in the Udhampur district of Jammu and Kashmir. **Hence, statement 2 is correct.**
- River Devika flows down towards western Punjab (now in Pakistan) where it merges with the Ravi River. Hence, statement 3 is not correct.

97. Ans: C

Exp:



- Niger is a landlocked country located in West Africa, bordered by Algeria, Libya, Chad, Nigeria, Benin, Burkina Faso, and Mali. Hence, option C is correct.

98. Ans: B

Exp:

State of Indian Dams:

- India has 5745 numbers of dams (5334 are completed and 411 are under construction).
- India is ranked third in the world in terms of building large dams. Hence, statement 1 is correct.
- Tehri Dam in Uttarakhand is the highest dam in India built on the Bhagirathi River.
- Hirakud Dam in Odisha built on river Mahanadi is the longest dam in India. Hence, statement 2 is not correct.
- Kallanai Dam in Tamil Nadu is the oldest dam in India. It is built on the Kaveri river and is about 2000 years old.

99. Ans: D

Exp:

- Dry weather combined with strong winds from a passing hurricane played a significant role in fueling the blaze. These conditions, known as "Flash Droughts," involve rapid moisture evaporation from the atmosphere, creating ideal conditions for fire spread. Hence, statement 1 is correct.
- Maui is home to one of the six active Volcanoes of Hawaii. Most of Maui was experiencing severe drought, so the dry land, with dry non-native grasses and vegetation, was ready fuel for fires. The Island of Maui has one active volcano, Haleakala. Hence, statement 2 is correct.
- A report by the Council of Energy, Environment and Water (CEEW) has noted:
- A tenfold increase in forest fires over the past two decades and says more than 62% of Indian states are prone to high-intensity forest fires.
- Andhra Pradesh, Odisha, Maharashtra, Madhya Pradesh, Chhattisgarh, Uttarakhand, Telangana, and the Northeastern states are most prone to forest fires.
- Mizoram has seen the highest incidence of forest fires over the last two decades, and 95% of its districts are forest fire hotspots. Hence, statement 3 is correct.

100. Ans: C

Exp: Option c is correct.

River Cauvery (Kaveri):

- It is known as 'Ponni' in Tamil and is a sacred river of southern India.

- It rises on Brahmagiri Hill of the Western Ghats in southwestern Karnataka state, flows in a southeasterly direction through the states of Karnataka and Tamil Nadu, and descends the Eastern Ghats in a series of great falls and drains into Bay of Bengal through Pondicherry.
- Left Bank Tributary: Arkavathi, Hemavathi, Shimsa, and Harangi.
- Right Bank Tributary: Lakshmantirtha, Suvarnavati, Noyil, Bhavani, Kabini, and Amaravathi.
- The Ranganthittu Bird Sanctuary is located on the Kaveri River. It is a designated Ramsar site that supports many bird species including the painted stork, spot-billed pelican, and black-headed ibis.
- It is among the seven holy rivers of India.

101. Ans: B

Exp:

Option b is correct:

About Suriname

- It is located on the northeastern coast of South America. It is bordered by the Atlantic Ocean to the north, French Guiana to the east, Brazil to the south, and Guyana to the west.
- The capital city of Suriname is Paramaribo, which is situated on the banks of the Suriname River.
- Suriname is a democratic republic with a president as the head of state and government. The country has a multi-party-political system.

