

## **Solution**

1. Ans. D.

Stalactites are deposited by dripping water (calcium carbonate rich), pointing vertically downwards from the cave ceiling. The drop is formed at the ceiling by water coming down a crack, held against gravity by the surface tension of the water.

When the dripping water drop grows and eventually falls down, it again deposits some limestone at the floor and forms a stalagmite. It is very common that stalagmites and stalactites grew at the same time.

A 'Pillar' is a stalactite and a stalagmite grown together. Pillars are nothing but a later stage of stalactites and stalagmites.

2. Ans. D.

Canyons are deep, narrow passages cut through the surface of the Earth with steep cliffs on both sides. Characterized by steep step-like side slopes and maybe as deep as a gorge. Canyons are often formed in mountainous, arid, or semiarid regions where riparian erosion is much greater than erosion from general weathering.

The Grand Canyon, in the state of Arizona, is a product of tectonic uplift. It has been carved, over millions of years, as the Colorado River cuts down through the Colorado Plateau. The Grand Canyon is between 5 million and 70 million years old.

3. Ans. A.

The outer shell of the earth, the "Lithosphere", is broken up into tectonic plates. These plates are actually pieces of Earth's outer shell and are made up of the earth's crust and upper part of the mantle. These plates float on top of the hotter and more fluid "Asthenosphere", which is the layer below the lithosphere.

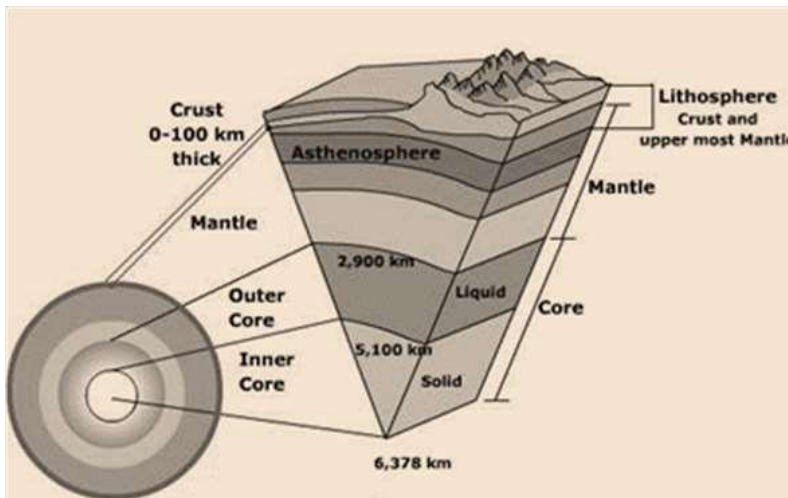
The seven major plates are:

1. African Plate
2. Antarctic plate
3. Eurasian plate
4. Indo-Australian plate
5. North American plate

6. Pacific plate
7. South American plate.

4. Ans. C.

Lithosphere is the outer solid part of the earth, including the crust and uppermost mantle. The lithosphere is about 100 km thick and depends on the age; the older lithosphere is thicker. The lithosphere is where tectonic plate action takes place since it is brittle enough at some locations to produce earthquakes by faulting, such as within a subducted oceanic plate.



5. Ans. C.

The Geographical Indication (GI) tag is granted by the Department for the Promotion of Industry and Internal Trade. In August 2019, 4 new GIs were registered.

- Palani Pancha-mirtham from Palani Town in Dindigul District of Tamil Nadu State,
- Tawlhlohpuan & Mizo Puanchei from the state of Mizoram and
- Tirur Betel leaf from Kerala.

Tirur betel vine from Kerala, which is mainly cultivated in Tirur, Tanur, Tirurangadi, Kuttippuram, Malappuram and Vengara block panchayaths of Malappuram District, is valued both for its mild stimulant action and medicinal properties. Even though it is commonly used for making pan masala for chewing, it has many medicinal, industrial and cultural usages and is considered as a remedy for bad breath and digestive disorders.

6. Ans. C.

Indian cropping season is divided into three seasons, namely- Kharif, Rabi and Zaid.

1. **Kharif-** from June to September.

Kharif crops of northern states- Rice, Bajra, Cotton, Maize, Jowar and Toor.

Kharif crop of Southern states- Ragi, Rice, Maize and groundnut.

2. **Rabi-** from October to March.

Rabi crops of northern states- Barley, Wheat, Mustard and gram.

Rabi crop of Southern states- Rice, Maize, Ragi, groundnut

3. **Zaid-** from April to June.

Zaid crops of northern states- Mainly vegetable and fruits

Zaid crop of Southern states- rice and vegetable.

