

ForumIAS

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Prelims Marathon

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HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

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Important Water Bodies of The World-I

1. Consider the following statements about the Mediterranean Sea:

1. It is bordered by 21 countries.
2. The sea is connected to the Red Sea via the Suez Canal and to the Black Sea through the Bosphorus and Dardanelles Straits.
3. The Nile River is the only major African river that drains into the Mediterranean Sea.

How many of the statements given above are correct?

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

Correct Answer: (b)

Explanations:

- **Statement 1 is incorrect:** The Mediterranean Sea is bordered by 22 countries and one territory, making it one of the world's most internationally shared marine regions.
- **Statement 2 is correct:** The Mediterranean's strategic geopolitical positioning relies on these chokepoints. It links to the Red Sea at the Suez Canal and to the Black Sea through the Turkish Straits system (which consists of the Bosphorus Strait, the Sea of Marmara, and the Dardanelles Strait).
- **Statement 3 is correct:** The Nile River, which originates in Central and East Africa, flows northward and is the primary African river that drains directly into the Mediterranean Sea.

2. Consider the following statements about the Aegean Sea:

1. It is bordered exclusively by two countries, Greece and Turkey.
2. The island of Crete marks the southern natural boundary of the Aegean Sea.
3. The region is tectonically stable and does not experience significant seismic activity.

How many of the above statements are correct?

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

Correct Answer: (b)

Explanation:

- **Statement 1 is correct:** The Aegean Sea is an elongated embayment of the Mediterranean Sea that is bounded by the Balkan Peninsula (specifically Greece) to the west and north, and Anatolia (Turkey) to the east.
- **Statement 2 is correct:** The island of Crete is the largest island in the Aegean and is widely recognized as marking its natural southern boundary.
- **Statement 3 is incorrect:** The Aegean Sea lies on the Aegean tectonic plate and is a highly complex, seismically active Mediterranean tectonic region formed by the interaction of the African and Eurasian tectonic plates. It is highly prone to earthquakes and volcanic activity.

3. Consider the following statements with reference to the Ionian Sea:

1. It connects to the Adriatic Sea in the north through the Strait of Otranto.
2. The sea hosts some of the deepest parts of the Mediterranean Sea, including the Calypso Deep in the Hellenic Trench.

3. It is bounded by two countries Italy and Greece.

How many of the above statements are correct?

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

Correct Answer: (b)

Explanations:

- **Statement 1 is correct:** The Ionian Sea is situated south of the Adriatic Sea and is connected to it via the Strait of Otranto.
- **Statement 2 is correct:** The Ionian Sea contains some of the deepest waters in the entire Mediterranean basin. The Calypso Deep, located within the Hellenic Trench, represents its deepest point.
- **Statement 3 is incorrect:** The basin countries and coastal regions that bound the Ionian Sea include Italy (west), Greece (east), and Albania (northeast).

4. Consider the following statements regarding the Adriatic Sea:

- 1. It separates the Italian Peninsula from the Balkan Peninsula.
- 2. It shares its coast with Albania, Croatia, and Greece.

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Adriatic Sea is a body of water that acts as a geographic divider separating the Italian Peninsula from the Balkan Peninsula Britannica Kids.
- **Statement 2 is incorrect:** While Albania and Croatia both border the Adriatic, Greece does not. The Adriatic Sea's southeastern boundary ends at the Strait of Otranto, while Greece's coastline falls further south along the Ionian, Aegean, and Mediterranean seas.

5. Consider the following statements about the Tyrrhenian Sea:

- 1. It is bordered by the Italian peninsula to the east and the islands of Corsica and Sardinia to the west.
- 2. It is connected to the Ionian Sea through the Strait of Messina.

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

Correct Answer: (b)

Explanations:

- **Statement 1 is correct:** The Tyrrhenian Sea is a marginal sea of the Mediterranean located off the western coast of Italy. It is bounded by the regions of Tuscany, Lazio, Campania, Basilicata, and Calabria

(the Italian peninsula) to the east, Sicily to the south, and the islands of Corsica and Sardinia to the west.

- **Statement 2 is correct:** The Strait of Messina is a narrow passage that separates the island of Sicily from the Italian mainland (Calabria), and it explicitly connects the Tyrrhenian Sea to the northwest with the Ionian Sea to the southeast.

6. Consider the following statements about the Sargasso Sea:

1. It is the only sea in the world that does not have a land boundary.
2. It records the lowest surface salinity in the Atlantic Ocean due to the constant influx of cold water currents.

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

Correct Answer: (a)

Explanations:

- **Statement 1 is correct:** The Sargasso Sea is unique as it is the only sea on Earth that does not have a land boundary or a coastline. Instead, its boundaries are defined entirely by four circulating ocean currents that form the North Atlantic Gyre: the Gulf Stream (west), the North Atlantic Current (north), the Canary Current (east), and the North Atlantic Equatorial Current (south).
- **Statement 2 is incorrect:** The Sargasso Sea does not have the lowest salinity; in fact, it records some of the highest surface salinity levels in the Atlantic Ocean. This high salinity is driven by its location in a subtropical high-pressure zone, which features high rates of evaporation, minimal precipitation, and a lack of fresh water influx (since there are no rivers emptying into it).

7. Consider the following statements regarding the Caribbean Sea:

1. The Cayman Trench is the deepest point in the Caribbean Sea, located between Jamaica and the Cayman Islands.
2. The Caribbean Sea is connected to the Pacific Ocean through the Panama Canal.

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

Correct Answer: (a)

Explanations:

- **Statement 1 is correct:** The Cayman Trough (or Cayman Trench) is a complex transform fault zone and pull-apart basin, marking the deepest point in the Caribbean Sea at approximately 7,686 meters (25,217 feet) below sea level. It is situated on the floor of the western Caribbean between the Cayman Islands and Jamaica.
- **Statement 2 is incorrect:** The Caribbean Sea opens into the Atlantic Ocean, not the Pacific. While the Panama Canal does link the Caribbean Sea to the Pacific Ocean, it is an artificial waterway, not a natural connection. The natural boundary between the two oceans in this region is the isthmus of Central America.

8. Consider the following statements with reference to the Labrador Sea:

1. It is a marginal sea of the North Atlantic Ocean bounded by the Labrador Peninsula to the west and Greenland to the northeast.
2. It was formed due to the geological separation of the North American Plate and the Greenland Plate.
3. It contains the Northwest Atlantic Mid-Ocean Channel, which is one of the world's largest turbidity current channel systems.

How many of the above statements are correct?

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

Correct Answer: (c)

Explanations:

- **Statement 1 is correct:** The Labrador Sea is a northwestern arm (marginal sea) of the North Atlantic Ocean. It lies directly between Canada's Labrador Peninsula and the island of Greenland.
- **Statement 2 is correct:** Geologically, the Labrador Basin formed as a failed rift arm during the broader North Atlantic tectonic breakup. The basin opened due to the separation of the North American Plate and the Greenland Plate, a process that started approximately 60 million years ago.
- **Statement 3 is correct:** The Labrador Sea houses the Northwest Atlantic Mid-Ocean Channel (NAMOC). It stretches thousands of kilometers and is one of the world's largest deep-sea turbidity current channel systems

9. Consider the following statements regarding the North Sea:

1. It is bordered by seven countries, including the United Kingdom, Norway, Germany, and France.
2. The Dogger Bank, located within the sea, is a famous fishing ground formed as an extensive submarine moraine.
3. The Norwegian Trench is the deepest point in the North Sea.

How many of the above statements are correct?

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

Correct Answer: (c)

Explanation:

- **Statement 1 is correct:** The North Sea is bordered exactly by seven countries: the United Kingdom, Norway, Denmark, Germany, the Netherlands, Belgium, and France.
- **Statement 2 is correct:** Located about 100 km off the northeastern coast of England, the Dogger Bank is a well-known, highly productive fishing ground. Geographically, it is a huge glacial moraine deposited at the southern limit of the last glaciation.
- **Statement 3 is correct:** The North Sea is relatively shallow overall (average depth of about 95 meters), but the Norwegian Trench runs along the southern coast of Norway and contains the deepest part of the sea, plunging to 725 meters.

10. Consider the following statements with reference to the Coral Sea:

1. The Coral Sea is a marginal sea of the South Pacific Ocean, primarily located off the northeastern coast of Australia.
2. It is bound to the west by the Great Barrier Reef, which is the world's largest coral reef system.