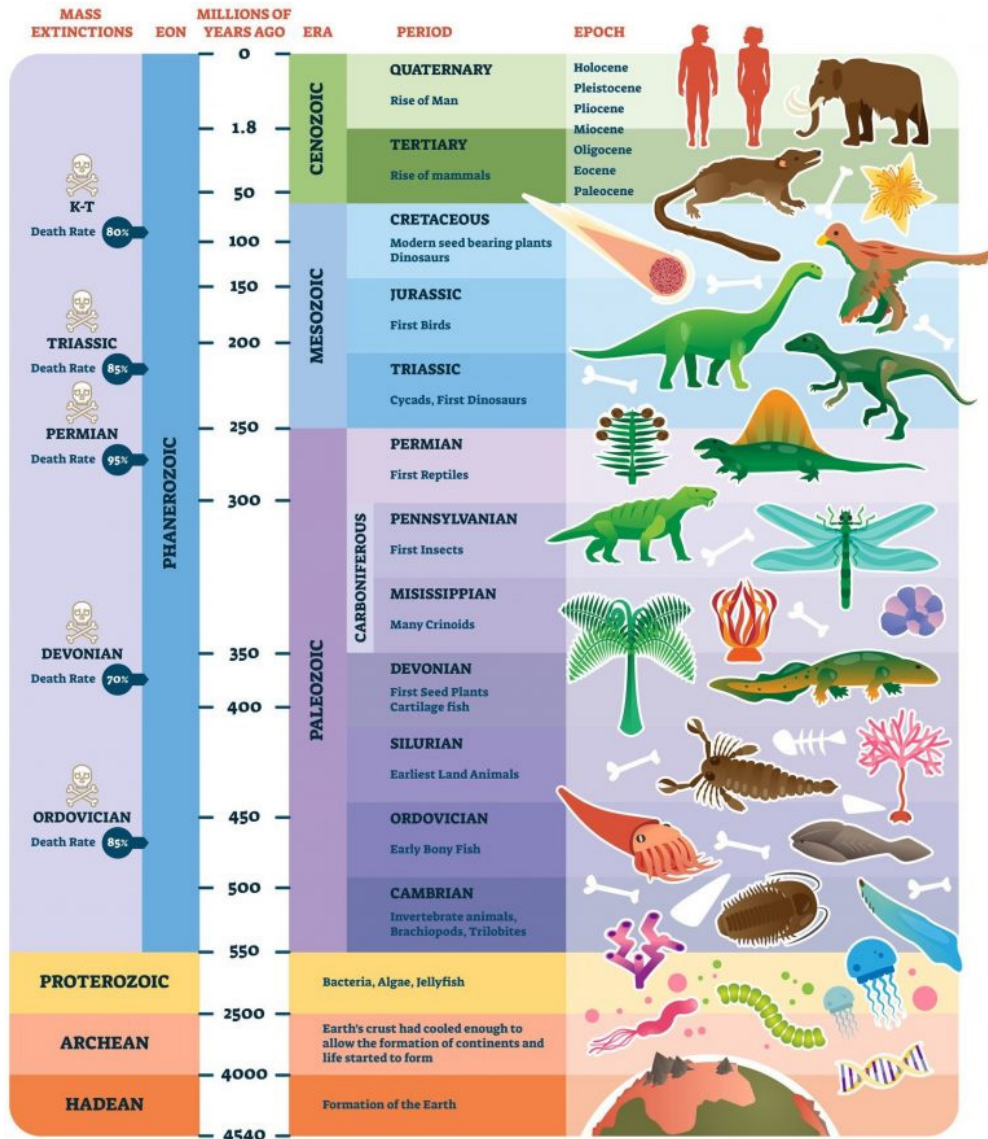


102. Ans: B

Exp:

- The Neogene Period spans from 23 million years ago to the present and is divided into four epochs:
- Miocene (23-5.3 million years ago),

- Pliocene (5.3-2.6 million years ago),
- Pleistocene (2.6 million-11.7 thousand years ago), and
- Holocene (11.7 thousand years ago-present).
- Hence, Option B is the correct answer.



103. Ans: A

Exp:

Umiam Lake

- Umiam Lake is one of the biggest artificial lakes in Meghalaya that is situated about 15 km from Shillong.
- The lake is a reservoir that was created as part of a dam construction project on the Umiam River (also known

as Barapani River).

◆ Hence, option A is correct.

104. Ans: D

Exp:

- The North Sea is located in northwest Europe. It is bordered by several countries, including Norway to the east and north, Sweden, Denmark, Germany, the



Netherlands and Belgium and the United Kingdom.
Hence, option D is correct.

- It is connected to the Atlantic by the Strait of Dover and the English Channel and opens directly onto the ocean between the Orkney and Shetland islands and between the Shetland Islands and Norway.

105. Ans: D

Exp:

- The North Sea lies between Great Britain, Denmark, Norway, Germany, the Netherlands, Belgium and France.
- An epeiric sea on the European continental shelf, it connects to the Atlantic Ocean through the English Channel in the south and the Norwegian Sea in the north.
- Hence, option d is correct.



106. Ans: A

Exp:

- The North Sea Route (NSR) is the shortest shipping route for freight transportation between Europe and countries of the Asia-Pacific region. Hence, statement 1 is correct.
- This route spans across the Arctic Ocean, encompassing the Barents Sea, Kara Sea, Laptev Sea, and East Siberian Sea. Hence, statement 2 is correct.
- It offers potential distance savings of up to 50% compared to traditional routes through the Suez or Panama Canals. Hence, statement 3 is not correct.

107. Ans: C

Exp:

Key Facts about Greece:



- Greece is a country in southern Europe with a long coastline on the Mediterranean Sea. It is bordered by Albania, North Macedonia, Bulgaria, and Turkey. Hence, statement 1 is correct.
- Greece is one of the oldest civilizations in the world and is considered the cradle of Western civilization. It is the birthplace of democracy, philosophy, theater, and the Olympic Games.
- Government: Parliamentary Republic.
- Capital: Athens, National
- Language: Greek
- Currency: Euro
- Major Mountains Ranges: Pindus and the Taurus mountains.
 - ◆ Greece's highest mountain is Mount Olympus. Hence, statement 2 is correct.
- River: The longest river in Greece is the river Haliacmon.

108. Ans: C

Exp:

Pacific Decadal Oscillation:

- About:
 - ◆ The Pacific Decadal Oscillation (PDO) is a long-term ocean fluctuation of the Pacific Ocean. It is a cyclical event that repeats every 20-30 years and just like ENSO, has a 'cool' and 'warm' phase. Hence, statement 1 is correct.
 - ◆ Positive (warm) PDO = cooler west Pacific Ocean and warmer eastern side (vice versa for negative PDO).

◆ The term PDO was coined in about 1996 by Steven Hare.

● **Impact of PDO:**

◆ On Global Climate: PDO phase can have significant implications for the global climate, affecting Pacific and Atlantic hurricane activity, droughts and flooding around the Pacific basin, the productivity of marine ecosystems, and global land temperature patterns.

◆ On Cyclones: A warmer (positive-phased) PDO implies fewer equatorial-origin cyclones. Hence, statement 3 is correct.

○ In 2019, the PDO entered a cooler, negative phase and which if continues, could mean more such cyclones in post-monsoon months.

● **ENSO and PDO:**

◆ ENSO with a positive PDO is generally not good, however, ENSO with a negative PDO brings more rain to India. Hence, statement 2 is correct.

◆ If both ENSO and the PDO are in the same phase, it is believed that El Niño/La Niña impacts may be magnified.

109. Ans: A

Exp:

● Deendayal Port, also known as Kandla port, is one of the twelve Major Ports in India and is located on the West Coast of India, in the Gulf of Kutch in the State of Gujarat. Hence, statement 1 is not correct.

● There are 12 major ports and 200 non-major ports (minor ports) in the country. All the 12 Major ports are functional. Hence, statement 2 is correct.

