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*Source: The Indian Edtech Story: Q1 2021 Round-Up by Markelytics.

QUESTION 1

The Great Lakes are vast inland freshwater seas that provide water for consumption, transportation, power, recreation, and a host of other uses. They are a dominant part of the physical and cultural heritage of North America. Arrange the following water bodies which constitute the 'The Great Lakes' from West to East.

1. Lake Ontario
2. Lake Superior
3. Lake Erie
4. Lake Michigan
5. Lake Huron

Select the correct answer from the code given below.

a) 2-3-4-5-1 c) 1-2-3-4-5

b) 5-4-3-1-2 d) 2-4-5-3-1

Answer : d

Explanation :

- The Great Lakes are, from west to east: Superior, Michigan, Huron, Erie, and Ontario. They are a dominant part of the physical and cultural heritage of North America.
- The Great Lakes are shared between Canada and the USA spanning more than 750 miles (1,200 kilometers) from west to east, these vast inland freshwater seas provide water for consumption, transportation, power, recreation, and a host of other uses.
- The lakes drain roughly from west to east, emptying into the Atlantic Ocean through the St. Lawrence lowlands. Except for Lakes Michigan and Huron, which are hydrologically one lake, their altitudes drop with each lake, usually causing a progressively increasing rate of flow.
- Hence, option (d) is the correct answer.

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QUESTION 2

Extensive commercial grain cultivation is practised in which of the following regions?

1. Eurasian steppes
2. Canadian and American Prairies
3. Amazon Basin
4. Canterbury Plains of New Zealand

Select the correct answer using the code given below.

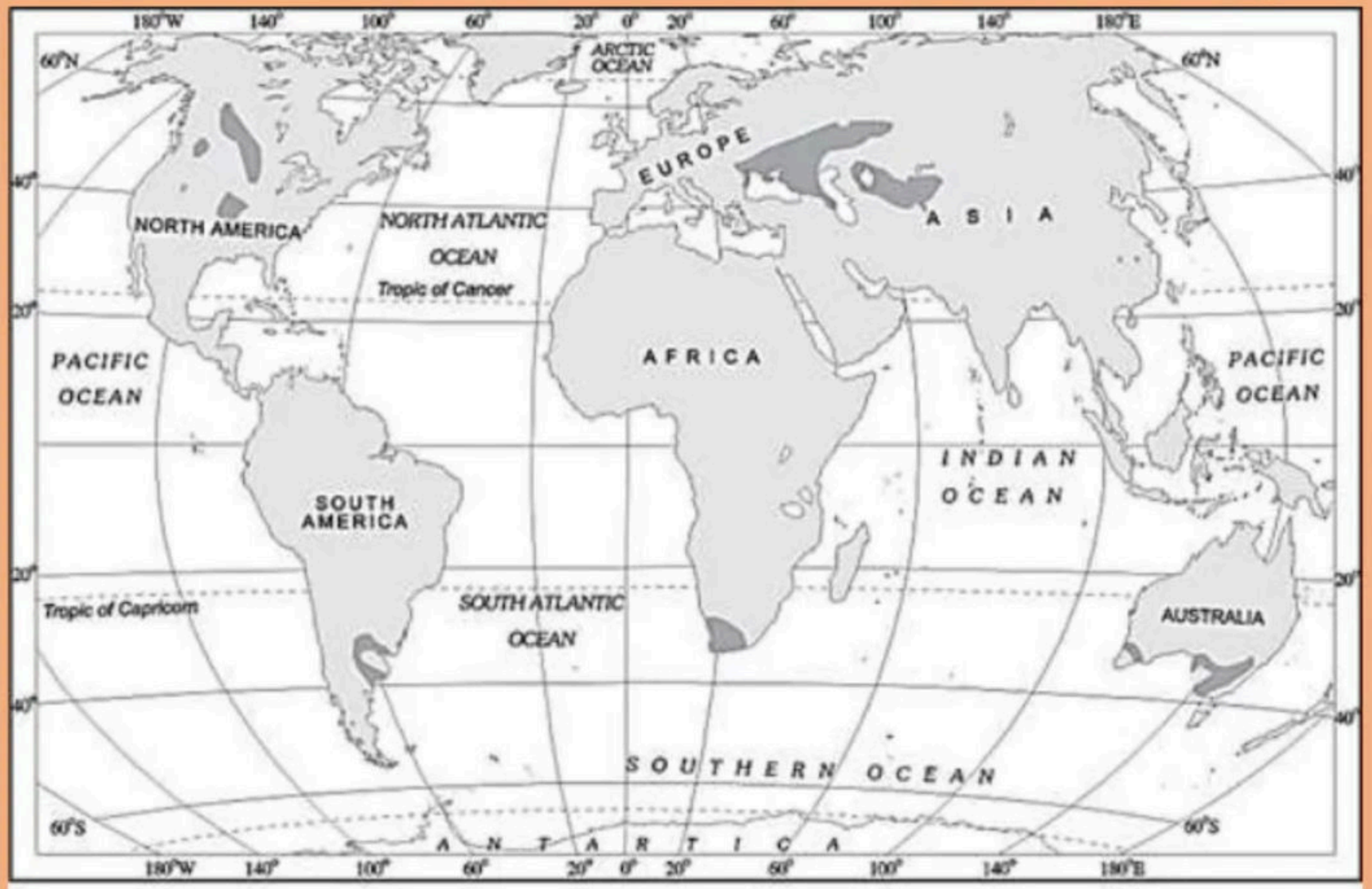
a) 1 and 2 only
b) 3 and 4 only
c) 1, 2 and 4 only
d) 1, 2 and 3 only

Answer : c

Explanation :

- Commercial grain cultivation is practised in the interior parts of semi-arid lands of the midlatitudes.
- Wheat is the principal crop, though other crops like corn, barley, oats and rye are also grown.
- The size of the farm is very large, therefore entire operations of cultivation from ploughing to harvesting are mechanised. There is low yield per acre but high yield per person.
- This type of agriculture is best developed in Eurasian steppes, the Canadian and American Prairies, the Pampas of Argentina, the Velds of South Africa, the Australian Downs and the Canterbury Plains of New Zealand.

Areas of Extensive Commercial Grain Farming



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QUESTION 3

Arrange the following group of Islands of the Indian ocean in order of increasing distance from Cape Comorin.

1. Reunion Islands
2. Chagos Archipelago
3. Cocos (Keeling) Islands
4. St. Paul Islands

Select the correct answer from the code given below.

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

Answer : b

Explanation :

- The Chagos Archipelago is a group of seven atolls comprising more than 60 islands in the Indian Ocean.
- This chain of islands is the southernmost archipelago of the Chagos-Laccadive Ridge, a long submarine mountain range in the Indian Ocean.
- The Territory of Cocos (Keeling) Islands is an Australian external territory in the Indian Ocean, comprising a small archipelago approximately midway between Australia and Sri Lanka and relatively close to the Indonesian island of Sumatra.