3. The Coral Sea Islands Territory, scattered across this region, is known for its dense permanent human settlements and thriving agricultural exports.

Which	of	the	statements	given	above	are	correct?
(a)		1		and	2		only
(b)		2		and	3		only
(c)		1		and	3		only
(d)		1, 2, and 3					

Correct Answer: (a)

Explanations:

- **Statement 1 is correct:** The Coral Sea is indeed a marginal sea of the South Pacific, situated directly off the northeast coast of Queensland, Australia.
- **Statement 2 is correct:** The world-famous Great Barrier Reef, the world's largest coral reef system—is located within the Coral Sea, separating it from the wider Pacific Ocean.
- **Statement 3 is incorrect:** The Coral Sea Islands Territory (an Australian external territory) has no permanent human inhabitants, except for a small meteorological staff working on the Willis Islets. Therefore, there are no agricultural exports or mainland-style settlements in this territory.

Important Straits

1. Consider the following statements regarding the Strait of Gibraltar:

1. It is the only natural waterway that connects the Atlantic Ocean to the Mediterranean Sea.
2. The strait separates the continents of Europe and Africa, with its narrowest point located between Spain and Morocco.
3. The easternmost point of the strait is flanked by the Rock of Gibraltar and the Atlas Mountains of Northern Africa.

Which of the statements given above are correct?

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Strait of Gibraltar is globally recognized as the only natural link between the Atlantic Ocean and the Mediterranean Sea. Until the Suez Canal opened in 1869, it was the only means of oceanic access.
- **Statement 2 is correct:** It is the primary dividing boundary between the continents of Europe and Africa. At its narrowest point, it spans roughly 13 to 14.3 kilometers between Punta de Tarifa in Spain and Point Cires in Morocco.
- **Statement 3 is incorrect:** While the northern flank is indeed marked by the Rock of Gibraltar, the southern flank is marked by Mount Hacho (part of the Spanish autonomous city of Ceuta) and Jebel Moussa (not the Atlas Mountains). It creates a notable division between the high plateau of Spain and the Atlas Mountains, but the mountains themselves do not directly flank the eastern edge.

2. Consider the following statements regarding the Strait of Hormuz:

1. The strait forms the only natural sea passage connecting the resource-rich Persian Gulf to the open ocean.

2. It is bordered by two countries Iran to the north and the Sultanate of Oman to the south.
3. The strait's deepest waters and designated commercial shipping channels are primarily located closer to the Iranian coastline rather than the Omani side.

Which of the statements given above are correct?

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Strait of Hormuz is the world's only sea passage connecting the waters of the Persian Gulf to the open ocean and is considered one of the most vital strategic chokepoints in the world.
- **Statement 2 is incorrect:** While it is true that Iran borders the waterway to the north and Oman borders it to the south, the southern border is not solely made up of Oman. A portion of the southwestern peninsula near the strait is governed by the United Arab Emirates (UAE).
- **Statement 3 is incorrect:** According to the Strauss Center, the strait is deep and mostly clear of maritime hazards, but its greatest depths are located near the Musandam Peninsula (the Omani side). The depth tapers as the waters move north toward the Iranian shore, and commercial traffic generally routes through the Traffic Separation Scheme (TSS) lying north of the Omani coast.

3. Consider the following statements:

1. The strait serves as a maritime border only between Yemen and Djibouti.
2. The channel is divided into two parts by Perim Island, with the western channel acting as the primary deep-water shipping lane.

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

Correct Answer: (b)

Explanation:

- **Statement 1 is incorrect:** The Bab al-Mandab Strait is flanked by Yemen on the Arabian side, and both Djibouti and Eritrea on the African side. It separates the Arabian Peninsula from the Horn of Africa, sharing its borders with three countries.
- **Statement 2 is correct:** The Yemeni island of Perim (or Mayyun) divides the strait into two channels. The deeper, wider western channel (Dact-el-Mayun) is generally used by large vessels, while the shallower eastern channel (Bab Iskender) is narrower.

4. Consider the following statements regarding the Bering Strait:

1. The strait connects the Arctic Ocean with the [Bering Sea] and separates the continents of Asia and North America.
2. The International Date Line passes directly through the strait, specifically between the Diomed Islands.

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

Correct Answer: (c)

Explanation:

- **Statement 1 is correct:** The Bering Strait links the Arctic Ocean (Chukchi Sea) in the north with the [Bering Sea] (Pacific Ocean) in the south. It acts as the natural dividing line between the continents of Asia and North America at their closest point.
- **Statement 2 is correct:** The imaginary line of the [International Date Line] zigzags through the strait, passing directly between the two [Diomed Islands] (Big Diomed in Russia and Little Diomed in the USA). This results in a time difference of approximately 21 hours between the two islands.

5. Consider the following statements regarding the Strait of Malacca:

1. It is the main shipping channel connecting the Indian Ocean to the Pacific Ocean, serving as a critical energy route for East Asian economies.
2. The strait is bounded by Malaysia, Indonesia, Singapore, and Thailand.
3. Its narrowest point lies near the Phillip Channel.

Which of the statements given above are correct?

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

Correct Answer: (d)

Explanations:

- **Statement 1 is correct:** The Strait of Malacca is the primary, shortest sea route between the Middle East and East Asia, linking the Andaman Sea (Indian Ocean) with the South China Sea (Pacific Ocean). It is highly significant for the energy imports of China, Japan, and South Korea.
- **Statement 2 is correct:** Geographically, the strait runs between the western coast of the Malay Peninsula and the eastern coast of Sumatra. The countries that directly bound the strait and control its waters are Indonesia, Malaysia, Singapore, and Thailand.
- **Statement 3 is correct:** The strait is approximately 890 kilometers in length. Its width, however, varies, becoming its narrowest at the Phillip Channel near Singapore, measuring only about 2.8 kilometers wide.

6. Consider the following statements regarding the Palk Strait:

1. It connects the Palk Bay in the Bay of Bengal with the Gulf of Mannar in the Laccadive Sea.
2. The Vaigai River of Tamil Nadu discharges its freshwater directly into the Palk Strait.

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

Correct Answer: (c)

Explanation:

- **Statement 1 is correct:** The Palk Strait is a narrow strip of water separating the southeastern coast of India and the northern coast of Sri Lanka. It serves as a vital maritime link, connecting the Palk Bay in

the northeast (part of the Bay of Bengal) with the Gulf of Mannar in the southwest (which is a part of the Laccadive Sea).

- **Statement 2 is correct:** The Palk Strait receives freshwater inflow from several rivers originating in Tamil Nadu, most notably the Vaigai River.

7. Consider the following statements regarding the Sunda Strait:

1. It connects the Java Sea to the Indian Ocean.
2. It separates the islands of Borneo and Sumatra.

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Sunda Strait serves as a vital natural navigational corridor linking the Java Sea directly to the waters of the Indian Ocean.
- **Statement 2 is incorrect:** The strait separates the islands of Java and Sumatra. It is the Karimata Strait that lies between Sumatra and Borneo.

8. Consider the following statements regarding the Torres Strait:

1. It separates the mainland of Australia from the Melanesian island of New Guinea.
2. The Torres Strait Islander peoples share the same ancestry and ethnic background as the mainland Australian Aboriginal peoples.

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

Correct Answer: (a)

Explanations:

- **Statement 1 is correct:** The Torres Strait is the passage situated between the northernmost continental extremity of Australia (Cape York Peninsula, Queensland) and the island of New Guinea.
- **Statement 2 is incorrect:** The Indigenous population of the strait region is known as the Torres Strait Islander peoples. While they are also Indigenous Australians, they are of Melanesian descent and are culturally and ethnically distinct from the mainland Aboriginal peoples.

9. Consider the following statements regarding the Bass Strait:

1. It separates the island state of Tasmania from the Australian mainland and connects the Indian Ocean with the Tasman Sea.
2. The strait is highly significant for offshore energy as it contains major petroleum and natural gas resources.

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

Correct Answer: (c)

Explanation

- **Statement 1 is correct:** The Bass Strait is a narrow maritime passage separating the island state of Tasmania from the southeastern Australian mainland (specifically the state of Victoria). By traversing between the two, it acts as a direct link connecting the Indian Ocean to the Tasman Sea (part of the South Pacific).
- **Statement 2 is correct:** The strait is recognized not only as a shipping route but also for its economically prominent offshore petroleum and natural gas reservoirs. Significant commercial extraction has occurred here since the discoveries at Barracouta and Kingfish in the 1960s.