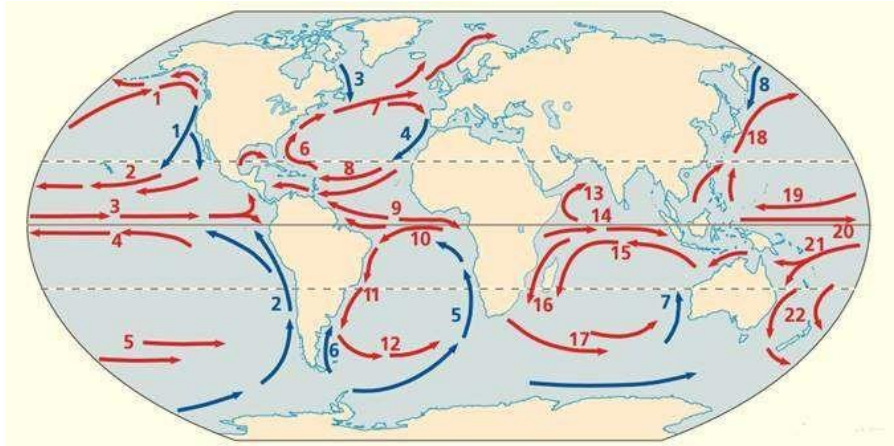
7. Ans. A.

Parallel drainage system is a pattern of rivers caused by steep slopes with some relief. Because of the steep slopes, the streams are swift and straight, with very few tributaries, and all flow in the same direction. Such drainage pattern is prominent in places where there is a pronounced slope to the surface or in regions of parallel, elongate landforms like outcropping resistant rock bands.



8. Ans. A.

Warm ocean currents flow away from the equatorial region on the western side of ocean basins whereas Cold currents flow toward the equator on the eastern side of ocean basins.



**Cold Currents -**

1. California Current
2. Humboldt Current
3. Labrador Current
4. Canaries Current
5. Benguela Current
6. Falkland Current
7. West Australian Current
8. Okhotsk Current

**Warm Currents -**

1. North Pacific Drift
2. North Equatorial Current
3. Equatorial Countercurrent
4. South Equatorial Current
5. West Wind Drift

6. Gulf Stream
7. North Atlantic Drift
8. North Equatorial Current
9. Equatorial Countercurrent
10. South Equatorial Current
11. Brazil Current
12. West Wind Drift
13. Monsoon Current
14. Equatorial Countercurrent
15. South Equatorial Current
16. Mozambique Current
17. West Wind Drift
18. Japan Current
19. North Equatorial Current
20. Equatorial Countercurrent
21. South Equatorial Current
22. East Australian Current

9. Ans. C.

The equator runs through Indonesia and splits the island territories of Sumatra, Kalimantan, Sulawesi, and Maluku.

10. Ans. D.

Organic sedimentary rocks are those containing large quantities of organic molecules. Organic sedimentary rocks are formed from the accumulation and lithification of organic debris, such as leaves, roots, and other plant or animal material. Rocks that were once swampy sediments or peat beds contain carbon and are black, soft, and fossiliferous often Rich enough in carbon to burn. An important organic sedimentary rock is coal.

Oil Shale is a rock that contains significant amounts of organic material in the form of kerogen. Up to 1/3 of the rock can be solid organic material.

Chalk is a variety of limestone composed mainly of calcium carbonate derived from the shells of tiny marine animals.

11. Ans. B.

The Köppen Climate Classification divides the Earth's climate into five main climate groups:

- A (tropical)
- B (dry)
- C (temperate)
- D (continental)
- E (polar)

The second letter indicates the seasonal precipitation type, while the third letter indicates the level of heat.

The letter code "Cfa" denotes the humid subtropical climate. In these places, the summers are hot and humid with frequent thunderstorms. The winters are comparatively mild and precipitation during this period occurs due to mid-latitude cyclones, usually in areas in and around the southeastern USA.

12. Ans. D.

The Normal or Environmental Lapse rate is rate of change in temperature observed while moving upward through the Earth's atmosphere. This varies from zone to zone and is affected by radiation, convection, and condensation. Averages

Altitude Range(Km)	Lapse Rate(°C/km)
0-11	6.5
11-20	0.0
20-32	-1.0
32-47	-2.8
<b>47-51(Upper stratopause)</b>	<b>0.0</b>
51-71	2.8
71-85	2.0

13. Ans. D.

The Ring of Fire comprises of more than 450 volcanoes, i.e. it is an active seismic and volcanic zone. It stretches for nearly around 25,000 miles, running in the shape of a horseshoe (as opposed to that of an actual ring) from the southern tip of South America, through the west coast of North America, across the Bering Strait, down to Japan and into New Zealand.

The Ring of Fire is the outcome of plate tectonics. Much of the volcanic activity happens along subduction zones which are of convergent plate boundaries where two tectonic plates combined together. The heavier plate is subducted under the other plate. When this phenomenon occurs, the melting of the plates produces the magma. The magma gets rises up through the overlying plate, resulting in erupting to the surface like a volcano. The Subduction zones are also where Earth's deepest ocean trenches are found and where the deep earthquakes happen. The trenches form because as one of the plate subducts under another; it is bent downward. Earthquakes happen as the two plates scrape against each other and as the subducting plate bends.

14. Ans. D.

Deodar forests are forests dominated with *Cedrus deodara* and are found in areas of Western Himalayas from Gandak river in central Nepal to Hindukush in Afghanistan. This type of forest is found between the altitudes of 1800 to 2600 metres.