- Reunion Islands is a French overseas région. It is located in the western Indian Ocean about 680 km east of Madagascar and 180 km southwest of Mauritius. Of volcanic origin, Réunion consists mostly of rugged mountains in an advanced state of dissection by short torrential rivers.
- Saint Paul Island is an island forming part of the French Southern and Antarctic Lands in the Indian Ocean, with an area of 6 square kilometers. It is an important breeding site for seabirds. A scientific research cabin on the island is used for scientific or ecological short campaigns, but there is no permanent population. It is under the authority of a senior administrator on Réunion.
- Hence option (b) is the correct answer.



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QUESTION 4

Western Himalayan ecoregion is drier and the forest is more fragmented than its Eastern Himalayan broadleaf forests counterpart because

1. Eastern Himalayas receives more moisture from the Bay of Bengal monsoon.
2. Eastern Himalayas is at a higher average elevation than Western Himalayas.

Which of the above is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) None

Answer : a

Explanation :

- Statement 1: Western region is drier as Monsoon winds become moisture-less on reaching the western sides of the sub-continent.
- Statement 2: Elevation is not the reason, since eastern Himalayas too has very high peaks up to nearly 7000 metres.
- Moreover, at lower elevations, Western ecoregion grades into Himalayan subtropical pine forests. At higher elevations, it grades into Western Himalayan subalpine conifer forests as well as North-western Himalayan alpine shrub and meadows and Western Himalayan alpine shrub and meadows.

QUESTION 5

Consider the following statements about mountain ranges of India.

1. The Vindhyas are an unbroken continuous chain of mountain anticlinal ridges.
2. The Aravalli range are the oldest fold mountains in India rising upwards at a faster than Himalayas due to tectonic instability.

Which of the above is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) None

Answer : d

Explanation :

- Statement 1: The Vindhyas do not form a single range in the proper geological sense: the hills collectively known as the Vindhyas do not lie along an anticlinal or synclinal ridge.
- The Vindhya range is actually a group of discontinuous chain of mountain ridges, hill ranges, highlands and plateau escarpments. The term ‘Vindhyas’ is defined by convention, and therefore, the exact definition of the Vindhya range has varied at different times in history.
- Statement 2: old Fold Mountains are characterized by having stopped growing higher due to the cessation of upward thrust caused by the stopping of movement of the tectonic plates in the Earth's crust below them.

- In ancient times they were extremely high but since have worn down almost completely by millions of years of weathering. In contrast, the Himalayas are continuously rising young fold mountains of today.

QUESTION 6

Which of the following cities are famous industrial centres for leather and leather products, in India?

1. Kolkata
2. Kanpur
3. Agra
4. Ranipet

Select the correct answer using the code given below.

1. 1, 3 and 4 only
2. 1, 2 and 3 only
3. 2 and 4 only
4. 1, 2, 3 and 4

Answer : d

Explanation :

- The leather industry in India is geographically well diversified, though Tamil Nadu, Uttar Pradesh and West Bengal account for bulk of the output.
- The major production centres for leather and leather products are located at Chennai, Ambur, Ranipet, Vaniyambadi, Trichi, Dindigul in Tamil Nadu, Kolkata in West Bengal, Kanpur, Agra and Noida in Uttar Pradesh, Jalandhar in Punjab, Bahadurgarh and Manesar in Haryana,Bangalore in Karnataka, Delhi and Hyderabad in Andhra Pradesh. The sector is dominated by micro and small units with bigger units accounting for just around 5 per cent of the total manufacturing units.

QUESTION 7

With reference to Delhi Ridge, consider the following statements.

1. It is a northern extension of the ancient Aravalli Range.
2. It protects Delhi from the hot winds of the deserts of Rajasthan to the west.
3. It hosts significant bird bio-diversity.

Select the correct answer using the codes below.

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

Answer : d

Explanation :

- It is a ridge in the National Capital Territory of Delhi in India.
- The ridge is a northern extension of the ancient Aravalli Range, some 1500 million years old (compared to just 50 million for the Himalaya).
- The ridge consists of quartzite rocks and extends from the Southeast at Tughlaqabad, near the Bhatti mines, branching out in places and tapering off in the north near Wazirabad on the west bank of the river Yamuna, covering a distance of about 35 kilometres.
- The Delhi Ridge is said to be the green lungs for the city and protects Delhi from the hot winds of the deserts of Rajasthan to the west. It is also responsible for earning Delhi the tag of the world's second most bird-rich capital city, after Kenya's Nairobi.


Delhi
Yamuna
River
Ridge

QUESTION 8

The major tributaries of Mahanadi are

1. Gandak
2. Son
3. Seonath
4. Ong

Select the correct answer using the codes below.

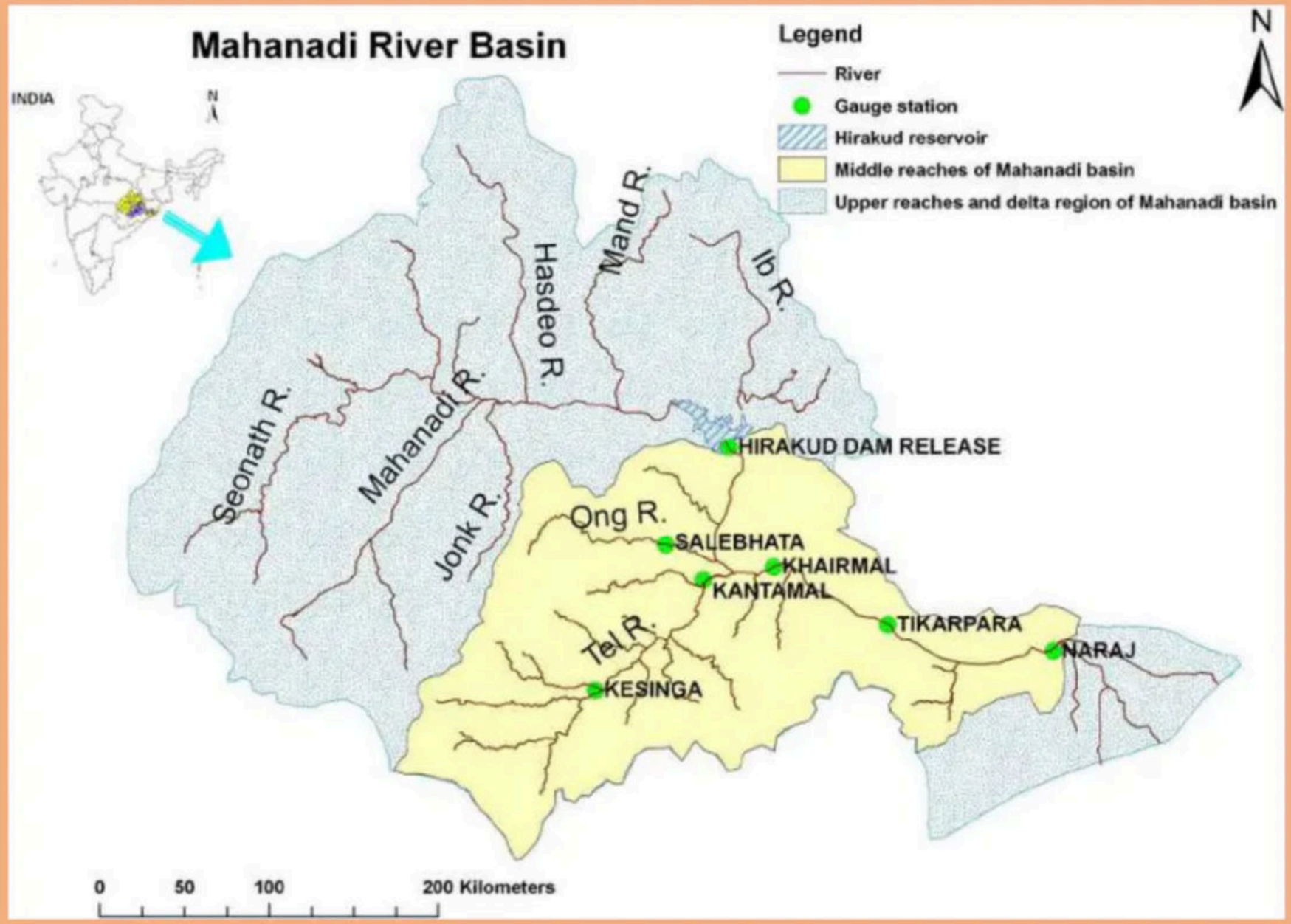
a) 1, 2 and 3 only
b) 2, 3 and 4 only
c) 3 and 4 only
d) 1 and 2 only