10. Consider the following statements:

1. The Cook Strait separates the North Island from the South Island and connects the Tasman Sea to the South Pacific Ocean.
2. The Foveaux Strait separates the South Island from Stewart Island and was historically dry land during the Last Glacial Period.

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

Correct Answer: (c)

Explanation:

- **Cook Strait:** Located in New Zealand, this infamous maritime passage lies between the North Island and South Island. It extends northwest to southeast, linking the Tasman Sea with the South Pacific Ocean.
- **Foveaux Strait:** Positioned further south, it separates Stewart Island from the South Island. Geological evidence and petrographic analyses of seafloor gravels reveal that this area was actually a coastal plain during the last glacial maximum and only became inundated as sea levels rose.

Important Straits and Grasslands of the World

1. Which of the following statements with regard to the Kerch Strait is/are correct?

1. It connects the Black Sea with the Caspian Sea.
2. It separates the Crimean Peninsula from the Taman Peninsula of mainland Russia.

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

Correct Answer: (b)

Explanation:

- **Statement 1 is incorrect:** The Kerch Strait connects the Black Sea with the Sea of Azov, not the Caspian Sea. It serves as a vital choke point for maritime traffic accessing ports in southern Russia and eastern Ukraine.

- **Statement 2 is correct:** Geographically, the strait forms a narrow passage separating the Crimean Peninsula in the west from Russia's Krasnodar Krai (Taman Peninsula) in the east.

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

1. The Bosphorus Strait splits the city of Istanbul into European and Asian parts, connecting the Black Sea to the Sea of Marmara.
2. The Strait of Otranto acts as a narrow maritime passage connecting the Adriatic Sea with the Ionian Sea.

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

Correct Answer: (c)

Explanation:

- **Statement 1 is correct:** The Bosphorus Strait is a globally vital choke point located in northwestern Turkey. It physically separates European Turkey from Asian Turkey (Anatolia) and links the Black Sea to the internal Sea of Marmara.
- **Statement 2 is correct:** The Strait of Otranto lies between Italy (Apulia) to the west and Albania to the east, acting as the maritime boundary that connects the Adriatic Sea with the deeper Ionian Sea.

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

1. The Yucatan Strait forms a deep water channel that links the Gulf of Mexico with the Caribbean Sea.
2. The Strait of Florida separates the island of Cuba from the Bahamian Archipelago.

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Yucatan Strait (or Yucatan Channel) runs between Mexico's Yucatan Peninsula and Cuba, acting as the main deep-water portal connecting the Caribbean Sea to the Gulf of Mexico.
- **Statement 2 is incorrect:** The Strait of Florida separates the Florida Keys (USA) from Cuba, connecting the Gulf of Mexico to the Atlantic Ocean. The channel separating Cuba from the Bahamas is the Old Bahama Channel.

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

1. The Strait of Magellan is located at the northernmost tip of South America, connecting the Caribbean Sea to the Atlantic Ocean.
2. The Davis Strait is an exceptionally broad northern strait connecting the Labrador Sea to Baffin Bay.

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

Correct Answer: (b)

Explanation:

- a) **Statement 1 is incorrect:** The Strait of Magellan is located at the southernmost tip of mainland South America (within Chile), crossing between the mainland and Tierra del Fuego to connect the Atlantic and Pacific Oceans.
- b) **Statement 2 is correct:** The Davis Strait is located between mid-western Greenland and Canada's Baffin Island. It connects the northern Baffin Bay to the southern Labrador Sea (part of the Atlantic Ocean).

5. The Strait of Dover, recognized as the world's busiest international shipping lane, connects which of the following two bodies of water?

- (a) The North Sea and the Baltic Sea
- (b) The North Sea and the English Channel
- (c) The Irish Sea and the Atlantic Ocean
- (d) The Norwegian Sea and the North Sea

Correct Answer: (b)

Explanation:

- **Option (b) is correct:** The Strait of Dover forms the narrowest part of the English Channel, marking the boundary where the English Channel terminates and transitions directly into the North Sea. It physically separates Great Britain from continental Europe (France).

6. Consider the following statements regarding Tropical Grasslands:

- 1. These ecosystems are characterized by short, dense plants and receive less than 30 cm of highly erratic annual rainfall.
- 2. Regionally, these grasslands are known as Campos in Brazil and Llanos in Venezuela.

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

Correct Answer: (b)

Explanation:

- **Statement 1 is incorrect:** Tropical grasslands are characterized by a warm climate year-round with distinct wet and dry seasons, receiving a moderate 50 cm to 130 cm of annual rainfall. It is temperate grasslands that typically receive less precipitation (25 cm to 75 cm).
- **Statement 2 is correct:** Tropical grasslands are distributed globally across the tropics. Their regional names include the Savanna in East Africa, the Campos in the Brazilian Highlands, and the Llanos in the Orinoco River basin of Venezuela.

7. With reference to global Temperate Grasslands, consider the following statements:

- 1. They generally experience hot summers and exceptionally cold winters, with temperature drops hitting 0°F in peak winter seasons.
- 2. The annual precipitation ranges between 25 cm and 75 cm, falling significantly in the form of dew and snow.
- 3. The dominant natural vegetation includes sagebrush, perennial grasses, buffalo grass, and wild indigos.

Which of the statements given above are correct?

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

Correct Answer: (d)

Explanation:

- **Statement 1 is correct:** Unlike tropical equivalents, temperate grasslands experience sharp continental temperature extremes, where winters drop to 0°F or lower and summers routinely push past 90°F.
- **Statement 2 is correct:** They have lower overall moisture inputs than tropical savannas, receiving a limited 25 cm to 75 cm of precipitation annually. Because of the freezing winter regimes, a large portion of this moisture arrives via seasonal snow and morning dew.
- **Statement 3 is correct:** Due to the dry, cold periods, trees are rare. The biome is ruled by cold-tolerant, deep-rooted vegetation like perennial grasses, buffalo grass, clovers, wild indigos, and woody shrubs like sagebrush.

8. Consider the following statements regarding the geographic nomenclature of Temperate Grasslands:

1. The vast, treeless mid-latitude plains of North America are classified as Prairies, while the semi-arid interiors of Eurasia are known as Steppes.
2. The fertile lowlands of Argentina, Uruguay, and Brazil are referred to as the Pampas.
3. The interior high-altitude plateaus of South Africa are called Velds, while the temperate plains of Australia are designated as Downs.

Which of the statements given above are correct?

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

Correct Answer: (d)

Explanation:

- **Statements 1, 2, and 3 are all correct:**
 - North America: Prairies
 - Eurasia (Central Asia/Russia): Steppes
 - South America (Argentina/Uruguay): Pampas
 - South Africa: Velds
 - Australia: Downs

9. Consider the following pairs regarding the types and distribution of grasslands in India:

Grassland Type	Region	Key Feature
1. Sub-Himalayan Grasslands	Terai belt (J&K to Arunachal Pradesh)	Tall, dense grasses with scattered trees
2. Semi-Arid Grasslands	Western Peninsular India and Western Ghats	Heavy, dense shrublands suited for rice cultivation

3. Dry Sub-Humid Grasslands	Central Peninsular India	Open plains critical for crops like wheat and barley
4. Montane Grasslands	High Altitudes (e.g., Bughyals of Uttarakhand)	Alpine meadows found above the tree line

How many of the pairs given above are correctly matched?

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

Correct Answer: (c)

Explanation:

- **Pair 1 is correctly matched:** The Sub-Himalayan/Terai grasslands stretch across the moist foothills from J&K to Arunachal, featuring highly productive elephant grasses interspersed with swampy sal forests.
- **Pair 2 is incorrectly matched:** Semi-Arid Grasslands are found in Gujarat, Rajasthan, Punjab, Delhi, and Western UP. They are characterized by short, drought-resistant, sparse grasses mixed with thorny shrubs, completely unsuited for intensive rice cultivation.
- **Pair 3 is correctly matched:** Dry Sub-Humid Grasslands cover large swathes of the continental Deccan plateau. The deep, moisture-retentive black and alluvial soils found here make them high-value blocks for commercial cereal crops like wheat and barley.
- **Pair 4 is correctly matched:** Montane Grasslands occupy the high altitudes of the Himalayas and North-East India. Examples include the famous Bughyals of Uttarakhand, Khajjiar in Himachal Pradesh, and the Dzukou Valley on the Nagaland-Manipur border.