Vegetation in the Eastern Himalayas

- Alpine vegetation belt extends between 4,000 m and 5,300 m. Rhododendrons, willows, primroses and junipers grow here. Alpine meadows with herbaceous vegetation and short duration flowers are found at the higher region.
- Coniferous Forest Belt spreads between 2,700 m and 4,000 m. The trees are silver fir, blue pine, spruce and deodar.
- Evergreen Oak Forest Belt occurs between 1,330 m and 2,700 m. Oaks, poplar, elms, laurel, maples, birches, alders, magnolia, etc. thrive.
- Tarai Forest Belt rises up to evergreen forest belt, i.e., up to 1,330 m. Here grow both the evergreen forests and deciduous forests. Deciduous trees like sal, sissoo and toon grow in abundance. Bamboos, tall grasses, orchids, balsams grow.

Vegetation in the Western Himalayas

- Trees are found at an altitude of 3,330 m. The Alpine meadows lie between 3,300 m and 5,000 m. This belt grows beautiful flowering plants, rhododendrons, sweet grasses, shrubs with cushioned leaves.

- Coniferous Forest Belt exists between 2,000 m and 3,300 m. Conifers like deodar, poplar, spruce, cedar, fir, maple, walnut, etc. are found here.
- Chirpine Belt lies at an altitude between 1,000 m and 2,000 m.
- Scrub Jungles and Dry Forest Belt extends up to 1,000m.

15. Ans. C.

The river Indravati is a tributary of the river Godavari river not of Cauvery, which is located in central India. The river gets rises in the Eastern Ghats in Odisha and flows westwards to join the Godavari. There is a famous wildlife sanctuary named Indravati National Park on its bank.

Tributaries of river Cauvery are: Amaravati, Arkavati, Bhavani, Chinnar, Hemavati, Honnuhole, Kabini, Kannika, Kollidam, Lakshmana Tirtha, Lokapavani, Noyyal, Pambar, Shimsha, Sujyothi

Left Bank tributaries: the Harangi, the Hemavati, the Shimsha and the Arkavati.

Right Bank tributaries: the Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil and the Amaravati joins from the right.

Riparian States and UTs

Karnataka, Kerala, Pondicherry, Tamil Nadu

Cauvery River Basin

The Kaveri basin is estimated to 72,000 km<sup>2</sup> with many tributaries including the Shimsha, the Hemavati, the Arkavati, Honnuhole, Lakshmana Tirtha, Kabini, Bhavani River, the Lokapavani, the Noyyal and the Amaravati River.

16. Ans. B.

Purga is a violent cold wind with drifting snow. It blows out from Siberia.

- Purga is a violent cold wind which blows in the Russian tundra region.
- Bora is a cold and dry wind which blow outwards from Hungary to the north of Italy in the upper Adriatic Sea.
- Mistral is a cold wind blows in the Rhone valley of France.
- Blizzard is wind or storm which contains large amounts of snow and blows in the Tundra region.



17. Ans. A.

A thermal power station is the power station in which heat energy is get converted to electric power. In most, a steam-driven turbine turns heat into mechanical power as an intermediate to electrical power. Water is heated, which turns into steam and drives a steam turbine which operates an electrical generator. After it let passes through the turbine, the steam gets condensed in a condenser and recycled to where it was heated. This is called as a Rankine cycle.

The power plant is used for generating power which signifies that it will consume huge quantities of the fuel. In India, majority of thermal power plants use coal as a fuel.

There should be ample space for the storage of coal, disposal of ash, the building of the power plant, and a residential colony of workers, proximity to the river, lake etc., markets, good transport and communication and so forth. Therefore, the power plant site needs to have a good amount of the land, and this land must have the good bearing capacity in order to survive the static and dynamic loads during the operation of the plant.

18. Ans. A.

Types of Precipitation/Rainfall:

Rainfall has been categorized into three main types based on the origin –

1. Convectonal Rainfall:

- The air on becoming heated becomes light and rises up in the convection currents. As the air rises, it enlarges and drops the temperature, and subsequently, condensation phenomenon takes place, and cumulus clouds get formed.
- Heavy Rainfall with thunder and lightning takes place which does not last for long.
- Such kind of rain is usually in the summer or in the hotter part of the day.
- This kind of Rainfall generally takes place in the equatorial regions and internal parts of the continents, majorly in the northern hemisphere.
- This Rainfall is generally associated with hail and graupel.

2. Orographic Rainfall:

- When the saturated air mass comes across the mountain, it is forced to get a rise. The rising air then get expands; eventually, the temperature falls, and also the moisture gets condensed.
- The principal feature of this type of rain is that the windward slopes get much Rainfall.
- After raining on the windward side, when these winds reach the other side of the slope, they then drop away, and with that their temperature increases. Then their ability to take in the moisture increases and therefore, these leeward slopes remain dry and rainless.
- The region located on the leeward side is known as the rain-shadow area.