Answer: c

Explanation :

- The Mahanadi River is a river of eastern India. The Mahanadi rises in the Satpura Range of central India, and flows east to the Bay of Bengal.
- The major tributaries of Mahanadi are Seonath, Jonk, Hasdo, Mand, Ib, Ong, Tel etc.
- Mahanadi is one of the largest Indian peninsular rivers that drains into the Bay of Bengal. The 857 km long river originates in Raipur district of the central Indian state of Madhya Pradesh and flows through the eastern state of Orissa before meeting the sea.
- Odisha government has launched Green Mahanadi Mission. Under the mission, a total of two crore saplings will be planted on the banks of the Mahanadi.

- The Green Mahanadi Mission envisages rejuvenating Mahanadi river and its tributaries Tel and Ib by increasing recharging capacity through massive plantation.
- Under the mission, a green belt with width of 1 km will be created on both sides of the river beginning from the place, where the river enters Odisha to Paradip, where it merges with the Bay of Bengal.



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QUESTION 9

Arrange the following soils in the ascending order of their availability in India:

1. Alluvial Soils
2. Arid Soils
3. Black Soils
4. Laterite Soils

Select the correct answer using the code given below.

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

Answer : d

Explanation :

- Alluvial soils are widespread in the northern plains and the river valleys. These soils cover about 40 percent of the total area of the country.
- Black soil covers most of the Deccan Plateau which includes parts of Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh, and some parts of Tamil Nadu. They cover around 16 percent of the total area of the country.
- Arid soils are characteristically developed in western Rajasthan, which exhibits characteristic arid topography. They cover around 4.42 percent of the total area of the country.

- The laterite soils develop in areas with high temperatures and high rainfall. The laterite soils are commonly found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh, and the hilly areas of Odisha and Assam. They cover around 3.40 percent of the total area of the country.
- Hence the correct sequence is 1 - 3 - 2 - 4

QUESTION 10

Consider the following statements.

1. Gangotri glacier, the primary source of the Ganges, is situated in Garhwal Himalayas.
2. Gangotri Glacier lies between 25° N to 26° N latitudes.

Which of the above is/are correct?

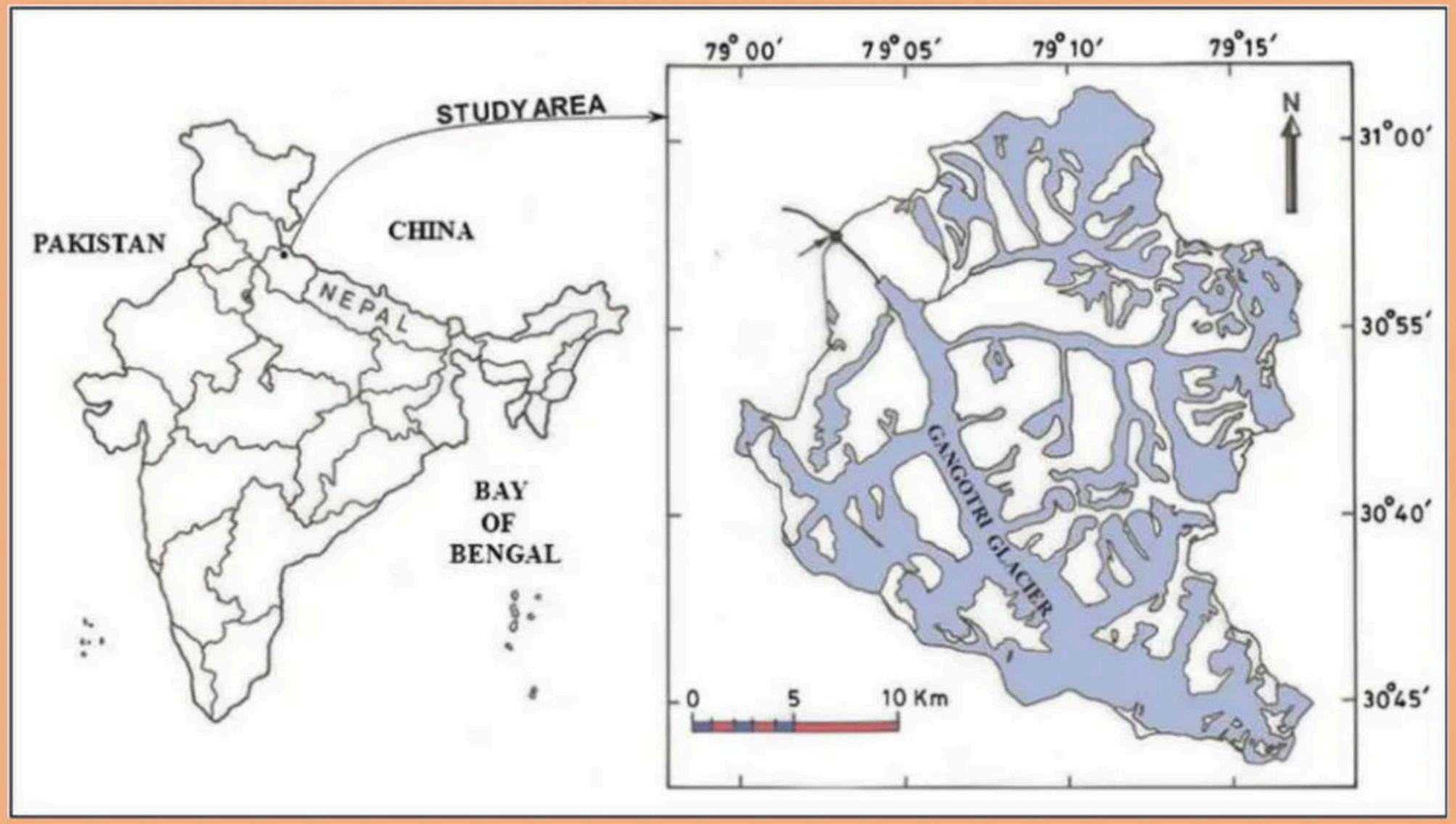
a) 1 only
b) 2 only
c) Both 1 and 2
d) None

Answer : a

Explanation :

- S2: A latitude passing 25 degrees N would pass through the states of Rajasthan or Gujarat, and not touch the Northern hilly states of India.
- S1: Gangotri glacier perched in the magnificent Garhwal Himalayas is situated in the Uttarkashi district of Uttarakhand. This glacier originates at the northern slope of Chaukhamba range of peaks.
- This glacier serves as a vital source of Ganga river and is the largest glacier in the Himalayas, having an estimated volume of about 27 cubic km. This glacier lies between 30°43’22” - 30°55’49” latitude and 79°4’41” - 79°16’34” longitude, extending in height from 4120 to 7000 m.a.s.l.