10. With reference to the structural differences between Tropical and Temperate Grasslands, consider the following statements:

1. Tropical grasslands are dominated by exceptionally tall grasses that can grow up to 3–4 meters in height, whereas temperate grasslands primarily feature short, low-lying plants.
2. Precipitation in temperate grasslands occurs in the form of uniform tropical monsoons, while tropical grasslands rely primarily on dew and snow.
3. Large wild herbivores such as elephants, giraffes, and zebras are native to tropical savannas, whereas wild buffaloes, bison, and antelopes dominate temperate grasslands.

Which of the statements given above are correct?

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

Correct Answer: (c)

Explanation:

- **Statement 1 is correct:** Due to the combination of year-round warmth and heavy seasonal rain (50–130 cm), tropical savanna grasses like elephant grass grow massive stalks reaching 3 to 4 meters. Temperate grasslands have less moisture and freezing winters, producing short, nutrient-dense, lawn-like carpets.

- **Statement 2 is incorrect:** Tropical grasslands experience distinct wet and dry seasons with warm monsoonal or convective rains. It is the temperate grasslands that face sub-zero winters where precipitation routinely takes the form of morning dew and heavy snow.
- **Statement 3 is correct:** The megafauna differs dramatically: the African/Tropical savanna supports browsing giants like elephants and giraffes alongside cursorial plains herds (zebras, cheetahs), while temperate steppes and prairies historically supported massive migratory herds of wild bison, pronghorn antelopes, and wild horses.

Plateaus and Grasslands of the World

1. Consider the following statements regarding the physical and climatic features of the Tibetan Plateau:

1. It was geologically formed due to the tectonic collision of the Indo-Australian and Eurasian plates.
2. The plateau is bound to the northeast by the Karakoram Range and to the west by the Kunlun Range.
3. Its immense altitude is sufficient to reverse the atmospheric Hadley cell convection cycles.
4. It acts as a major thermal engine that drives the summer monsoonal winds of India towards the south.

Which of the statements given above are correct?

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** The Tibetan Plateau is the highest and largest plateau on Earth, formed during the Cenozoic era due to the continental collision between the Indo-Australian (Indian) plate and the Eurasian plate.
- **Statement 2 is incorrect:** The Tibetan Plateau is bound to the south by the Himalayas, to the northeast by the Kunlun Range, and to the west by the Karakoram Range.
- **Statement 3 is correct:** Due to its average elevation exceeding 4,500 meters, intense summer heating over the plateau creates a strong rising thermal core. This localized updraft is powerful enough to physically alter and reverse the classic regional atmospheric Hadley cell circulation.
- **Statement 4 is incorrect:** The thermal low pressure generated over the heated Tibetan Plateau acts as a meteorological pump that pulls and drives the moist multi-branch South West Monsoonal winds towards the north/northwest into the Indian subcontinent, not towards the south.

2. Which of the following statements with regard to the Colorado Plateau is/are correct?

1. It is a classic example of an intermontane plateau, geologically defined by flat-lying sedimentary strata containing prominent mesas and buttes.
2. The plateau is structurally bisected by the Colorado River and the Grand Canyon system.
3. The region is widely known for widespread, perched groundwater tables that naturally erupt as positive-pressure Artesian wells.

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** Located in the Western United States (covering parts of Utah, Arizona, Colorado, and New Mexico), the Colorado Plateau is an unwarped intermontane plateau. Long-term subaerial erosion has carved its horizontal rock layers into steep-sided, flat-topped landforms known as mesas and smaller buttes.
- **Statement 2 is correct:** The Colorado River system acts as the primary drainage and erosive agent of this plateau, slicing deeply through the crust to form the world-famous Grand Canyon.
- **Statement 3 is incorrect:** While the Colorado Plateau is famous for complex sandstone aquifers and deeply carved canyon springs, it is not a classic basin defined by widespread positive-pressure structural *Artesian wells* (which require specific deep, confined synclinal basins like the Great Artesian Basin of Australia).

3. Which of the following statements with regard to the Deccan Plateau is/are correct?

1. The Deccan Traps within the plateau represent one of the largest subaerial volcanic features on Earth, built from multiple overlapping basaltic lava flows.
2. Fossil records are absent throughout the dense, crystalline rock layers of the Deccan Traps due to the extreme heat of historical volcanic eruptions.
3. The easternmost core of the Deccan Plateau includes the mineral-rich Golconda region, which historically served as a prime global source of diamonds.

Select the correct answer using the code given below:

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

Answer: (c)

Detailed Explanation:

- **Statement 1 is correct:** The Deccan Traps form a massive flood basalt province covering over 500,000 square kilometers in western and central India. It was created by step-like, sequential fissure eruptions during the late Cretaceous period.
- **Statement 2 is incorrect:** Despite the volcanic origin, the sedimentary layers deposited *between* successive lava flows (known as Intertrappean beds) contain highly unique, globally significant fossils of late Cretaceous plants, frogs, mollusks, and even dinosaur teeth/eggs.
- **Statement 3 is correct:** The southern and eastern fringes of the Deccan block are exceptionally rich in primary minerals. The historic Golconda region (spanning parts of modern Telangana and Andhra Pradesh) was celebrated globally for its ancient alluvial diamond mines.

4. Which of the following statements with regard to the Columbia-Snake Plateau is/are correct?

1. It is a structural flood basalt plateau formed as a direct result of extensive sequential volcanic fissure eruptions.
2. It is bound to the west by the Rocky Mountains and bordered along its eastern margin by the Cascade Range.

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** The Columbia Plateau (covering parts of Washington, Oregon, and Idaho) is a premier global example of a *Flood Basalt Plateau*. It was built up by liquid, low-viscosity basaltic lava flows that flooded the landscape and cooled into thick layers.
- **Statement 2 is incorrect:** The Columbia Plateau is bound to the west by the Cascade Range and to the east by the Rocky Mountains.

5. Consider the following statements regarding the Patagonian Plateau:

1. It is a classic geomorphic example of a Piedmont plateau located at the southern terminus of South America.
2. The plateau functions as a cold, hyper-humid rain-forest ecosystem due to unhindered winds blowing off the Pacific Ocean.
3. Economically, the sparse vegetation and cold climate make it a vital regional zone for extensive pastoral sheep rearing.

Which of the statements given above are correct?

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

Answer: (c)

Detailed Explanation:

- **Statement 1 is correct:** The Patagonian Plateau in southern Argentina is a classic *Piedmont plateau*—a high landform that sits at the foot of a mountain range (the Andes) and drops off steeply on its other side toward the Atlantic Ocean.
- **Statement 2 is incorrect:** The Patagonian Plateau is actually a rain-shadow desert plateau. The towering Andes mountains to its west block incoming moisture from the Pacific Ocean, causing the air to drop its rain on the Chilean side and cross into Patagonia as dry, desertifying wind.
- **Statement 3 is correct:** Because the climate is cold and arid, the landscape is dominated by hardy shrubs and short grasses. This semi-arid steppe vegetation makes the plateau ideally suited for large-scale, commercial sheep ranching rather than crop farming.

6. Which of the following statements with regard to the Appalachian Plateau is/are correct?

1. It is a highly rugged, deeply dissected plateau that marks the northwestern face of the larger Appalachian mountain system.
2. Unlike a typical flat tableland, its modern mountainous appearance is the result of long-term fluvial erosion cutting deep V-shaped valleys into an uplifted plain.
3. Geographically, it forms an elongated block that stretches from the state of New York down to southern Florida.

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** The Appalachian Plateau is the westernmost physiographic province of the Appalachian Mountains, extending from New York southwestward through Pennsylvania, West Virginia, Ohio, Kentucky, and Tennessee, down to Alabama.
- **Statement 2 is correct:** Though it looks like a mountain range to an observer on the ground, it is geologically a *dissected plateau*. It consists of a flat, elevated block of sedimentary rock that has been heavily carved into sharp hills and valleys by rivers over millions of years.
- **Statement 3 is incorrect:** The plateau terminates in northern Alabama, not Florida. Florida is entirely made up of low-lying coastal plains and karstic limestone structures, completely outside the Appalachian system.

7. With reference to the Piedmont Plateau of the United States, consider the following statements:

1. It is situated as a transitional plateau region bounded between the Atlantic Coastal Plain to the east and the main Appalachian Mountains to the west.
2. The eastern boundary of this plateau is marked by a prominent geomorphic feature known as the 'Fall Line', where rivers drop rapidly into the coastal plain.
3. The province is composed of young, undisturbed, non-foliated sedimentary rocks of the Holocene era.