### 3. Cyclonic Rainfall:

- Cyclonic activity results in cyclonic rain, and it occurs along the fronts of the cyclone.
- When two masses of air of the, unlike density, temperature, and humidity, combined, then it is formed.
- The layer that separates them is known as the front.
- A warm front and the cold front are the two parts of the front. At the warm front, the warm lighter wind increases slightly over the heavier cold air. As the warm air rises, it cools, and the moisture present in it condenses to form clouds.
- This rain falls gradually for a few hours to a few days.

19. Ans. A.

Roaring forties are strong westerly winds in the oceans of Southern hemisphere.

- **Westerlies Winds are often called Roaring Forties, Furious Fifties and Shrieking Sixties.**

- These winds blow from sub-tropical high-pressure belts towards the subpolar low-pressure belts.
- The westerlies are best developed between **40° and 65°S latitudes.**
- Sailors use the Roaring Forties to speed their passage across the Indian Ocean.

20. Ans. D.

**Discontinuities Inside the Earth :**

Earth's interior is made of different kinds of materials. Each of those materials is different from each other by their physical and chemical properties, such as temperature, density etc.

Unique layers are there according to their characteristics inside the Earth. All those layers are separated from each other through a transition zone. These transition zones are called *discontinuities*. There are *five* discontinuities inside the Earth.

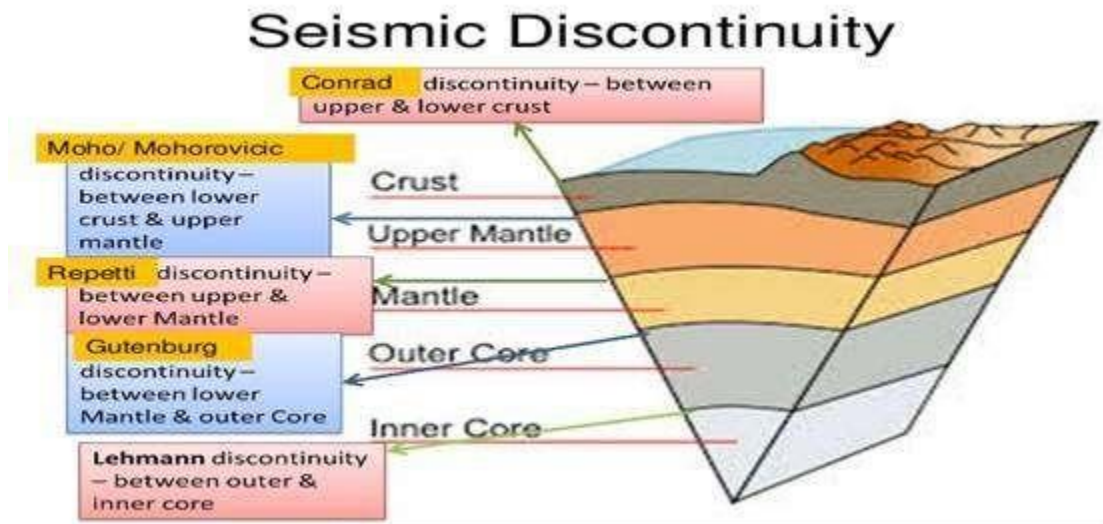
**Conrad Discontinuity:** Transition zone between SIAL and SIMA.

**Mohorovicic Discontinuity:** Transition zone between the Crust and Mantle.

**Repetti Discontinuity:** Transition zone between Outer mantle and Inner mantle.

**Gutenberg Discontinuity:** Transition zone between Mantle and Core.

**Lehmann Discontinuity:** Transition zone between Outer core and Inner core.



21. Ans. C.

**Srisailem Dam:** It is constructed across the Krishna River in Kurnool district, Andhra Pradesh and is the 2nd largest capacity working hydroelectric station of India.

**Krishna Raja Sagar Dam:** Named after Krishnaraja Wodeyar IV of Mysore, this dam is built over the River Cauvery/Kaveri; near to the conjunction of three rivers namely, Cauvery, Hemavathi & Lakshmana Thirtha. A major source of drinking water for Mysore and Bangalore city, K.R.S dam is also one of the main sources of irrigation water for Mandya and Mysore. Along with this, its major purpose is to ensure power supply to the Shivanasamudra hydroelectric power station. With a length of 3 km, this dam also boasts of being the first irrigation dam of India.

**Mettur Dam:** It is the oldest dam of India located across the Cauvery river in Salem District of Tamilnadu. It is also the largest dam of Tamilnadu. It gained public attention due to the Kaveri River water dispute between the States of Tamil Nadu and Karnataka.