- The total ice cover of Gangotri glacier is approximately 200 km and has about 20 km of ice in volume.
- This glacier is about 30 km long and about 2 to 4 km wide. The Gangotri glacier is surrounded by majestic peaks of Gangotri Group - Thalay Sagar, Maru and Bhagirathi III.



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QUESTION 11

Which of the following statements is not correct with respect to the inversion of temperature?

a) Long winter nights aided by mountainous topography and clear skies is ideal situation for temperature inversion.

b) Inversion of temperature restricts convective clouds to not grow high enough for rainfall to take place.

c) Polar areas rarely witness temperature inversion due to lower temperatures.

d) The inversion of temperature protects plants from frost damages.

Answer : c

Explanation :

- Normally, temperature decreases with increase in elevation. It is called normal lapse rate. At times, the situations is reversed and the normal lapse rate is inverted. It is called Inversion of temperature.
- A long winter night with clear skies and still air is ideal situation for inversion. The heat of the day is radiated off during the night, and by early morning hours, the earth is cooler than the air above.
- Over polar areas, temperature inversion is normal throughout the year. Hence option (c) is the correct answer.

- Prominent effects of temperature inversion include –

❖ Increased air pollution and reduced visibility: Inversion prevents movement of smoke, dust particles and other pollutants and keeps them trapped in the lower layer of the atmosphere. The resulting smog like conditions cause breathing problems along with reduced visibility.

❖ Reduced precipitation: Due to stability in the lower atmospheric layers and resultant lack of vertical movement of moist air, convective clouds do not grow high enough for rainfall to take place.

❖ The inversion takes place in hills and mountains due to air drainage. Cold air at the hills and mountains, produced during night, flows under the influence of gravity.

- Being heavy and dense, the cold air acts almost like water and moves down the slope to pile up deeply in pockets and valley bottoms with warm air above. This is called air drainage. It protects plants from frost damages.

QUESTION 12

Consider the following statements regarding Chalk streams:

1. They are rivers that rise from springs in landscapes with limestone bedrock.
2. They allow aquatic and terrestrial species to share one habitat at the same time.
3. The majority of the world's precious and unique chalk streams are found in England.

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

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

Answer : d

Explanation :

- England’s chalk streams support a wide variety of biodiversity; but anthropogenic pressures are destroying these icons of English culture.

Chalk Streams

- These streams occur only where chalk bedrock meets the Earth’s surface, making them globally rare.
- Their stable, cool, nutrient-rich waters allow chalk streams to support an exceptionally high number of species — so much so that these habitats are sometimes described as ‘England’s rainforests’.
- Elusive mammals, including otters and water voles, sometimes swim alongside lush beds of submerged plants, such as water crowfoot, whose flowers are held expectantly above the water’s surface, attracting bees and other pollinating insects in summer.

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- In their headwaters, these streams can naturally disappear during the summer, leaving their channels dry.
- Their waters reappear in winter and so the streams are known locally as winterbournes.
- As these streams naturally shift between wet and dry conditions, they allow aquatic and terrestrial species to share one habitat at different times.

Why are chalk streams special?

- Rainwater drains deep into the chalk landscape of southern and eastern England, forming underground aquifers.
- Filtered by the chalk, the groundwater springs forth in gin-clear, nutrient-rich streams which support photosynthetic plants and microorganisms — the fuel for food webs that feed everything from grazing insects to predatory fish, birds and mammals.

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QUESTION 13

There are certain conditions required for the formation and growth of deltas by rivers. In this context which of the following are favourable conditions for delta formation?

1. Shallow sea at the mouth of the river
2. Long river
3. High erosion in the catchment area of the river

Select the correct answer using the code given below.

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

Answer : d

Explanation :

- Deltas are landforms formed at the mouth of a river, where the river meets a body of water such as sea, lake, ocean and are roughly triangular in shape. Deltas range from few square kilometres to thousands of square kilometres. Ganga Delta is the largest delta in the world.
- The ideal conditions for the formation of a delta are:

➢ Shallow sea

❖ A deep-sea may result in the sediments getting deposited into the bottom of the sea and weaken the delta formation.

➢ Long River

❖ The longer the river more is the possibility of the river bringing more sediments from its catchment areas and depositing them near the mouth of the river.

- High erosion in the catchment area of the river
- More erosion brings more sediments into the river stream which helps in delta formation.
- Medium size of the sediments
- If the sediments are small then they would be carried into the sea in suspension and if the sediments are large they would soon settle at the bottom of the sea resulting in no delta formation.
- Calm sea at the mouth of the river so that ocean currents do not carry away the sediments by the river.
- Stable condition of sea coast with no submergence or emergence due to tectonic activity.

• Hence, option (d) is the correct answer.

QUESTION 14

Consider the following statements regarding the Aravali Mountain Ranges:

1. They are the oldest fault block mountain systems of the world.
2. Pipli Ghat, Dewait and Desuri are the mountain passes situated in the aravali mountain ranges.
3. It runs parallel to the Narmada Valley in an east-west direction.

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

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

Answer : c

Explanation :

Aravali Mountain Range

- They run between Delhi and Palanpur in Gujarat for about 800kms.
- They are aligned in north-east to south-west direction.
- They are the one of the oldest fold mountains of the world and the oldest in India.
- They continue up to Hariddwar buried under the alluvium of Ganga Plains.
- It is believed that one branch of the Aravalis extends to the Lakshadweep Archipelago through the Gulf of Khambhat and the other into Andhra Pradesh and Karnataka.
- At the south-west extremity the range rises to over 1,000m.

- Here Mt.Abu is separated from the main range by the valley of the Banas.
- Guru Sikhar (1,772 m) is the highest peak in the aravali mountain range and is situated in Mt.Abu.
- Pipli Ghat, Dewair and Desuri passes allow movement by roads and railways.



QUESTION 15

The Narmada River flows to the west, while most other large peninsular rivers flow to the east. Why?

1. It occupies a linear rift valley.
2. It flows between the Vindhyas and the Satpuras.
3. The land slopes to the west from Central India.

Select the correct answer using the codes given below.