● While the Major Ports are under the administrative control of Ministry of Shipping, the non-major ports are under the jurisdiction of respective State Maritime Boards/ State Government. Hence, statement 3 is not correct.

110. Ans: C

Exp:

● Kenya is located in East Africa.

● Bisected horizontally by the Equator, Kenya is bordered to the north by South Sudan and Ethiopia, to the east by Somalia and the Indian Ocean, to the south by Tanzania, and to the west by Lake Victoria and Uganda. Hence, option C is correct.

● Kenya is significant for India in the geopolitics of Western Indian Ocean. It is also an active member of the African Union with whom India has a long-established connection.

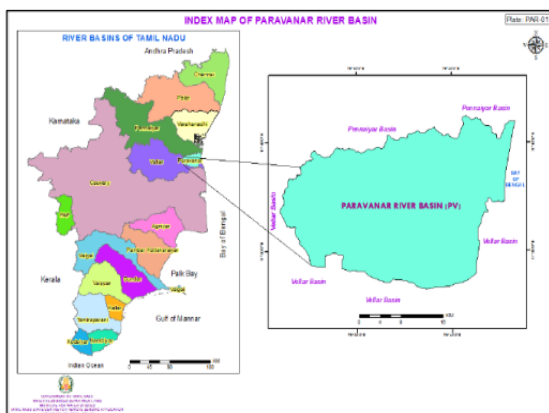


111. Ans: A

Exp:

Diversion of Paravanar River Course:

- Neyveli Lignite Corporation India Limited (NLCIL) has successfully accomplished the permanent diversion of the Paravanar River course to safeguard habitats and agricultural fields from inundation, benefiting local communities and irrigation prospects.
 - ◆ NLCIL is a Navratna company Central Public Sector Undertaking under the administrative control of the Ministry of Coal.
- Paravanar River Basin which is a leaf-shaped river basin and the second smallest river basin of Tamil Nadu lies within the Cuddalore District of Tamil Nadu.
- The Paravanar River is not a mature river and is seasonal and ephemeral (lasting or used for only a short period of time).
- Hence, option A is correct.



Index map of Paravanar River Basin

112. Ans: D

Exp:

Key Facts About Philippines:

- The Philippines is an archipelago located in Southeast Asia, bordered by the Philippine Sea to the east, the South China Sea to the west, and the Celebes Sea to the south. Hence, statement 1 is correct.
 - ◆ It consists of 7,641 islands, with Luzon and Mindanao being the largest.
 - ◆ The capital city is Manila, situated on Luzon Island.
- Mount Apo (2,954 meters) on Mindanao Island is the highest peak, and it is an active volcano. Hence, statement 2 is correct.

- The Philippines has a tropical climate with high temperatures and humidity year-round, experiencing wet and six hours of the rainfall. Hence, both statements are correct.

116. Ans: A

Exp:

- MJO is an eastward moving disturbance of clouds, rainfall, winds, and pressure that traverses the planet in the tropics and returns to its initial starting point. Hence, statement 1 is correct. This propagating disturbance is a center of strong deep convection (active phase), flanked on both sides by regions of weak deep convection ("inactive" or "suppressed phases"). When the cycle of the MJO is shorter, meaning that it completes a full cycle in a shorter period of time, it tends to be associated with better monsoon conditions in India. Hence, statement 2 is not correct.

117. Ans: C

Exp:

- The World Meteorological Organization (WMO) is an intergovernmental organization with a membership of 193 Member States and Territories. Hence, statement 1 is correct.
 - ◆ India is a member of WMO. Hence, statement 2 is not correct.
- It originated from the International Meteorological Organization (IMO), which was established after the 1873 Vienna International Meteorological Congress.
- Established by the ratification of the WMO Convention on 23rd March 1950, WMO became the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.'
- WMO is headquartered in Geneva, Switzerland. Hence, statement 3 is correct.

118. Ans: C

Exp:

- Land reclamation refers to the process of creating new land by filling, draining, or otherwise altering bodies of water or other low-lying areas. Hence, statement 1 is correct.
- Reclaiming land can be a complicated and involved process, so it isn't normally done without an end goal in mind. However, that end goal can take a huge number of forms including:
 - Artificial islands for migratory birds and marine life. Hence, statement 2 is correct.

- Gas and oil installations
- Housing and infrastructure
- Port construction or extension
- Repairing beaches and islands damaged by extreme weather conditions

119. Ans: B

Exp:

Permafrost:

- Permafrost is essentially any ground that stays frozen — 0 degree Celsius or lower — for at least two years straight. Hence, statement 1 is correct.
- These permanently frozen grounds are often found in Arctic regions such as Greenland, Alaska (the United States), Canada, Russia and Eastern Europe.
- According to the National Aeronautics and Space Administration (NASA), permafrost is composed of “a combination of soil, rocks and sand that are held together by ice. The soil and ice in permafrost stay frozen all year long.
 - ◆ However, although the ground remains perennially frozen, permafrost regions aren’t always covered with snow. Hence, statement 2 is not correct.

120. Ans: D

Exp:

Chenab River:

- Source: It rises in the upper Himalayas in the Lahaul and Spiti district of Himachal Pradesh state. Hence, statement 1 is correct.
 - ◆ The river is formed by the confluence of two rivers, Chandra and Bhaga, at Tandi, 8 km southwest of Keylong, in the Lahaul and Spiti district. **Hence, statement 2 is correct.**
 - The Bhaga River originates from Surya taal lake, which is situated a few kilometers west of the Bara-lacha la pass in Himachal Pradesh.
 - The Chandra River originates from glaciers east of the same pass (near Chandra Taal).
- Flows Through: It flows through the Jammu region of Jammu and Kashmir into the plains of Punjab, Pakistan, before flowing into the Indus River. Hence, statement 3 is correct.