Which of the statements given above are correct?

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** The Piedmont is a plateau province in the Eastern US that forms a transitional zone between the low Atlantic Coastal Plain and the higher Appalachian ridges further inland.
- **Statement 2 is correct:** The eastern edge of the Piedmont meets the coastal plain at the **Fall Line**. Here, rivers flowing off the hard bedrock of the plateau drop down via waterfalls and rapids onto the softer sediments of the plain, historically marking the limit of river navigation.
- **Statement 3 is incorrect:** The Piedmont is a highly complex geological zone made up of ancient, heavily deformed Precambrian and Paleozoic metamorphic and igneous rocks (such as schists, gneisses, and granites), not young Holocene sedimentary deposits.

8. Which of the following statements with regard to the Laurentian Plateau is/are correct?

1. It is composed of exposed, ancient Precambrian igneous and high-grade metamorphic rocks that form the geological core of North America.
2. The plateau is highly valued for its economic geology, containing massive and exceptionally fine-quality reserves of iron ore.

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

Answer: (c)

Detailed Explanation:

- **Statement 1 is correct:** The Laurentian Plateau, or Canadian Shield, is a massive U-shaped region of ancient, stable rock wrapping around Hudson Bay. It represents the ancient geological craton of the North American plate, shaped by billions of years of tectonic activity and glacial erosion.
- **Statement 2 is correct:** Because of its ancient volcanic and metamorphic history, this shield is incredibly rich in metallic minerals. It holds some of the world's most productive deposits of high-grade iron ore, nickel, gold, and copper.

9. Consider the following statements regarding the Altiplano Plateau:

1. It is an extensive intermontane plateau located in west-central South America where the Andes mountain ranges reach their maximum width.
2. The plateau serves as a premier global mining hub, holding massive primary reserves of copper and iron ore.
3. Both La Paz (the administrative capital) and Sucre (the constitutional capital) of Bolivia are situated directly on this high plateau.

Which of the statements given above are correct?

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

Answer: (c)

Detailed Explanation:

- **Statement 1 is correct:** The Altiplano (or Andean Plateau) is the second-largest high-altitude plateau on Earth after Tibet. It sits trapped between the Eastern and Western cordilleras of the Andes mountains.
- **Statement 2 is incorrect:** While it is a massive mining zone, its primary globally famous mineral reserves are tin, silver, and lithium (including the massive Salar de Uyuni lithium flats), rather than copper and iron ore.
- **Statement 3 is correct:** The Altiplano forms the geographic heart of Bolivia. Both its administrative capital, La Paz (the highest capital city in the world), and its constitutional capital, Sucre, are located within this high-altitude mountain plateau environment.

10. Which of the following statements with regard to the Guiana Highlands is/are correct?

1. Located in northeastern South America, these highlands form part of the Guiana Shield, which represents one of the oldest stable land surfaces on Earth.
2. Geologically, the formation consists of young Phanerozoic volcanic structures that emerged during the separation of Africa and South America.

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** The Guiana Highlands are an ancient landscape located between the Amazon and Orinoco rivers. They are part of the Guiana Shield, an ancient craton that has remained stable for hundreds of millions of years.

- **Statement 2 is incorrect:** The shield is not made of young Phanerozoic volcanoes. It is an ancient Precambrian geological formation dating back roughly 1.7 billion years, consisting primarily of highly resistant quartzites, sandstones, and crystalline basement rock that form dramatic flat-topped mountains called *tepuis*.

Major Mountains of the World

1. Consider the following statements regarding the Andes Mountain Range:

1. It is the longest continental mountain range on Earth and stands as the highest system outside of Asia.
2. Its highest peak, Mount Aconcagua, is an active volcano located along the tectonic boundary of the South American Plate.
3. Ojos del Salado, situated on the Chile-Argentina border, is classified as the highest active volcano on Earth.

Which of the statements given above is/are correct?

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

Correct Answer:(b)

Explanation:

- **Statement 1 is correct:** The Andes form a continuous highland along the western coast of South America. It is the longest continental mountain range in the world (~7,000 km) and the highest outside Asia, boasting an average elevation of around 4,000 m.
- **Statement 2 is incorrect:** While Mount Aconcagua (6,962 m) is of volcanic origin, it is a dormant/extinct volcano.
- **Statement 3 is correct:** Ojos del Salado (6,893 m) is a structurally active stratovolcano on the Argentina-Chile border and holds the definitive geographic record as the highest active volcano on Earth.

2. Which of the following statements with regard to the Rocky Mountains is/are correct?

1. They constitute the largest mountain system in North America and form an integral part of the American Cordillera.
2. The range was formed during the Cenozoic era due to the tectonic collision between the African and Eurasian plates.

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

Correct Answer:(a)

Explanation:

- **Statement 1 is correct:** The Rocky Mountains (or the Rockies) span more than 4,800 km from northern British Columbia in Canada to New Mexico in the Southwestern United States, making them the largest mountain network in North America and a key component of the western American Cordillera.

- **Statement 2 is incorrect:** The collision between the African and Eurasian plates formed the Alps in Europe. The Rockies were formed primarily via the Laramide orogeny on the western margin of the North American Plate.

3. Which of the following statements with regard to the American Cordillera is/are correct?

1. It forms a continuous sequence of mountain ranges spanning the western backbone of the Americas but excludes the Antarctic landmass.
2. It acts as the primary structural backbone of the volcanic arc that forms the western half of the Pacific Ring of Fire.

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

Correct Answer:(d)

Explanation:

- **Statement 1 is incorrect:** The American Cordillera is an almost unbroken chain of mountain ranges that forms the western backbone of North America, South America, and continues through the Scotia Arc into Antarctica (Antarctic Peninsula).
- **Statement 2 is incorrect:** This is a spatial/directional trap. The American Cordillera runs along the western edge of the Americas, which corresponds to the eastern half of the global Pacific Ring of Fire, not the western half.

4. Which of the following statements with regard to the Himalayan Mountain Range is/are correct?

1. It contains the highest peaks on Earth and structurally acts as a young fold mountain barrier.
2. Its western anchor is marked by Namcha Barwa, while its easternmost anchor terminates at Nanga Parbat.
3. The structural width of the range is asymmetrical, varying from 400 kilometers in the west to 150 kilometers in the east.

Select the correct answer using the code given below:

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

Correct Answer:(b)

Explanation:

- **Statement 1 is correct:** The Himalayas house the planet's highest peaks (including Mount Everest) and represent a classic collisional mountain belt.
- **Statement 2 is incorrect:** The western anchor is Nanga Parbat (lying just south of the northernmost bend of the Indus River), and the eastern anchor is Namcha Barwa (located just west of the great bend of the Brahmaputra/Tsangpo River).
- **Statement 3 is correct:** The Himalayan range exhibits significant structural compression variations from west to east; it narrows considerably towards the east (150 km) compared to its wider western wing (400 km).

5. Consider the following statements regarding the regional extensions of the global Cordillera system:

1. The Alaska Range and the Brooks Range form the northernmost extensions of the North American Cordillera.
2. In Mexico, the continuous mountain backbone is represented by the Sierra Madre Occidental and the Sierra Madre Oriental.
3. The South American Cordillera forms parallel chains that terminate completely north of the Tierra del Fuego archipelago.
4. The structural system terminates at the tip of South America, showing no geological continuity with the Antarctic Peninsula.

Which of the statements given above are correct?

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

Correct Answer:(a)

Explanation:

- **Statement 1 is correct:** The North American Cordillera includes the northern sub-arctic ranges like the Brooks Range and Alaska Range within Alaska.
- **Statement 2 is correct:** As the cordillera moves south into Mexico, it splits into two massive flanking ranges: the Sierra Madre Occidental (west) and the Sierra Madre Oriental (east).
- **Statement 3 is incorrect:** The Andes do not stop north of Tierra del Fuego; they continue all the way through the parallel chains to the very southern tip of South America at Tierra del Fuego.
- **Statement 4 is incorrect:** Tectonically, the system does not end at South America; it continues underwater along the Scotia Arc loop before rising again as the mountain backbone of the Antarctic Peninsula.

6. Which of the following statements with regard to the Cascade Range is/are correct?

1. It is a major volcanic mountain range of western North America that forms part of the Pacific Ring of Fire.
2. The active volcanism in the Cascades is driven by a subduction zone where the dense North American Plate plunges beneath the Juan de Fuca oceanic plate.
3. The range features a mix of thousands of small, short-lived vents alongside a few strikingly massive stratovolcanoes like Mount St. Helens.