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

Answer : a

Explanation :

- The Narmada originates on the western flank of the Amarkantak plateau at a height of about 1,057 m. Flowing in a rift valley between the Satpura in the south and the Vindhyan range in the north, it forms a picturesque gorge in marble rocks and Dhuandhar waterfall near Jabalpur. After flowing a distance of about 1,312 km, it meets the Arabian sea south of Bharuch, forming a broad 27 km long estuary. Its catchment area is about 98,796 sq. km. The Sardar Sarovar Project has been constructed on this river.
- Statement 2 is correct but it is not the reason for Narmada river to flow to the west.

- **Statement 3 is wrong. The general elevation of the Central Highlands ranges between 700- 1,000 m above the mean sea level and it slopes towards the north and north-eastern directions.**



QUESTION 16

Consider the following pairs:

Relief features	Description
1. Guyots :	Mountain with pointed summits
2. Seamounts :	Flat-topped submerged mountains
3. Atoll :	Low ring-shaped island found in tropical ocean

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

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

Answer : b

Explanation :

- Seamounts are mountains with pointed peaks, mounting from the seafloor, and that does not reach the surface of the ocean. They are volcanic in origin. Seamounts can be 3,000-4,500 m tall. An extension of the Hawaiian Islands in the Pacific Ocean which is known as The Emperor seamount is an example of the seamount. Hence pair 2 is not correctly matched
- Guyot is a flat-topped seamount. It is also known as a table mount. They show evidence of slow subsidence through stages to become flat-topped submerged mountains. It is expected that more than 10,000 guyots and seamounts occur in the Pacific Ocean only. Hence pair 1 is not correctly matched.

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- Atoll is a ring-shaped coral reef containing a coral rim that encompasses a lagoon incompletely or completely. These are low islands found in the tropical oceans. It may be a part of the sea (lagoon), or occasionally form encircling a body of brackish, fresh, or highly saline water. Hence pair 3 is correctly matched.
- Oceanic Trenches: These areas are the deepest parts of the oceans. The trenches are relatively steep- sided, narrow basins. They are some 3-5 km deeper than the surrounding ocean floor. They occur at the bases of continental slopes and along island arcs and are associated with active volcanoes and strong earthquakes. That is why they are very significant in the study of plate movements. As many as 57 deeps have been explored so far; of which 32 are in the Pacific Ocean; 19 in the Atlantic Ocean and 6 in the Indian Ocean.
- Hence option (b) is the correct answer

QUESTION 17

Consider the following statements regarding the Anamalai Tiger Reserve:

1. It is located to the eastern side of the Palghat gap on the Western Ghats.
2. The Kariyan Shola, Grass hills and Manjampatti of Anamalai Tiger Reserve has been identified as a world heritage site by the UNESCO.
3. Pulaiyars, Malasars and Eravalars are the tribal population of the Anamalai Hills.

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

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

Answer : b

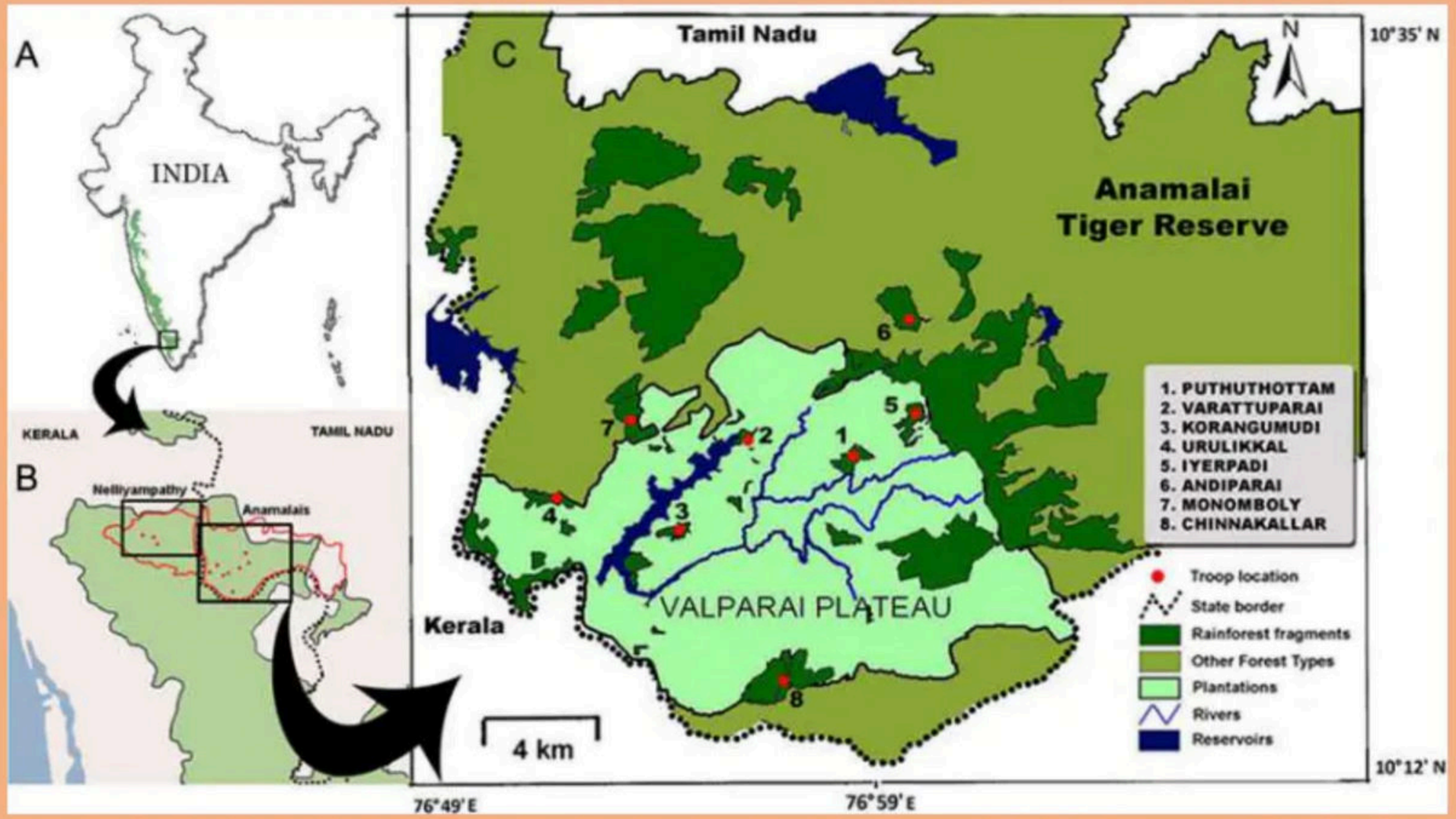
Explanation :

- Sugarcane Breeding Institute launches tribal intervention project in Anamalai Tiger Reserve.