22. Ans. B.

In India, the Mangrove Forests are highly developed in the Andaman and Nicobar Islands and the Sunderbans of West Bengal. Other areas of significance are the Mahanadi, the Godavari and the Krishna deltas. As per the Indian State of Forest Report, Mangrove cover in states are as follows:

- Andhra Pradesh - 404 sq km
- Gujarat - 1140 sq km
- Maharashtra - 304 sq km
- Odisha - 243 sq km
- West Bengal - 2114 sq km
- A & N Islands - 617 sq km



23. Ans. B.

• **Statement 1 is correct:**

The solar output received at the top of the atmosphere varies slightly in a year due to the variations in the distance between the Earth and the sun. During its revolution around the sun, the Earth is farthest from the sun (152 million km) on 4th July. This position of the Earth is called aphelion. On 3rd January, the Earth is the nearest to the sun (147 million km). This position is called the perihelion. Therefore, the annual insolation received by the Earth on 3rd January is slightly more than the amount received on 4th July. However, the effect of this variation in the solar output is masked by other factors like the distribution of land and sea and the atmospheric circulation.



• **Statement 2 is correct:**

The insolation received at the surface varies from about 320 Watt/m<sup>2</sup> in the tropics to about 70 Watt/m<sup>2</sup> in the poles. Maximum insolation is received over the subtropical deserts, where the cloudiness is the least. The Equator receives comparatively less insolation than the tropics.

• **Statement 3 is not correct:**

Generally, at the same latitude, the insolation is more over the continent than over the oceans. In winter, the middle and higher latitudes receive less radiation than in summer.

24. Ans. C.

The given National Parks Corbett, Sariska, Simlipal and Periyar, are located at Uttarakhand,

Rajasthan, Odisha and Kerala, respectively.

- Some of the major animal species found in Corbett are tigers, elephants, crocodile, Deer, Para or Hog Deer, Sambar, Kakar or Barking Deer, Leopards, Langurs, Wild boars, Gharials, etc.
- Sariska Park is home to numerous carnivores including Leopard, Wild Dog, Jungle Cat, Hyena, Jackal, and Tiger. These feed on an abundance of prey species such as Sambar, Chital, Nilgai, Chausingha, Wild Boar and Langur.
- Simlipal is home to Tiger, Elephant, Indian bison, Chausingha etc. This Reserve is part of the UNESCO World Network of Biosphere Reserve since 2009. Simlipal Tiger Reserve is famous for best care of tigers in India.
- Apart from Elephants, the other animals can be found in the Periyar Sanctuary are Wild Pigs, Sambar, Gaur, Mouse Deer, Dole or Barking Deer, Indian Wild Dog and Tiger. There are, now estimated counts of 40 tigers in the Periyar National Park.

25. Ans. D.

Coffee plantation in India needs a hot and humid climate having a temperature between 15<sup>0</sup>c to 28<sup>0</sup> C. It requires rainfall between 150 to 250 cm.

The ideal soil for coffee plantation is rolling surface and which is easily workable.

Karnataka is a leading producer for coffee plantation in India. The state almost contributes 70% of Coffee plantation in India.

26. Ans. A.

- Amw-मानस छोटे शुष्क मौसम के साथ गोवा के दक्षिण तक भारत के पश्चिमी तट को कवर करता है

- Cwg- शुष्कसदियोंकेसाथमानस मेंगंगाकामैदान, प ीराजस्थान, उत्तरीमध्यप्रदेश, उत्तर-प िभारतकेअधिकांशभागशामलहैं
- As- शुष्क ोंमें तममलनाडु के कोरोमंडल तट को कवर करता है।  
गममय मानस
- Dfc- मानसमेंकमगमीकेसाथठंडी, उमसभरीसदीअरुणािलिप्रदेश और आस-पासके िलो को कवर करती है।

27. Ans. A.

Dudhwa: The Dudhwa National Park is a national park in the Terai belt of marshy grasslands of northern Uttar Pradesh, India.

Bhitarkanika: Description Bhitarkanika Mangroves is a mangrove wetland and tiger reserve in Odisha, India, covering an area of 650 km in the Brahmani and Baitarani river deltas.

Chilka: Chilka Lake is Asia's largest salted water lake located in Orissa, India and also known as Chilka Lake Bird Sanctuary.

Nokrek: Nokrek National Park, the core area of Nokrek Biosphere Reserve, is a national park located approximately 2 km from Tura Peak in West Garo Hills district of Meghalaya, India. UNESCO added this National park to its list of Biosphere Reserves in May 2009.

28. Ans. B.

- Chandra Prabha - Uttar Pradesh
- Silent Valley - Kerala
- Valley of flowers - Uttarakhand
- Indravati - Chhattisgarh

29. Ans. B.

The maximum velocity and momentum of the river is hitting at point B, and thus this point will be destructed most due to erosion. In future, due to this the river flow path may also be changed or hampered.

30. Ans. B.

Kamptee is a city and municipal council in Maharashtra.

Rajahmundry is a major city in Andhra Pradesh.

Shahdol is a city in Madhya Pradesh.

Belagola is a village in Karnataka.

31. Ans. B.

Telangana is the 29th and newest state in India. Its capital is Hyderabad. It is surrounded by 4 states - Maharashtra, Chhattisgarh, Andhra Pradesh and Karnataka. It was formed on 2 June 2014.

32. Ans. C.

Jabalpur is a place of commercial automobiles.

Bangalore is the IT hub.

Mathura is known for its petrochemical industries.