121. Ans: D

Exp:

- Land subsidence refers to the gradual sinking or settling of the Earth’s surface, usually due to the compaction of underground layers of soil, rock, or other materials. Hence, statement 1 is correct.

- According to the data gathered for years by the Central Ground Water Board (CGWB), excessive groundwater extraction is identified as the underlying cause of land subsidence incidents in the Joshimath, Uttarakhand and the plains of Punjab, Haryana, Delhi, and Faridabad. **Hence, statement 2 is correct.**

- Using data from the Sentinel-1 satellite shows that the National Capital Region (NCR) sank an average of 15 mm per year from 2011-2017. Urbanization and unplanned growth exacerbated groundwater withdrawal and contributed to subsidence in the NCR. Hence, statement 3 is correct.

122. Ans: C

Exp:

- A glacier is a large, perennial accumulation of crystalline ice, snow, rock, sediment, and water that originates on land and moves down slope under the influence of its own weight and gravity. They are sensitive indicators of changing climate. Hence, statement 1 is correct.
- Drumlins are smooth oval shaped ridge-like features composed mainly of glacial till with some masses of gravel and sand. The long axes of drumlins are parallel to the direction of ice movement. **Hence, statement 2 is correct.**

123. Ans: C

Exp:

Heatwaves:

- As per the Indian Meteorological Department (IMD) criteria, heat wave need not be considered till the maximum temperature of a station reaches at least 40°C for Plains and at-least 30°C for Hilly regions. **Hence, statement 2 is correct.**
- If the normal maximum temperature of a station is less than or equal to 40°C, then an increase of 5°C to 6°C from the normal temperature is considered to be heat wave condition. **Hence, statement 2 is correct.**
 - ◆ Further, an increase of 7°C or more from the normal temperature is considered a severe heat wave condition.
- If the normal maximum temperature of a station is more than 40°C, then an increase of 4°C to 5°C from the normal temperature is considered to be heat wave condition. Further, an increase of 6°C or more is considered a severe heat wave condition.
 - ◆ Additionally, if the actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, a heat wave is declared.



124. Ans: D

Exp:

- Ranking as the second-largest tributary on the southern (right bank) of the Ganges, the Son River follows the Yamuna River in size. Hence, statement 1 is correct.
- The Son River meanders through four states, including Chhattisgarh, Madhya Pradesh, Uttar Pradesh, and Bihar. **Hence, statement 2 is correct.**
- Beginning its journey near Amarkantak Hill in the Gaurela-Pendra-Marwahi district of Chhattisgarh, the Son River eventually converges with the Ganges River near Patna in Bihar. Hence, statement 3 is correct.

125. Ans: D

Exp:

- A gorge is a deep valley with very steep to straight sides. Gorges form in hard rocks. Indus Gorge is in Ladakh district of Jammu and Kashmir. Hence, pair 1 is correct.
- Canyons formed where rainfall is very low. Bryce Canyon is in the US. Hence, pair 2 is correct.
- Niagara Falls is in Canada. Hence, pair 3 is correct.

126. Ans: C

Exp:

- Overturning circulation is a global network of ocean currents that gradually mixes with surrounding water masses, exchanging heat, carbon, and nutrients. Eventually, the upwelling of this modified water occurs in other regions, completing the overturning circulation. Hence, statement 1 is correct.
- Overturning circulation plays a crucial role in maintaining climate stability on Earth. It facilitates the transport of heat, carbon, and nutrients, influencing the planet's climate system. Hence, statement 3 is correct.
- Melting Antarctic ice disrupts the formation of Antarctic bottom water, making surface waters fresher and less dense, impeding their sinking. This disruption weakens the overturning circulation, further diminishing the oxygen supply to the deep ocean. Hence, statement 4 is not correct.
- The sinking of dense water drives the deeper limb of the overturning circulation. It flows towards the equator, while at the same time, warmer surface water from lower latitudes moves towards the poles. **Hence, statement 2 is correct.**

127. Ans: C

Exp:

Coffee:

- Cultivation and Biodiversity:
 - ◆ Coffee Plantation Practices in India:
 - Predominantly grown under thick natural shade.
 - Ecologically sensitive regions of the Western and Eastern Ghats. Hence, statement 1 is correct.
 - ◆ Biodiversity Hotspots:
 - Coffee plantations located in these regions are recognized as biodiversity hotspots.
 - Contribute significantly to India's unique biodiversity.
 - ◆ Export and Domestic Consumption:
 - Approximately 65% to 70% of the coffee produced in India is exported and remaining coffee is consumed domestically.
 - ◆ Role in Sustainability and Socio-economic Development:
 - Coffee cultivation plays a vital role in sustaining biodiversity.
 - Fosters socio-economic development in remote hilly areas.
- Geographical Distribution and Varieties:
 - ◆ Coffee Plantation Locations in India:
 - Karnataka, Kerala, Tamil Nadu, Andhra Pradesh (Araku Valley), Odisha, Manipur, Mizoram, and Other northeastern states.
 - ◆ Major Coffee Producer:
 - Karnataka accounts for approximately 70% of India's total coffee production. Hence, statement 2 is not correct.
 - ◆ Coffee Varieties in India:
 - Arabica and Robusta. Hence, statement 3 is correct.
- Characteristics of Arabica:
 - ◆ Grown at higher altitudes and it has Higher market value due to its aroma.
- Characteristics of Robusta:
 - ◆ Known for its strength and used in various blends.