Anamalai Tiger Reserve

- ❖ Aanaimalai Tiger Reserve, earlier known as Indira Gandhi Wildlife Sanctuary and National Park (IGWLS&NP) and previously as Aanaimalai Wildlife Sanctuary, is a protected area located in the Anaimalai Hills of Tamil Nadu, India.
- ❖ It was declared tiger reserve in the year 2007.
- ❖ It is located to the South of Palakkad gap in the Southern Western Ghats.
- ❖ It is surrounded by Parambikulum Tiger Reserve on the East, Chinnar Wildlife Sanctuary and Eravikulum National Park on the South Western side.

- The reserve is also surrounded by Nenmara, Vazhachal, Malayattur and Marayur reserved forests of Kerala.
- The Kariyan Shola, Grass hills and Manjampatti of Anamalai Tiger Reserve has been identified as world heritage site by the UNESCO.
- The IGWS has significant anthropological diversity with more than 4600 Adivasi people from six tribes of indigenous people living in 34 settlements.
- The tribes are the Kadars, Malasars, Malaimalasar s, Pulaiyars, Muduvars and the Eravallan (Eravalar).
- The Anamalai Tiger Reserve falls within the Western Ghats mountain chain of South West India, a region designated as one of 25 Global Biodiversity Hotspots.



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QUESTION 18

Consider the following statements:

1. The Mahakali treaty was signed between India and Bhutan and it corresponds to sharing of water from the Mahakali river.
2. The Mahakali river joins the Ghagra river in Uttar Pradesh, which is a tributary of Ganga.
3. The Tanakpur, Chameliya and Shard Barrage projects are carried out on the river.

Which of the above statement(s) is/are incorrect?

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

Answer : a

Explanation :

- Cabinet approves MoU between India and Nepal for construction of bridge over Mahakali River at Dharchula (India) – Dharchula (Nepal).

Mahakali River

- The Sharda River, also called Kali River and Mahakali River, originates at Kalapani in the Himalayas at an elevation of 3,600 m (11,800 ft) in the Pithoragarh district in Uttarakhand, India.
- It flows along Nepal's western border with India and has a basin area.
- It joins Ghaghra River, a tributary of the Ganges.
- It takes the name Kali River from the union of the two streams at Gunji as it flows through the hills.

- After Brahmadev Mandi near Tanakpur, it enters the Terai plains, where it is called Sharda River.
- River Projects: Tanakpur hydro-electric project, Chameliya hydro-electric project, Sharda Barrage.



QUESTION 19

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

1. It is a large shallow bay in the Indian ocean.
2. Ramsethu or Adam's Bridge separates the Gulf of Mannar from Palk Bay.
3. The dugong (sea cow) can be found here.

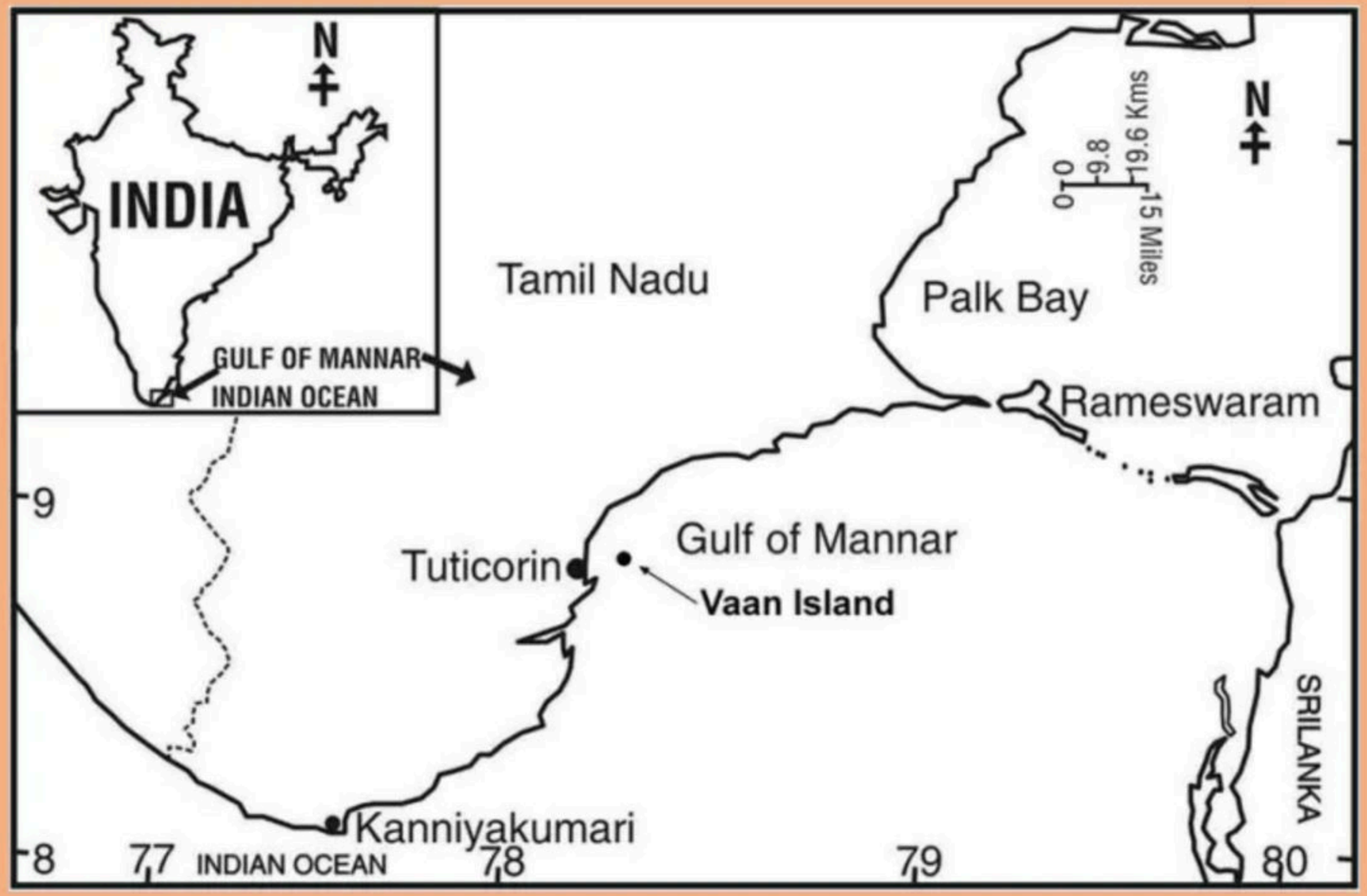
Select the correct answer using the codes below.

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

Answer: d

Explanation :

- The Gulf of Mannar is a large shallow bay forming part of the Laccadive Sea in the Indian Ocean. It lies between the southeastern tip of India and the west coast of Sri Lanka, in the Coromandel Coast region.
- The chain of low islands and reefs known as Ramsethu, also called Adam's Bridge, which includes Mannar Island, separates the Gulf of Mannar from Palk Bay, which lies to the north between India and Sri Lanka. The Palk Strait connects the Bay of Bengal in the northeast with Palk BAY in the southwest.
- The estuaries of Thamirabarani River and Vaipar River of South India and the Malvathu Oya (Malvathu River) of Sri Lanka drain into the Gulf. The dugong (sea cow), a critically endangered species, is found here.