Ballarpur has paper industry.

33. Ans. B.

The total length of the canal is 3200 km, including Sirsa branch, Hansi branch, Butana branch, Sundar branch, Delhi branch, as well as hundreds of major and minor irrigation channels which are the base for many species of birds.

The Western Yamuna Canal begins approximately 38 kilometers (24 mi) south of Dakpathar and Doklam Valley in the Dakshinapathi Barrage. The canals irrigate vast tracts of land in the region in Ambala district, Karnal district, Sonapat district, Rohtak district, Jind district, Hisar district and Bhiwani district.

34. Ans. B.

The **Neyveli Thermal Power Plant** capable of generating 1020 MW and 1,970 MW is a set of power plants located in Tamil Nadu. It is called NLC India Ltd. It consists of two separate units.

**Papanasam Dam**, also known as Karayar Dam, is located 49 km from Tirunelveli in Tamil Nadu, India. The dam is used to irrigate 86,107 acres of paddy fields in Tirunelveli and Tuticorin districts.

**Ukai Thermal Power Station** of India is a power station with an installed capacity of 850 MW. It is one of the major coal-fired power plants in Gujarat, located on the banks of the Tapi River.



The **Rana Pratap Sagar Dam** is a gravity masonry dam of 53.8 m (177 ft) built on the Chambal River in Rawatbhata, Rajasthan, India. It is part of the integrated plan for the waterfall development of the river starting from the Gandhi Sagar Dam.

35. Ans. D.

**Guwahati Oil Refinery** – 1962, Nommati is an area located in Guwahati, Assam in North East India. It is the place where the Indian Oil Company (now Indian Oil Corporation) established its first oil refinery, Guwahati Refinery, on 1 January 1962.

**Barauni Oil Refinery** – 1964, Barauni Refinery in the state of Bihar, was built in collaboration with the Soviet Union and went on stream in July, 1964.

**Haldia Oil Refinery** – 1975, it was commissioned in January 1975 with two fields for processing 2.5 million tons of Middle East crude oil - one for production of fuel products and the other for lube base stock.

**Mathura Oil Refinery** – 1982, owned by the Indian Oil Corporation, is the sixth refinery of Indian Oil located in Mathura, Uttar Pradesh. This refinery processes low sulfur crude from Bombay High, low sulfur crude from Nigeria and high sulfur crude from the Middle East.

36. Ans. A.

Woolen textile - Ludhiana

Cotton textile - Davangere (Karnataka)

Silk textile - Sualkuchi (Kamrup District, Assam)

Jute Textile – Rishra (West Bengal)

37. Ans. C.

Tertiary Coal is of younger age and is extracted from the rocks of the Oligocene period of the Tertiary Era (around 15 to 60 million years ago). The Tertiary Coal is also known as the 'brown coal'.

Tertiary coal contributes only about 2% of the total coal production of the country.

Tertiary Coal Fields in Jammu and Kashmir- Kalakot, Mohogala, Metka, Ladda and Saugar Marg.

38. Ans. B.

Sunrise in eastern Arunachal Pradesh would be approx. 2 hours before the sunrise in western Gujarat.

The eastern-most district of Arunachal Pradesh is Anjaw whose eastern boundary is located till  $98^{\circ}24'E$  longitude (say  $98^{\circ} E$ ) whereas the western-most district of Gujarat is Kutch and is located till at  $68^{\circ}72' E$  (say  $68^{\circ} E$ ).

So the longitudinal difference between both the places is around  $30^{\circ}$  which translates to 2 hours' time difference (since  $15^{\circ}$  amounts to 1-hour time change).

39. Ans. A.

कोराडी थमल पावर स्टेशन महाराष्ट्र के नागपुर के पास कोराडी में स्थित है। पावर प्लांट व दक्षिण में

भारत का प्रमुख बिजली संयंत्रों में से एक - भारत का एक बिजली अधिशेष क्षेत्र के रूप में है।

40. Ans. D.

India is having total 18 zones, each headed by DRM (Divisional Railway Manager).

West central- Jabalpur

South east central- Bilaspur

East central- Hajipur

North eastern- Gorakhpur

41. Ans. C.

Sex ratio is defined as the number of females as per 1000 males. According to census 2011 population ratio of India was 943/1000. It is highly skewed towards men.

Meghalaya- 989/1000

Manipur-987/1000

Mizoram-976/1000

Tripura- 960/1000

42. Ans. B.

Since, sun rises from east and then move to west. So, (B) is the correct answer.

Itanagar is the capital city of Arunanchal Pradesh.

Imphal is the capital of Manipur.

Agartala is the capital of Tripura and Aizwal is the capital of Mizoram.

43. Ans. A.

Bhagirathi: Uttarakashi is situated on the banks of River Bhagirathi. It is generally known as a holy town close to Rishikesh.

Alaknanda: Landsowne is a beautiful cantonment town and got its name from Lord Landsowne, who was the viceroy of India during 1888-1894. It is situated on the bank of River Alaknanda.