Select the correct answer using the code given below:

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

Correct Answer:(b)

Explanation:

- **Statement 1 is correct:** The Cascade Range is a prominent segment of the Pacific Ring of Fire in the US Pacific Northwest and Canada, well-known for its historic volcanic eruptions.
- **Statement 2 is incorrect:** Subduction occurs because the dense oceanic Juan de Fuca plate plunges beneath the overriding continental North American Plate.
- **Statement 3 is correct:** Geomorphically, the Cascades are built from a base of thousands of small, short-lived volcanic domes and cones, punctuated by massive, prominent volcanic peaks like Mount St. Helens and Mount Rainier.

7. Consider the following statements regarding the Great Dividing Range and the European Alps:

1. The Great Dividing Range, also known as the Eastern Highlands of Australia, was formed primarily due to ancient continental rifting events.
2. The European Alps were geologically created as the African and Eurasian tectonic plates collided.
3. The extreme folding during the Alpine orogeny pushed deep crystalline mantle rocks upward, creating high peaks like Mont Blanc that are devoid of marine sedimentary rocks.
4. The Alpine region contains a hundred peaks that rise higher than 5,000 meters, known colloquially as the five-thousanders.

Which of the statements given above are correct?

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

Correct Answer: (b)

Explanation:

- **Statement 1 is correct:** The Great Dividing Range (Eastern Highlands of Australia) is an ancient complex system formed during the Paleozoic era, later uplifted and shaped significantly by the rifting and breakup of the Gondwana supercontinent.
- **Statement 2 is correct:** The Alps are classic fold mountains formed during the Cenozoic era due to the continuous northward collision of the African plate into the Eurasian plate.
- **Statement 3 is incorrect:** The intense compression and thrust-faulting of the Alpine orogeny actually lifted up ancient marine sedimentary rocks from the former Tethys Sea floor, folding them up to form the high peaks (including Mont Blanc). They are not devoid of sedimentary rocks.
- **Statement 4 is incorrect:** The Alpine region contains peaks higher than 4,000 m (not 5,000 m), which are globally recognized by mountaineers as the four-thousanders.

8. Which of the following statements with regard to the Transantarctic Mountains is/are correct?

1. They comprise a continuous, uninterrupted wall of uplifted rock extending across the continent from Cape Adare to Coats Land.
2. These mountains act as the definitive structural and geographic dividing line between East Antarctica and West Antarctica.

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

Correct Answer: (b)

Explanation:

- **Statement 1 is incorrect:** The Transantarctic Mountains stretch across the continent from Victoria Land to Coats Land, but they are broken up at various intervals by massive outlet glaciers flowing from the polar ice sheets.
- **Statement 2 is correct:** Geographically and geologically, this mountain range separates the older, stable craton of East Antarctica from the younger, tectonically active rifts of West Antarctica.

9. Which of the following statements with regard to the Ural Mountains is/are correct?

1. The range runs north-to-south through western Russia, extending from the Arctic Ocean coast down to northwestern Kazakhstan.
2. They were formed due to an ancient continent-continent collision between the supercontinent Laurussia and the continent of Kazakhstan.
3. The western slope of the Ural mountain chain is traditionally designated as the natural geographic boundary separating Europe and Asia.

Select the correct answer using the code given below:

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

Correct Answer:(a)

Explanation:

- **Statement 1 is correct:** The Urals form a north-south line through western Russia, running from the Arctic Ocean to the Ural River in northwestern Kazakhstan.
- **Statement 2 is correct:** The Uralian orogeny occurred in the late Paleozoic era, resulting from the major continent-continent collision of Laurussia with the weaker continent of Kazakhstan.
- **Statement 3 is incorrect:** The eastern side/slope of the Ural Mountains is what is traditionally considered the boundary dividing Europe and Asia, not the western side.

10. Consider the following prominent global mountain peaks:

1. Mount Toubkal (Atlas Mountains)
2. Mont Blanc (European Alps)
3. Ojos del Salado (Andes Mountains)
4. Mount Aconcagua (Andes Mountains)

Which one of the following options represents the correct chronological sequence of the peaks arranged in ascending order of their maximum elevations?

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

Correct Answer:(a)

Explanation:

To solve this high-yield question, we must look at the precise factual elevations of these major peaks:

- **Mount Toubkal:** The highest peak in the Atlas Mountains of North Africa, standing at 4,165 m.
- **Mont Blanc:** The highest peak in the European Alps, standing at 4,810 m.
- **Ojos del Salado:** The highest active volcano on Earth located in the Andes, standing at 6,893 m.
- **Mount Aconcagua:** The absolute highest peak in the Andes range and the entire Western Hemisphere, standing at 6,962 m.

Arranging them from lowest to highest gives the sequence: Mount Toubkal → Mont Blanc → Ojos del Salado → Mount Aconcagua.

Major Deserts of the World

1. Consider the following statements regarding the geographical factors contributing to desert formation:

1. Rain shadow regions are formed on the windward side of mountain ranges during plate convergence due to the blocking of rain-bearing clouds.
2. Cold ocean currents running parallel to coasts suppress atmospheric evaporation, directly preventing cloud formation and inducing desertification.
3. Subtropical high-pressure belts cause descending air movements, creating stable atmospheric conditions that prevent convective precipitation.
4. Off-shore winds bring moisture-laden air masses from the ocean interiors toward coastal belts, driving structural landward desertification.

Which of the statements given above are correct?

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

Answer: (b)

Detailed Explanation:

- **Statement 1 is incorrect:** Rain shadow regions are formed on the leeward side (sheltered side) of mountain ranges, not the windward side. The windward side receives heavy precipitation as air rises and condenses.
- **Statement 2 is correct:** Cold ocean currents cool the overriding air masses, creating high atmospheric stability and thermal inversions that prevent evaporation and deep convection, resulting in hyper-arid coastal deserts.
- **Statement 3 is correct:** High-pressure zones feature dynamically sinking (subsiding) air. Sinking air warms adiabatically and dries out, suppressing the upward air currents needed for condensation and cloud formation.
- **Statement 4 is incorrect:** On-shore winds bring moisture from the sea to the land. Off-shore winds blow from the dry interior of landmasses toward the sea, depriving coastal zones of moisture.

2. Which of the following statements with regard to Hot and Dry Deserts is/are correct?

1. They are primarily distributed within subtropical high-pressure zones between 15° and 30° latitudes north and south of the Equator.
2. The Sahara Desert stands as the largest desert system on Earth and experiences high annual temperatures with minimal seasonal variation.

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** Tropical or hot and dry deserts are structurally tied to the planetary wind circulation patterns, lying along the Tropic of Cancer and Tropic of Capricorn (between 15° and 30° N/S) under the dry subsiding arm of the Hadley Cell.

- **Statement 2 is incorrect:** This is an absolute/classification trap. The Sahara Desert is the largest hot desert in the world, but it is only the third-largest desert overall on Earth (ranking behind the Antarctic and Arctic polar deserts).

3. Which of the following statements with regard to Polar Cold Deserts is/are correct?

1. They are characterized by absolute water scarcity due to the absence of hydrological deposits on the ground surface.
2. Antarctica and the Arctic are geographic classifications of cold deserts located at the extreme ends of Earth's rotational axis.

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

Answer: (b)

Detailed Explanation:

- **Statement 1 is incorrect:** Cold polar deserts actually contain plenty of water, but it is cryogenically locked in the form of permanent ice sheets. It is biologically and physically unavailable for immediate ecosystem use, rather than being completely absent.
- **Statement 2 is correct:** Both Antarctica (Antarctic Desert) and the Arctic region meet the structural definition of a desert due to receiving less than 250 mm of annual precipitation, and they are located at the Earth's geographic poles.

4. Which of the following statements with regard to Coastal Deserts is/are correct?

1. They develop along the eastern edges of continents where warm ocean currents stimulate intense coastal convective downpours.
2. The Namib Desert in Africa and the Atacama Desert in South America are classic examples where heavy advection fog occurs despite near-zero rainfall.

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

Answer: (b)

Detailed Explanation:

- **Statement 1 is incorrect:** Coastal deserts develop along the western edges of continents (e.g., Atacama, Namib), where cold ocean currents (like the Humboldt and Benguela currents) run parallel to the shore, suppressing rainfall.
- **Statement 2 is correct:** Cold air passing over warm surfaces creates a strong thermal inversion layer. This creates thick, dense coastal fog (locally called camanchaca in the Atacama) that rolls inland, serving as the primary source of moisture for highly specialized endemic species.