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QUESTION 20

Consider the following statements regarding Monsoon Trough:

1. It is an elongated low-pressure area that extends from Pakistan to the Bay of Bengal.
2. Its northward migration results in an active monsoon all over 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

Answer : a

Explanation :

- Monsoon Trough is an elongated low-pressure area that extends from heat low over Pakistan to Head Bay of Bengal. Hence statement 1 is correct.
- This is one of the semi-permanent feature of monsoon circulation.
- Monsoon trough may be a characteristic of the east-west orientation of Himalayan ranges and the north-south orientation of Khasi-Jaintia Hills.
- Generally, eastern side of the monsoon trough oscillates, sometimes southwards and sometimes northwards.

- Southward migration results in active/vigorous monsoon over a major part of India. Hence statement 2 is not correct.
- In contrast, the northward migration of this trough leads to break monsoon conditions over a major part of India and heavy rains along the foothills of Himalayas and sometimes floods in the Brahmaputra river.

QUESTION 21

The largest fresh water lake in India was formed as a result of

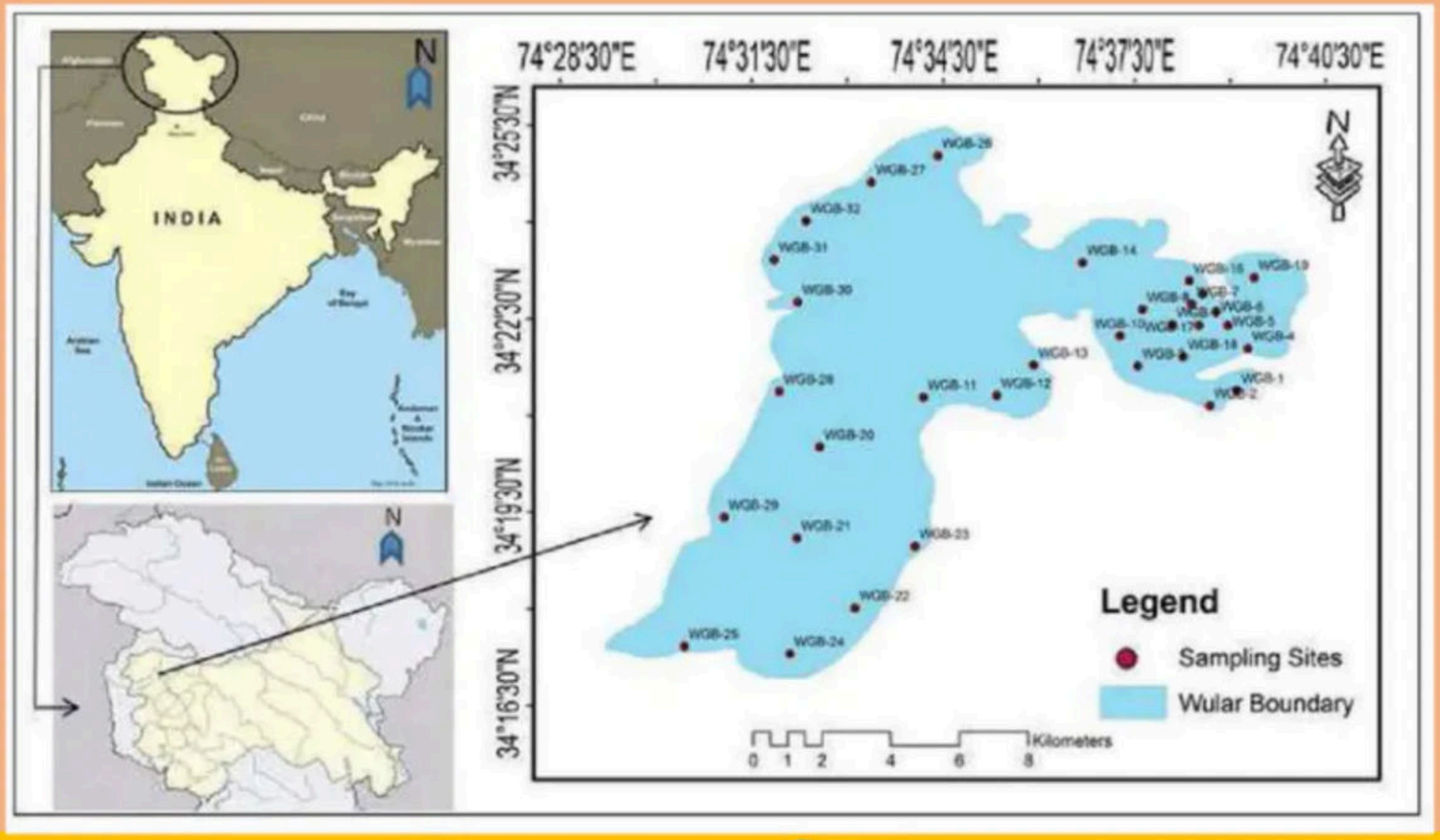
a) Glacial activity
b) Tectonic activity
c) Meandering of rivers – Ox bow lake
d) Damming of local rivers

Answer: b

Explanation :

- Wular Lake, located in Bandipore district of Jammu and Kashmir, is the largest fresh water lake of India.
- The lake basin was formed as a result of tectonic activity and is fed by the Jhelum River. The lake's size varies seasonally from 12 to 100 square miles (30 to 260 square kilometers). In addition, much of the lake has been drained as a result of willow plantations being built on the shore in the 1950s.
- The lake is one of the 26 Indian wetlands designated as a Ramsar site. However it faces environmental threats including the conversion of large parts of the lake's catchment areas into agriculture land, pollution from fertilizers and animal wastes, hunting of waterfowl and migratory birds, and weed infestation in the lake itself.

Wular Lake



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QUESTION 22

Consider the following pairs:

Type of forestry	Includes
1. Rural Forestry	: Growing trees on community lands in village areas
2. Farm Forestry	: Growing trees in farmlands for commercial and non- commercial purposes
3. Agro- Forestry	: Growing trees and agriculture crops on the same land

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

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

Answer : d

Explanation :

- The National Commission on Agriculture (1976) has classified social forestry into three categories.
- These are Urban forestry, Rural forestry, and Farm forestry.
- Urban forestry pertains to the raising and management of trees on public and privately owned lands in and around urban centers such as green belts, parks, roadside avenues, industrial and commercial green belts, etc.
- Rural forestry lays emphasis on the promotion of agro-forestry and community-forestry.
- Agro-forestry is the raising of trees and agriculture crops on the same land inclusive of the waste patches. It combines forestry with agriculture, thus, altering the simultaneous production of food, fodder, fuel, timber, and fruit. Hence pair 3 is correctly matched.

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- Community forestry involves the raising of trees on public or community land such as the village pasture and temple land, roadside, canal bank, strips along railway lines, and schools, etc. Hence pair 2 is correctly matched.
- Farm forestry is a term applied to the process under which farmers grow trees for commercial and non-commercial purposes on their farmlands. Hence pair 1 is correctly matched.
- Hence option (d) is the correct answer.