Nayar River is a tributary of Ganga. It emerges from Dudhatoli ranges of Garhwal in Pauri district of Uttarakhand.

Ganga River: Narendra Nagar is a town in Uttarakhand. It offers panoramic view of the Ganga river.

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Ganga River: Narendra Nagar is a town in Uttarakhand. It offers panoramic view of the Ganga river.

45. Ans. C.

Paradip is one of the Major Ports of India. Late Jawaharlal Nehru, the then Prime Minister of India, laid the foundation stone of the Port on 3rd January 1962 near the Confluence of river Mahanadi and Bay of Bengal. Government of India declared Paradip Port as the Eighth Major Port of India on 18th April 1966 making it the First Major Port in the East Coast commissioned after independence.

46. Ans. A.

Bharatmala Pariyojna/Project is the second-largest highways construction project in the country since NHDP, under which approx. about 50,000 km or highway roads were targeted across the country.

Bharatmala will look forward to improving connectivity, particularly on economic corridors, border areas and far-flung areas with the aim of quicker movement of cargo and boosting exports. The major agencies tasked with the construction are the National Highways Authority of India, National Highway and Industrial Development Corporation and state public works departments. The project will build highways from Gujarat and Rajasthan, move to Punjab and then cover the entire string of Himalayan states - Jammu and Kashmir, Himachal Pradesh, Uttarakhand and then through the portions of borders of Uttar Pradesh and Bihar alongside Terai region, and move to West Bengal, Sikkim, Arunachal Pradesh, Assam, and right up to the Indo-Myanmar border in Manipur and Mizoram.

- Improvement in the efficiency of the existing corridors through the development of Multimodal Logistics Parks and elimination of choke point.
- Enhance focus on improving the connectivity in North East and leveraging synergies with Inland Waterways
- Emphasis on the major use of technology & scientific planning for Project Preparation and Asset Monitoring
- Delegation of powers to expedite project delivery – i.e. Phase I to complete by 2022
- Improving connectivity in the North East

Key features of the project:

- Improving the quality of roads
- Total road construction
- Integrated scheme
- Construction on a daily basis
- Different categories of road construction

47. Ans. D.

There are more than 50 iron and steel industries in India. Given below are some major steel plants:

Name	Location
Jindal Steel and Power Limited	Raigarh, Chhattisgarh
Tata Steel Limited	Jamshedpur, Jharkhand
Visvesvaraya Iron and Steel Plant	<b>Bhadravati</b> , Karnataka
Durgapur Steel Plant	Durgapur, West Bengal
Bhilai Steel Plant	Bhilai steel city, Chhattisgarh
Salem Steel Plant	<b>Salem</b> , Tamil Nadu
Rourkela Steel Plant	Odisha
Vizag Steel	<b>Visakhapatnam</b> , Andhra Pradesh
Essar Steel India Limited	Hazira, Gujarat
JSW Steel	Tarapur, Boisar, Maharashtra

48. Ans. B.

Highest female literacy (88.25) is reported in Lakshadweep among all the union territories.

Chandigarh – 81.19 %

Puducherry – 80.67 %

Andaman and Nicobar Islands – 82.43 %

49. Ans. D.

Tawi is a river that flows through the city of Jammu. Tawi river is a major left-bank tributary of Chenab River. The river originates from the lapse of Kali Kundi Glacier and adjoining area south-west of Bhadarwah in Doda District.

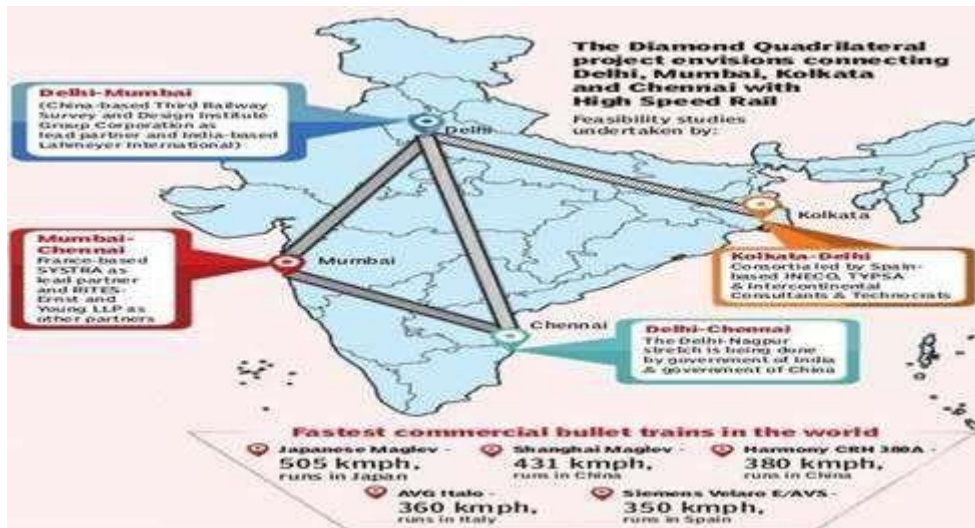
50. Ans. C.