128. Ans: A

Exp:

- *Eretmoptera murphyi* is a tiny flightless Midge (small insect).



- British Antarctic Survey (BAS) observed that *Eretmoptera murphyi* is changing the soil composition of Antarctica's Signy Island. Hence, statement 1 is correct.
- Eretmoptera Murphyi* is an invasive species on Antarctic Signy Island. Hence, statement 2 is not correct.
- It is a native of South Georgia, a sub-Antarctic Island, and was accidentally introduced to Signy in the 1960s during a botany experiment.

129. Ans: C

Exp:

Kiru Hydro-electric Power Project:

- An investigation into alleged corruption in the Kiru hydro-electric power project in Jammu and Kashmir (J&K) has led the Central Investigation Bureau (CBI) to search Delhi and Rajasthan locations.
- The Kiru Hydro Electric Project is proposed on River Chenab, located in Kishtwar district of J&K. The project is envisaged as a Run of River Scheme. Hence, statement 1 is not correct.



- Run-of-river hydro projects use the natural downward flow of rivers and micro turbine generators to capture the kinetic energy carried by water. Hence, statement 2 is correct.
- Chenab River rises in the upper Himalayas in the Lahaul and Spiti districts of Himachal Pradesh state. The river is formed by the confluence of two rivers, Chandra and Bhaga, at Tandri, Himachal Pradesh. It flows through the Jammu region of J&K into the plains of Punjab,

Pakistan, before flowing into the Indus River.

- Some of the important projects/dams on Chenab are Rattle Hydro Electric Project, Salal Dam- the hydroelectric power project, Dul Hasti Hydroelectric Plant, and Pakal Dul Dam (under construction). Hence, statement 3 is not correct.

130. Ans: B

Exp:

- The India State of Forest Report (ISFR) 2021 published by the Forest Survey of India (FSI) classifies 100% of Goa's Forest cover as "less fire prone". Hence, statement 1st is not correct.
- Mizoram has seen the highest incidence of forest fires over the last two decades, and 95% of its districts are forest fire hotspots. Hence, statement 2nd is correct.
- Forest Fire Prevention and Management Scheme (FFPM): FFPM is implemented by the Forest Survey of India (FSI) under the MoEF&CC. Hence, statement 3rd is correct.
 - It aims to strengthen the forest fire management system by utilizing advanced technologies such as remote sensing.
 - It is the only government-sponsored programme dedicated to assisting states in dealing with forest fires.

131. Ans: A

Exp:

- 38th parallel, a popular name given to latitude 38° N that in East Asia roughly demarcates North Korea and South Korea. Hence, statement 1 is correct.
- The line was chosen by U.S. military planners at the Potsdam Conference (July 1945) near the end of World War II.



- While the Yalta Conference was held earlier in 1945 and focused on the reorganisation of Europe after the war. Hence, statement 2 is not correct.

132. Ans: B

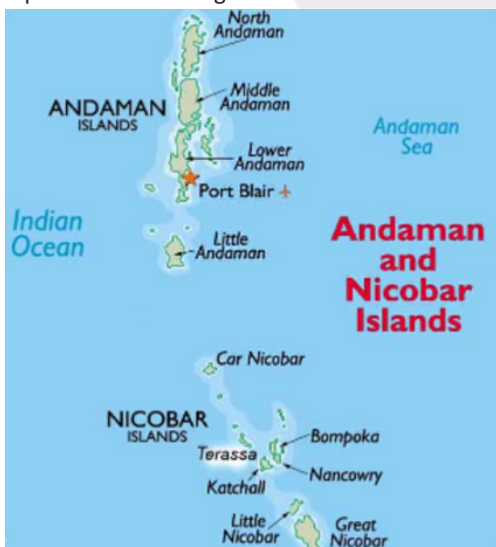
Exp:

- Vembanad Lake is the largest lake in Kerala and the longest Lake in India. It is separated from the Arabian Sea by a narrow barrier island and is a popular backwater stretch in Kerala.
- In 2002, it was included in the list of wetlands of international importance, as defined by the Ramsar Convention.
 - It is the second-largest Ramsar site in India only after the Sundarbans in West Bengal. Hence, statement 1 is not correct.
- The lake has its source in four rivers, Meenachil, Achankovil, Pampa and Manimala. Hence, statement 2 is correct.

133. Ans: A

Exp:

- The Andaman and Nicobar Islands are a group of islands at the southeastern edge of the Bay of Bengal.
- They are part of the union territory of India and are situated approximately 1,400 km from the Indian mainland.
 - NITI Aayog has proposed a development project for Great Nicobar that includes the construction of an international container transshipment terminal, an airport, a power plant, and a township.
- Top-to-bottom Arrangement of Islands:



- Therefore, option A is correct.

134. Ans: A

Exp:

- Disasters linked to hydropower projects in the Himalayan region have increased in recent years, causing loss of life and property making it a risk for hydrogen power projects. Hence, statement 1 is correct.
- The Phata Byung Hydroelectric Project is a run-off river project located on the cascade of the Mandakini River, a major tributary of the Alakananda River in Uttarakhand, Hence, statement 2 is not correct.

135. Ans: A

Exp:

- Subansiri, or "Gold River" is the largest tributary of the Upper Brahmaputra river. It originates from the Tibetan Himalayas and makes its way to India via (Miri Hills) Arunachal Pradesh. Hence, statement 1 is correct.
- Subansiri Lower Hydroelectric project is the biggest hydroelectric project undertaken in India so far and is a run of river scheme on river Subansiri.
- A run-of-river dam is one in which the flow of water in the river downstream of the dam is the same as the flow of water upstream of the dam.
- Gravity dam is constructed from concrete or cement (unlike mud and masonry stones used in embankments). It is designed to hold back water by primarily utilising the weight of the material alone to resist the horizontal pressure of water pushing against it. Hence, statement 2 is not correct.