QUESTION 23

In the context of an earthquake, consider the following statements regarding body waves and surface waves:

1. Body waves are generated at the focus and move in all directions.
2. Surface waves are more destructive than body waves.
3. The velocity of waves is higher denser material.

Which of the statements given above are correct?

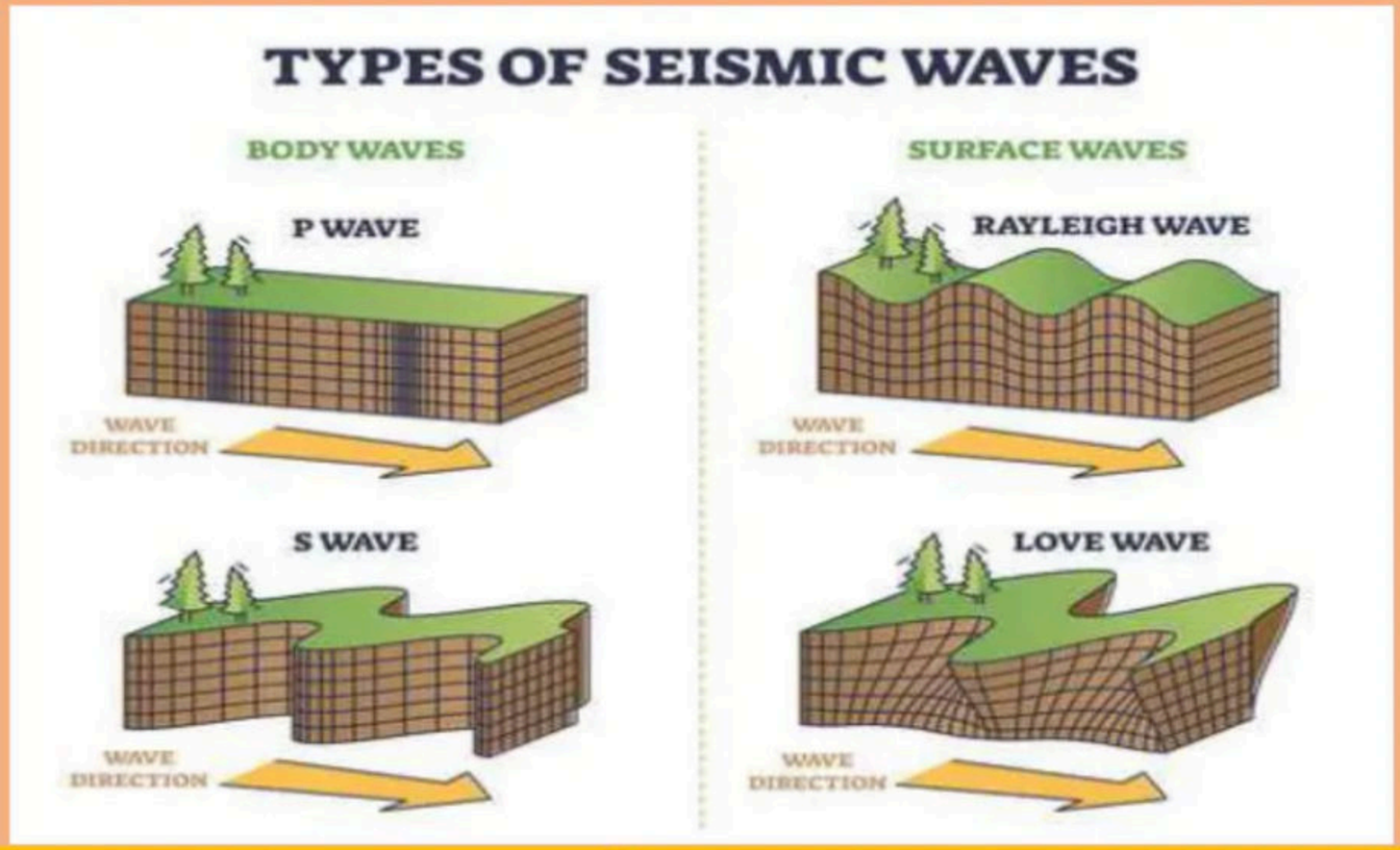
a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3

Answer : d

Explanation :

- Earthquake waves are basically of two types - body waves and surface waves. Body waves are generated due to the release of energy at the focus and move in all directions traveling through the body of the earth. Hence, the name body waves. Hence, statement 1 is correct.
- The body waves interact with the surface rocks and generate a new set of waves called surface waves.
- These waves move along the surface.
- The velocity of waves changes as they travel through materials with different densities. The denser the material, the higher is the velocity. Their direction also changes as they reflect or refract when coming across materials with different densities. Hence, statement 3 is correct.

- The Surface waves are the last to report on a seismograph. These waves are more destructive as compared to body waves. They cause displacement of rocks, and hence, the collapse of structures occurs. Hence statement 2 is correct.



QUESTION 24

The Arakan Hills deflect a big portion of the Bay of Bengal branch of Monsoon towards the Indian subcontinent. These hills lie

a) On the borders of Meghalaya and Bangladesh
b) At the Assam-Bangladesh border
c) On Tripura-Mizoram borders
d) Along the coast of Myanmar

Answer: d

Explanation :

- **The Bay of Bengal branch strikes the coast of Myanmar and part of southeast Bangladesh. But the Arakan Hills along the coast of Myanmar deflect a big portion of this branch towards the Indian subcontinent. The monsoon, therefore, enters West Bengal and Bangladesh from south and southeast instead of from the south-westerly direction.**
- **From here, this branch splits into two under the influence of the Himalayas and the thermal low is northwest India. Its one branch moves westward along the Ganga plains reaching as far as the Punjab plains.**

- The other branch moves up the Brahmaputra valley in the north and the northeast, causing widespread rains. Its sub-branch strikes the Garo and Khasi hills of Meghalaya. Mawsynram, located on the crest of Khasi hills, receives the highest average annual rainfall in the world.



QUESTION 25

Consider the following pairs:

	Valley		State
1.	Niti Valley	:	Himachal Pradesh
2.	Dzukou Valley	:	Uttarakhand
3.	Araku Valley	:	Andhra Pradesh

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

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

Answer : b

Explanation :

- Niti Valley is a remote valley located in the northernmost region of Uttarakhand at a height of 3600 meters. It is close to the Chinese border and Niti is the last village in the valley before the border with south Tibet. This region receives heavy snowfall.
- Recent Chamoli glacier burst has occurred in the Sumna area of Niti Valley.
- The Dzukou Valley is a valley located at the borders of the states of Nagaland and Manipur in Northeast India. This valley is well known for its natural environment, seasonal flowers, and flora & fauna. It is situated at an altitude of 2452 metres above sea level.

- In early 2021 this valley experienced huge forest fires for weeks.
- Araku valley is located in the Eastern Ghats about 120 kilometers from Visakhapatnam in Andhra Pradesh. The Anantagiri and Sunkarimetta Reserved Forest, which are part of Araku Valley, are rich in biodiversity and are mined for bauxite.
- Araku valley is also famous for its coffee plantations.
- Hence, option (b) is the correct answer.