5. Which of the following statements with regard to Continental Deserts is/are correct?

1. They are characterized by extreme distance from maritime moisture sources or placement on the leeward sides of massive mountain ranges.

2. The Sahara and Kalahari deserts serve as the primary global type-specimens for these low-altitude continental interiors.

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** Continental deserts (cold-winter deserts) form either due to continentality (being located deep within the heart of a giant landmass where maritime winds lose all moisture before arrival) or via the rain-shadow effect on the leeward side of mountains.
- **Statement 2 is incorrect:** The Gobi Desert (Central Asia) and the Taklamakan/Tibet region are classic continental/rain-shadow deserts. The Sahara and Kalahari are sub-tropical/trade-wind hot deserts.

6. Consider the following statements regarding the physical typologies of global deserts:

1. Salt deserts, geomorphically classified as salt pans, consist of high-salinity flat surfaces formed by intense evaporation of enclosed drainage basins.
2. The Great Rann of Kutch, located in western India, is recognized as the largest salt desert surface area in the world.
3. The Ar Rub' al Khali, which covers a massive portion of the Arabian Peninsula, is the largest continuous sand desert on Earth.

Which of the statements given above is/are correct?

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

Answer: (b)

Detailed Explanation:

- **Statement 1 is correct:** Salt deserts or salt flats form in arid endorheic basins (internal drainage systems) where water accumulates but cannot drain out. High evaporation rates leave behind heavy crusts of minerals and salts.
- **Statement 2 is incorrect:** While the Great Rann of Kutch is a massive salt desert and India's prime example, the Salar de Uyuni in Bolivia is the largest salt desert/pan in the world (~10,000 square kilometers).
- **Statement 3 is correct:** The Ar Rub' al Khali (The Empty Quarter) is hyper-arid and constitutes the largest continuous body of sand dunes (erg topography) globally.

7. Which of the following statements with regard to the ecological distribution of deserts in India is/are correct?

1. The Thar Desert is confined within the boundaries of India, covering portions of Rajasthan, Gujarat, Punjab, and Haryana.
2. The Cold Desert of Ladakh sits within the Trans-Himalayan rain-shadow zone and experiences extreme temperature fluctuations with scarce precipitation.
3. The Rann of Kutch operates as a seasonal marshy salt pan desert that exhibits high-density white halite crust landscapes during dry months.

Select the correct answer using the code given below:

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is incorrect:** The Thar Desert is not confined entirely within India; roughly 15% of its total geographical expanse stretches across the international border into Pakistan (where it is called the Cholistan Desert).
- **Statement 2 is correct:** Ladakh is classified as a high-altitude cold desert. The Great Himalayas block the entry of the southwest monsoon, leaving the region in a perpetual rain shadow with dry, frigid conditions.
- **Statement 3 is correct:** The Rann of Kutch is unique because it is submerged under water during the monsoon season and dries out during the winter to expose vast, hyper-saline white salt fields.

8. Consider the following statements regarding planetary desert records and extremes:

1. The Arctic Desert represents the largest geographical desert system on Earth, followed closely by the Antarctic Desert.
2. The Carcross Desert, located in Yukon, Canada, holds the record as the smallest recognized desert surface area globally.
3. The Atacama Desert is classified as the world's driest non-polar desert and receives lower mean annual precipitation than typical polar deserts.
4. The Sahara Desert covers a total land surface area exceeding 14 million square kilometers, making it larger than the Antarctica.

Which of the statements given above are correct?

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

Answer: (b)

Detailed Explanation:

- **Statement 1 is incorrect:** The Antarctic Desert is the largest desert in the world (14.2 million sq km), followed by the Arctic Desert as the second-largest (13.9 million sq km).
- **Statement 2 is correct:** The Carcross Desert in Canada measures only about 2.5 square kilometers. It is technically a series of northern sand dunes kept dry by rain shadow effects, commonly considered the smallest desert worldwide.
- **Statement 3 is correct:** The Atacama Desert is a hyper-arid non-polar desert. Certain weather stations there have recorded zero rainfall for decades, making its precipitation levels lower than even parts of the frozen poles.
- **Statement 4 is incorrect:** The Sahara Desert covers approximately 9.2 million square kilometers, not 14 million (which is closer to the size of Antarctica).

9. Which of the following statements with regard to unique desert dynamics is/are correct?

1. The Gobi Desert is recognized as the fastest-expanding desert in the world due to severe anthropogenic desertification and wind-driven soil erosion.

2. Although the Antarctic Desert is a hyper-arid ecosystem, its permanent ice sheet structures hold nearly 90% of Earth's liquid surface freshwater.

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

Answer: (c)

Detailed Explanation:

- **Statement 1 is correct:** The Gobi Desert is expanding rapidly (losing over 3,600 sq km of grasslands annually to desertification), a process heavily driven by climate shifts, overgrazing, and deforestation in northern China and Mongolia.
- **Statement 2 is correct:** This is a classic geographical paradox. Antarctica gets almost no new precipitation (making it a desert), but its massive accumulated, permanently frozen ice sheets contain roughly 90% of the entire planet's freshwater reserves.

10. Consider the following statements regarding the geological chronology and human-induced creation of deserts:

1. The Namib Desert in Southwestern Africa is geologically recognized as the oldest existing desert ecosystem on Earth.
2. The Sahara Desert is older than the Namib Desert, having maintained its hyper-arid status continuously for over 50 million years.
3. The Aralkum Desert is classified as the world's newest desert, having formed entirely within the modern era on the dried bed of the Aral Sea.
4. The formation of the Aralkum Desert is a natural geological event caused by tectonic uplift along the borders of Uzbekistan and Kazakhstan.

Which of the statements given above are correct?

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

Answer: (a)

Detailed Explanation:

- **Statement 1 is correct:** The Namib Desert has experienced hyper-arid conditions for at least 55 to 80 million years, making it the oldest continuous desert on Earth.
- **Statement 2 is incorrect:** The Sahara is actually much younger geologically, having transitioned to a permanent desert state roughly 2 to 3 million years ago.
- **Statement 3 is correct:** The Aralkum Desert is the youngest desert on Earth. It sits on what was once the floor of the Aral Sea, drying up rapidly from the mid-20th century onward.
- **Statement 4 is incorrect:** The Aralkum is an anthropogenic (human-caused) desert, not a natural tectonic event. It was created because Soviet-era agricultural irrigation projects diverted the feeding rivers (Amu Darya and Syr Darya), leading to an ecological disaster that dried up the sea basin.

Major Rivers of the World

1. Consider the following statements regarding the Mississippi-Missouri River system:

1. The Missouri River is structurally the longest individual river in North America and acts as a major tributary to the Mississippi River.
2. The Mississippi River originates from Lake Itasca in Minnesota, while the Missouri River rises in the Rocky Mountains.
3. The river system forms a classic arcuate delta at its mouth, similar to the Nile and Ganges river systems.
4. The Missouri River flows south and converges directly with the Mississippi River within the city boundaries of New Orleans.

Which of the statements given above are correct?

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Missouri River (3,767 km) is longer than the main stem of the Mississippi River (3,540 km), making it the longest single river in North America. It serves as the principal western tributary of the Mississippi.
- **Statement 2 is correct:** The Mississippi River begins its journey at Lake Itasca, USA. Its major tributary, the Missouri River, begins at the confluence of the Madison, Jefferson, and Gallatin rivers in the Rocky Mountains of Montana.
- **Statement 3 is incorrect:** The Mississippi-Missouri river system is famous for creating a Bird's Foot delta (digitate delta), characterized by long, finger-like distributary channels, not an arcuate delta.
- **Statement 4 is incorrect:** The Missouri River meets and empties into the Mississippi River just north of St. Louis, Missouri, not New Orleans (which lies thousands of miles downstream near the river's final exit into the Gulf of Mexico).

2. Which of the following statements with regard to the Rio Grande and Colorado Rivers is/are correct?

1. The Rio Grande River rises in the San Juan Mountains and forms the definitive international land border between the USA and Mexico.
2. The Colorado River originates in the Rocky Mountains and is the primary hydrological agent responsible for cutting the Grand Canyon.
3. The Hoover Dam, a major engineering marvel, is structurally built across the main stem of the Rio Grande River.

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Rio Grande originates in southwestern Colorado (San Juan Mountains) and flows south to form the natural international political boundary separating Texas (USA) from Mexico before draining into the Gulf of Mexico.