136. Ans: B

Exp:

Important Passes of India

Pass	Link/Features
Banihal Pass	Kashmir Valley with the outer Himalaya and the plains to the south.
Bara-Lacha-La Pass	Lahaul district in Himachal Pradesh with Leh district in Ladakh.
Fotu La Pass	Leh with Kargil of Ladakh. Hence, pair 1 is not correctly matched.
Rohtang Pass	Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh. Hence, pair 2 is correctly matched.



Shipki La Pass	Kinnaur district of Himachal Pradesh with Autonomous Region of Tibet, China. Hence, pair 3 is correctly matched.
Jelep La Pass	Sikkim with Autonomous Region of Tibet, China. Hence, pair 4 is not correctly matched.
Lipu Lekh Pass	Chaudans valley of India with Autonomous Region of Tibet, China. It is located close to the tri junction of Uttarakhand (India), China and Nepal.
Khardung La	Ladakh with Siachen glacier. It is the highest motorable pass in the world.
Bom di La	It is in Arunachal Pradesh

137. Ans: A

Exp:

- Small Island Developing States (SIDS) are a group of island nations that are characterised by their small size, isolation, and vulnerability to natural disasters.
- The SIDS were recognized as a distinct group of developing countries in June 1992, at the UN Conference on Environment and Development. Hence, statement 1 is correct.
- SIDS are not located only in the Pacific Ocean. In fact, SIDS are located in three different oceanic regions: the Atlantic, Indian, and Pacific oceans. Hence, statement 2 is not correct.

138. Ans: B

Exp:

- The year 2022 witnessed record-breaking tourism in the **Northeast Region** having **over 11.8 million domestic visitors** and over 100,000 international travelers. Some of the top tourist destinations are as follows:
- **Arunachal Pradesh:**
 - ◆ Tawang Monastery: One of the oldest and largest Buddhist monasteries in India.
 - ◆ Namdapha National Park: Home to diverse flora and fauna, including tigers, flying squirrel and leopards. Hence, pair 1 is correctly matched.
- **Assam:**
 - ◆ Kamakhya Temple: A revered Hindu temple dedicated to the goddess Kamakhya. Hence, pair 2 is not correctly matched.
 - ◆ Kaziranga National Park: A UNESCO World Heritage site and home to the one-horned rhinoceros.

- ◆ Majuli Island: Located in the Brahmaputra River, is the largest river island in the world and a cultural hub in Northeast India.

● **Meghalaya:**

- ◆ Nohkalikai Falls: The tallest plunge waterfall in India. Hence, pair 3 is not correctly matched.
- ◆ Living Root Bridges: A unique natural wonder created by the Khasi and Jaintia tribes.

● **Nagaland:**

- ◆ Hornbill Festival: The festival is named after the hornbill bird, which is revered by the Naga tribes as a symbol of their folklore and tradition.
- ◆ Dzukou Valley: A picturesque valley known for its stunning landscapes and diverse flora and fauna. Treeless but unbelievably green and floral. Hence, pair 4 is correctly matched.

139. Ans: C

Exp:

Kurmi Community

● **About:**

- ◆ Kurmis are a landowning farming community whose status varies from place to place. Hence, statement 1 is correct.
- ◆ Kurmis are referred to as “progressive farmers” who “avail of maximum benefits of all the development schemes available in the area and region.
- ◆ Kurmis are distributed across several states — Uttar Pradesh, Bihar, Odisha, Maharashtra, Gujarat, Chhattisgarh, Madhya Pradesh, West Bengal, Jharkhand, Goa, and Karnataka.

● **Caste Status:**

- ◆ In most states, Kurmis belong to the OBC in both the central and state lists for reservations.
- ◆ In Gujarat, Patels, who are linked to Kurmis, are in the general category, and have been demanding OBC status.
- ◆ In West Bengal, Odisha, and Jharkhand — where Kurmi is written as ‘Kudmi’ — Kurmis want to be included among Scheduled Tribes.

● **Kurmali Language:**

- ◆ Kurmali language is a language spoken by the Kurmi community, primarily in the Indian states of Bihar, Jharkhand, and Odisha.
- ◆ The Kurmali language is a member of the Indo-Aryan language family and belongs to the Bihari language family. It shares some similarities with Maithili and Magahi. It has its own script called “Kurmi Kudali” which is a modified version of the Devanagari script. **Hence, statement 2 is correct.**

140. Ans: C

Exp:

- The ocean floor is the bottom of the ocean that covers more than 70% of the Earth's surface. It has different features and depths depending on the location and the movement of tectonic plates.
- Continental Shelf:
 - ◆ The shallowest and widest part of the ocean floor. Hence, statement 1 is correct.
 - ◆ Extends from the coast to the edge of the continent, where it drops sharply into the continental slope.
 - ◆ Rich in marine life and resources, such as fish, oil, and gas.
- Continental Slope:
 - ◆ The steep slope that connects the continental shelf to the abyssal plain.
 - ◆ Home to some deep-sea creatures, such as octopuses, squids, and anglerfish. Hence, statement 2 is correct.

141. Ans: A

Exp:



- Arunachal Pradesh, Nagaland, Manipur and Mizoram shares border with Myanmar. Hence, option (a) is correct

142. Ans: D

Exp:

- The golden triangle area comprises Thailand, Myanmar, Vietnam and Laos. Hence, statement 1 is not correct.
- The golden crescent area includes Pakistan, Afghanistan and Iran. Hence, statement 2 is not correct.

- India is sandwiched between two largest Opium producing regions of the world that is the Golden triangle on one side and the Golden crescent on other.



143. Ans: C

Exp:

Characteristics of the Hakki Pikki Tribe:

- About:
 - ◆ The Hakki Pikki tribe is a semi-nomadic tribe traditionally engaged in bird catching and hunting, living in forest areas in west and south India. Hence, statement 1 is correct.
 - ◆ It is a Scheduled Tribe in Karnataka and their origin is said to be an ancestral relation with the legendary Ranapratap Singh. Hence, statements 3 and 4 are correct.
- Society:
 - ◆ The usual age of marriage among the tribe is 18 for women and 22 for men, and cross-cousin marriages are preferred.
 - The society is matriarchal, and Monogamy is the norm. Hence, statement 2 is not correct.

144. Ans: C

Exp:

Zero Shadow Day:

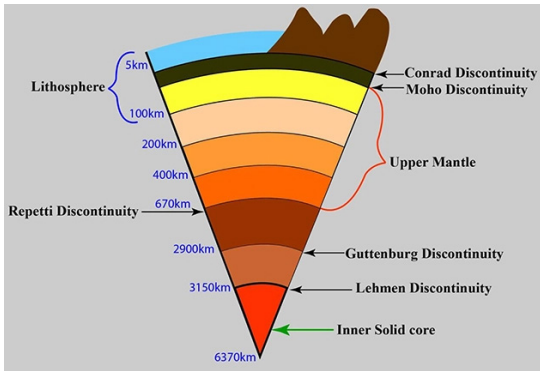
- Zero shadow day refers to the day when the sun is directly overhead and there is no shadow cast by vertical objects such as buildings, poles, or trees. Hence, statement 1 is correct.
- This phenomenon occurs twice a year in places located between the Tropic of Cancer and the Tropic of Capricorn, which are the latitudes where the sun's rays are perpendicular to the Earth's surface. Hence, statement 2 is correct.

145. Ans: C

Exp:

- The Mohorovicic Discontinuity, or "Moho," is the boundary between the crust and the mantle. All the other mentioned discontinuities lie below the Mantle.

Hence, option C is correct.



146. Ans: C

Exp:

Significance of Zoji La Pass:

- Zoji La is a high mountain pass located in the Kargil district of Ladakh. Hence, statement 1 is correct.
- The pass links Leh and Srinagar and provides an important link between Union Territories of Ladakh and Kashmir.
- Zoji La pass remains closed during winters due to heavy snowfall, cutting off Ladakh region from Kashmir.
- In 2018, the Zoji La tunnel project was launched. The tunnel is Asia's longest and strategic bi-directional

tunnel, which will provide all-weather connectivity between Srinagar, Kargil and Leh. Hence, statement 2 is correct.

147. Ans: B

Exp:

Gulf of Mannar:

- It is an inlet of the Indian Ocean, between southeastern India and western Sri Lanka. Hence, statement 1 is not correct.
- It is bounded to the northeast by Rameswaram (island), Adam's (Rama's) Bridge (a chain of shoals), and Mannar Island. Hence, statement 2 is correct.
- It receives several rivers, including the Tambraparni (India) and the Aruvi (Sri Lanka).
- The gulf is noted for its pearl banks and sacred chank (a gastropod mollusk). Hence, statement 3 is correct.
- Gulf of Mannar Marine National Park:
- The Marine National Park was established in 1982 under the provisions of the Wildlife (Protection) Act, 1972. Total area of the National park is about 162.89 km².
- Major ecosystem types available are coral reefs, mangroves, mudflats, creeks, seagrass, & seaweeds, estuaries, sandy strands to saline grasslands, marshy areas and rocky shores.



148. Ans: C

Exp:

River Gandak:

- **About:**
 - ◆ The river Gandak, is also known as the Gandaki and Narayani River in Nepal. It is a significant river that flows through the northern part of India and Nepal. Hence, statement 1 is correct.
 - ◆ Valmiki National Park and Tiger Reserve in Bihar is located on the banks of this river.
- **Source:**
 - ◆ The river Gandak originates at an altitude of 7620 m above main sea level in the north of Dhaulagiri in Tibet near Nepal border. Originating from the Himalayas, the river stretches over a length of 630 kilometers, with 445 kilometers running through India and 185 kilometers in Nepal.
- **Drainage Basin:**
 - ◆ The Gandak River has a total drainage basin area of 29,705 square kilometers.
 - ◆ The river flows through the Indian states of Bihar and Uttar Pradesh, and joins the Ganges near Patna just downstream of Hajipur.
- **Tributaries:**
 - ◆ The major tributaries of the Gandak River include the Mayangadi, Bari, Trisuli, Panchand, Sarhad, Budhi Gandak. **Hence, statement 2 is correct.**

149. Ans: B

Exp:

- **About:**
 - ◆ The Vernal Equinox is an astronomical event that occurs twice a year when the Sun is exactly above the equator, and day and night are approximately equal in length all over the world.
 - In the Northern Hemisphere, the Vernal Equinox marks the beginning of spring, while in the Southern Hemisphere, it marks the beginning of autumn.
 - ◆ The Vernal Equinox occurs on or around March 20 or 21 every year and is caused by the Earth's tilted axis and its orbit around the Sun. The Earth's axis is tilted at an angle of about 23.5 degrees relative to the plane of its orbit around the Sun. As the Earth moves in its orbit, different parts of the planet receive different amounts of sunlight, causing the changing of the seasons.
 - ◆ It is important to note that the Summer Solstice is a different astronomical event that occurs around

June 20 or 21 every year. During the Summer Solstice, the Northern Hemisphere is tilted towards the Sun, resulting in the longest day of the year and the official beginning of summer in the Northern Hemisphere. **Hence, option B is correct.**

150. Ans: B

Exp:

- **About:**
 - ◆ Atmospheric rivers are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics.
 - One well-known atmospheric river called the “Pineapple Express” picks up warm, moist air near Hawaii. **Hence, statement 2 is correct.**
 - When the Pineapple Express hits land in the Western United States and Canada, it can cause heavy rain and snow. In California, it can cause up to 5 inches of rain in a day.
 - ◆ Atmospheric rivers typically occur in the extratropical North Pacific/Atlantic, southeastern Pacific, and South Atlantic oceans often making landfall on the west coasts of North and South America. Other regions that experience atmospheric river landfalls include Greenland, Antarctica, and the south-central United States. Hence, statement 1 is not correct.