- **Statement 2 is correct:** The Colorado River rises in northern Colorado (Rocky Mountains). Over millions of years, its fast-flowing, sediment-heavy waters have cut deep into the Colorado Plateau to form the Grand Canyon.
- **Statement 3 is incorrect:** The Hoover Dam is located on the Colorado River (along the border between Nevada and Arizona), creating Lake Mead, not on the Rio Grande.

3. Which of the following statements with regard to the Amazon River is/are correct?

1. It stands as the longest river in the world by linear measurement.
2. It holds the largest drainage basin globally, with its waters flowing through Peru, Ecuador, Colombia, Venezuela, Bolivia, and Brazil.
3. The Rio Negro, Madeira, and Xingu rivers serve as primary major tributaries that empty directly into the Amazon stem.

Select the correct answer using the code given below:

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

Correct Answer: (b)

Explanation:

- **Statement 1 is incorrect:** The Amazon River is the largest river in the world by water volume discharge, but it is officially ranked as the second-longest river in the world, behind Africa's Nile River.
- **Statement 2 is correct:** The Amazon Basin covers roughly 7 million square kilometers, making it the largest drainage basin globally. It crosses through six sovereign South American countries as it drains the dense Amazon Rainforest.
- **Statement 3 is correct:** The Amazon is fed by over 1,100 tributaries. Its largest northern tributary is the dark-water Rio Negro, and its largest southern tributary is the Madeira, alongside the massive Xingu River near its Atlantic mouth.

4. Which of the following statements with regard to the Danube River is/are correct?

1. It is the longest river located within the continental limits of Europe.
2. It originates in the Black Forest Mountains of Germany and flows in a unique west-to-east direction to drain into the Black Sea.
3. The capital cities of Vienna, Budapest, and Belgrade are located directly along its banks.

Select the correct answer using the code given below:

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

Correct Answer: (b)

Explanation:

- **Statement 1 is incorrect:** The Danube is the second-longest river in Europe. The absolute longest river in Europe is the Volga River, which flows entirely through Russia.
- **Statement 2 is correct:** The Danube is unique among major European rivers because it cuts horizontally across the continent, flowing from its source in southwestern Germany eastward through 10 countries before emptying into the Black Sea via the Danube Delta.

- **Statement 3 is correct:** The Danube holds the record for flowing through more sovereign nations and capital cities than any other river on Earth, directly passing through Vienna, Bratislava, Budapest, and Belgrade.

5. Which of the following statements with regard to the Volga and Rhine Rivers is/are correct?

1. The Volga River rises in the Valdai Hills of Western Russia and flows south to drain into the endorheic Caspian Sea.
2. The Rhine River originates in the Swiss Alps, flows through Germany and France, and runs east to empty into the Baltic Sea.

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Volga is Europe's longest river (~3,530 km). It originates in the Valdai Hills northwest of Moscow and flows through western Russia into the Caspian Sea, an inland landlocked sea basin.
- **Statement 2 is incorrect:** The Rhine River flows primarily northward (not east) through Western Europe and empties into the North Sea at Rotterdam (Netherlands).

6. Consider the following statements regarding the Ural and Dnieper Rivers:

1. The Ural River rises in the Ural Mountains and serves as a natural, traditional geographical boundary dividing Europe and Asia.
2. The Dnieper River flows through Russia, Belarus, and Ukraine before emptying directly into the landlocked Caspian Sea.
3. Both the Ural and Dnieper rivers share the exact same headwater source location within the Valdai Hills of Western Russia.

Which of the statements given above is/are correct?

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Ural River flows through Russia and Kazakhstan, and its channel is traditionally recognized as the boundary that demarcates the European and Asian continents. It empties into the Caspian Sea.
- **Statement 2 is incorrect:** The Dnieper River drains into the Black Sea, not the Caspian Sea. It is a critical maritime transit river for Ukraine.
- **Statement 3 is incorrect:** The Dnieper rises in the Valdai Hills, but the Ural River rises far to the east in the Ural Mountains (Southern Russia).

7. Which of the following statements with regard to the Nile River is/are correct?

1. It is the longest river in the world, flowing from north to south across northeastern Africa to drain into the Mediterranean Sea.
2. The main stem of the Nile is formed by the geomorphic confluence of two primary systems: the White Nile and the Blue Nile.
3. The Nile Hydrological Basin is highly international, spanning an area that covers parts of 11 African nations.

Select the correct answer using the code given below:

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

Correct Answer: (b)

Explanation:

- **Statement 1 is incorrect:** The Nile River flows from south to north (originating in equatorial East Africa and flowing northward through Sudan and Egypt into the Mediterranean Sea).
- **Statement 2 is correct:** The Nile is fed by two main branches: the White Nile (which provides a steady base flow from Lake Victoria) and the Blue Nile (which brings seasonal floodwaters and fertile silt from the Ethiopian Highlands). They merge at Khartoum, Sudan.
- **Statement 3 is correct:** The Nile Basin is shared by 11 nations: Burundi, Rwanda, Tanzania, Uganda, Kenya, DRC, South Sudan, Sudan, Ethiopia, Eritrea, and Egypt. This shared basin makes it a key focal point for transboundary water diplomacy.

8. Which of the following statements with regard to the Congo River is/are correct?

1. It holds the definitive record as the deepest river system on Earth and is the only major global river to cross the Equator twice.
2. It originates as the Chambeshi River in Zambia and flows west to drain into the Indian Ocean along the eastern African coast.

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Congo River has measured depths exceeding 220 meters, making it the deepest recorded river in the world. Due to its massive arc shape around the Congo Basin, it crosses the Equator once flowing northward and a second time flowing southward.
- **Statement 2 is incorrect:** The Congo River flows westward across the African continent and empties into the Atlantic Ocean.

9. Consider the following statements regarding the Niger and Zambezi Rivers:

1. The Niger River originates in the Guinea Highlands, flows in a distinctive crescent path, and was historically dubbed the "Oil River" due to the colonial palm oil trade.
2. The Zambezi River is the longest east-flowing river in Africa and discharges its waters directly into the Atlantic Ocean.
3. The iconic Victoria Falls and the major Kariba and Cahora Bassa dams are all built across the course of the Zambezi River system.

Which of the statements given above are correct?

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

Correct Answer: (c)

Explanation:

- **Statement 1 is correct:** The Niger River takes an unusual crescent route, looping inland toward the Sahara Desert before turning south toward Nigeria. Its delta area was historically called the Oil Rivers because it served as a major export hub for palm oil during British colonial rule.
- **Statement 2 is incorrect:** Since the Zambezi is an east-flowing river, it empties into the Indian Ocean (along the coast of Mozambique), not the Atlantic Ocean.
- **Statement 3 is correct:** The Zambezi River houses several major geographical and engineering features, including Victoria Falls (on the Zambia-Zimbabwe border), Lake Kariba (Kariba Dam), and the Cahora Bassa Dam in Mozambique.

10. Consider the following statements regarding the Mekong and Yellow River systems:

1. The Mekong River originates on the Tibetan Plateau and flows through China, Myanmar, Laos, Thailand, Cambodia, and Vietnam.
2. The lower Mekong forms a fertile delta in Vietnam that ranks as one of the world's premier rice-producing agricultural zones.
3. The Yellow River is the absolute longest river system in China, rising from the Loess Plateau highlands.
4. The Yellow River is termed China's Sorrow because its low sediment load causes severe coastal water deficits along the Bohai Sea.

Which of the statements given above are correct?

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

Correct Answer: (a)

Explanation:

- **Statement 1 is correct:** The Mekong River has its source in the Tibetan Plateau and flows southeast through six nations, acting as a crucial regional economic lifeline for mainland Southeast Asia.
- **Statement 2 is correct:** The Mekong Delta in southern Vietnam is an incredibly flat, nutrient-rich alluvial plain. The extensive irrigation network here makes it a global hub for intensive wet-rice cultivation.
- **Statement 3 is incorrect:** The Yellow River is the second-longest river in China; the longest river in China (and all of Asia) is the Yangtze River. Additionally, the Yellow River rises in the Tibetan Plateau and later flows *through* the Loess Plateau, rather than rising directly from it.
- **Statement 4 is incorrect:** The Yellow River is called China's Sorrow because it carries an exceptionally high sediment load of fine yellow loess silt. This silt settles on the riverbed, raising the water level over time and causing catastrophic, unpredictable floods that have historically devastated the surrounding plains.