151. Ans: A

Exp:

- Earth Hour is a worldwide movement organized to encourage individuals, communities and businesses to turn off non-essential electric lights for one hour, on the last Sunday of March. Hence, statement 1 is correct.
- Earth Hour Day 2023 is celebrated on March 25. And the official theme for this year's celebration is “Invest in Our Planet”. **Hence, statement 2 is correct.**
- The government of India does not offer incentives to businesses or organizations that participate in Earth Hour by reducing their energy consumption. However, the government has implemented several other initiatives to promote sustainable practices and reduce greenhouse gas emissions. Hence, statement 3 is not correct.

152. Ans: D

Exp:

- Western Disturbances are a series of cyclonic storms that originate in the Mediterranean region, travel over

9,000 km to bring winter rains to northwest India. Hence, statement 1 is correct.

- A Western Disturbance collects moisture from the Mediterranean Sea, Black Sea, and Caspian Sea and traverses over Iran and Afghanistan before hitting the western Himalayas.
- While the storm systems occur throughout the year, they travel to India mostly between December and April because the trajectory of the subtropical westerly jet stream, which transports them, shifts during the winter months to the rim of the Himalayas.
- For the rest of the year, the jet stream travels from above the Himalayas to the Tibetan Plateau and China. Its trajectory changes as per the position of the Sun.
- Western Disturbances (WD) are the primary source of snowfall that replenishes the Himalayan glaciers during winter. **Hence, statement 2 is correct.**
 - ◆ These glaciers feed major Himalayan rivers like the Ganga, Indus and Yamuna as well as myriad mountain springs and rivulets.
- The absence of Western Disturbances caused the north Indian plains to experience severe cold waves and cold days in December 2022 and most of January 2023 due to the cold northern winds flowing down from the Himalayas. Hence, statement 3 is correct.

153. Ans: C

Exp:

Aravali Mountain Range:

- About:
 - The Aravallis, is one of the oldest fold mountains on Earth. Hence, statement 1 is correct.
 - ◆ It spans over 800km from Gujarat to Delhi (through Rajasthan and Haryana).
 - The highest peak in the Aravalli Range is Guru Peak on Mount Abu. **Hence, statement 2 is correct.**
 - Impact on Climate:
 - ◆ The Aravallis have an impact upon the climate of northwest India and beyond.
 - ◆ During monsoons, the mountain range gently guides the monsoon clouds eastwards towards Shimla and Nainital, thus helping nurture the sub-Himalayan rivers and feeding the north Indian plains.
 - ◆ In the winter months, it protects the fertile alluvial river valleys (the para-Indus and Gangetic) from the assault of cold westerly winds from Central Asia.

154. Ans: C

Exp:

- About:
 - ◆ The Great Rift Valley is a massive geological formation that stretches around 6,400 kilometers from northern Syria to central Mozambique in East Africa. Hence, statement 1 is correct.
 - ◆ The valley is home to the Jordan River, which flows through the Jordan Valley and eventually empties into the Dead Sea on the border between Israel and Jordan. Hence, statement 2 is not correct.
 - The Gulf of Aden is an eastward continuation of the Rift, and from there it extends southeastward as part of the mid-oceanic ridge of the Indian Ocean.
 - ◆ In eastern Africa, the valley divides into the Eastern Rift and the Western Rift. The Western Rift, also known as the Albertine Rift, contains some of the deepest lakes in the world. Hence, statement 3 is correct.

155. Ans: B

Exp:

- Firnification is a natural process that occurs in regions with seasonal snowfall, such as high-altitude areas and polar regions.
- It is the process by which snow is compressed and transformed into granular ice called firn.
 - ◆ Firn is a transitional stage between snow and glacier ice.
- Firn is not a type of sedimentary rock formed from compacted snow. Also, firnification does not occur when ice melts and refreezes repeatedly.
 - ◆ Firnification can occur in any region with seasonal snowfall, not just in polar regions. However, polar regions are particularly conducive to firnification because of their low temperatures and the accumulation of snow over many years.
- **Hence, option B is correct.**

156. Ans: B

Exp:

- About Khondalite Stones:
 - ◆ Khondalite is a type of metamorphic rock that is found in the Eastern Ghats region of India, particularly in the state of Odisha. It is named after the Khondalite Group of rocks, which is believed to have formed around 1.6 billion years ago during the Proterozoic era. Hence, statement 1 is not correct.



- ◆ Khondalite is primarily composed of feldspar, quartz, and mica, and has a distinct pinkish-grey colouration. It is commonly used as a decorative stone in construction and is particularly prized for its durability and resistance to weathering. **Hence, statement 2 is correct.**
- ◆ Khondalite stones were widely used in ancient temple complexes. They are proposed to be used widely to maintain the aesthetic value of some projects such as heritage security zone, Jagannath Ballav pilgrim centre, etc.