Nagarjunsagar - Srisaïlam Tiger Reserve (NSTR) is the largest tiger reserve in India. The reserve spreads over five districts, Nalgonda district, Mahbubnagar district, Kurnool district, Prakasam district and Guntur district. The total area of the tiger reserve is 3568 km<sup>2</sup> (1378 sq. mi). The core area of this tiger reserve is 1200 km<sup>2</sup> (460sq. mi).

51. Ans. B.

- The Diamond Quadrilateral of Indian railway aims to connect Delhi, Mumbai, Chennai & Kolkata through high-speed rail connectivity.
- Six corridors have been identified under the Diamond Quadrilateral project. These are (i) Delhi-Mumbai,

- (ii) Mumbai-Chennai,
- (iii) Chennai-Kolkata,
- (iv) Kolkata-Delhi and both diagonals, i.e. (v) Delhi-Chennai and
- (vi) Mumbai-Kolkata routes.



52. Ans. C.

- The Black Sea is an inland sea located between far South-Eastern Europe and the far Western edges of the continent of Asia and the country of Turkey.
- It's bordered by Turkey, and by Bulgaria, Romania, Ukraine, Russia and Georgia.



53. Ans. B.

The headquarters of the Eastern Railway Zone of Indian Railways is located at Kolkata. It comprises

Of four divisions- Howrah, Malda, Sealdah and Asansol.

Zone	Headquarters	Divisions
1. Central	Mumbai	Mumbai(CST), Bhusawal, Nagpur, Pune
2. Western	Mumbai	Mumbai(Central), Vadodara, Ratlam, Ahmedabad, Rajkot, Bhavnagar
3. Northern	Delhi	Ambala, Delhi, Lucknow, Moradabad, Ferozpur
4. Eastern	Kolkata	Asansol, Howrah, Malda, Sealdah
5. Southern	Chennai	Chennai, Madurai, Palghat, Trichy, Trivandrum, Salem
6. East Central	Hajipur	Danapur, Dhanbad, Mughalsarai, Samastipur, Sonpur
7. East Coast	Bhubaneshwar	Khurda Road, Sambalpur, Waltair
8. North Central	Allahabad	Allahabad, Agra, Jhansi
9. North Eastern	Gorakhpur	Lucknow, Izzatnager, Varanasi
10. North East Frontier	Guwahati	Katihar, Alipurduar, Rangiya, Lumding, Tinsukia

10. North East Frontier	Guwahati	Katihar, Alipurduar, Rangiya, Lumding, Tinsukia
11. North Western	Jaipur	Ajmer, Bikaner, Jaipur, Jodhpur
12. South Central	Secunderabad	Hyderabad, Nanded, Secunderabad
13. South East Central	Bilaspur	Bilaspur, Nagpur, Raipur
14. South Eastern	Kolkata	Adra, Chakradharpur, Kharagpur, Ranchi
15. South Western	Hubli	Bangalore, Hubli, Mysore
16. South Coastal	Visakhapatnam	Guntakal, Guntur, Vijayawada
17. West Central	Jabalpur	Bhopal, Jabalpur, Kota
18. Kolkata Metro	Kolkata	Not applicable

54. Ans. D.

Density of population is defined as the number of population in per square kilometre of area. It is one of the important indices for population concentration.

According to the 2011 Census:

Nagaland is having 119 persons per square kilometer

Manipur is having 115 persons per square kilometer

Sikkim is having 86 persons per square kilometer

Mizoram is having 52 persons per square kilometer

55. Ans. C.

Manas National Park or Manas Wildlife Sanctuary is a national park, a UNESCO Natural World Heritage Site, a Project Tiger Reserve, an elephant reserve and a biosphere reserve in Assam, India. Located in the foothills of the Himalayas, it is contiguous with the Royal Manas National Park in Bhutan.

56. Ans. D.

The  $82^{\circ} 5'$  E longitude is taken as the Standard Time Meridian of India or references letters longitude for IST, as it passes through the middle of India (from Mirzapur, near Allahabad). Indian Standard Meridian ( $82^{\circ} 30'E$  meridian) passes through UP, MP, Chhatisgarh, Orissa and Andhra Pradesh.

57. Ans. D.

According to the India State of Forest Report (ISFR) 2015, total forest and tree cover is 79.42 million hectares, which is 24.16 percent of the total geographical area.

Madhya Pradesh has the largest forest cover of 77, 462 sq km in the country. Mizoram has the highest forest cover in terms of percentage, with 88.93 percent forest cover.

58. Ans. A.

The Western Coastal Plain is a narrow strip of coastal plain between the West Coast of India and the Western Ghat Hills. The west coast is the waterfront (except the Malabar coast).

Western rivers form estuaries whereas Eastern rivers form deltas. The Continental Shelf of the east coast extends 500 km to the sea. This



means that the sea is deeper on the west coast than the sea on the east coast.

So, there are favorable conditions for the natural harbour on the west coast.

59. Ans. A.

Continental Islands - Madagascar and Socotr island off Africa; New Caledonia, New Zealand etc.

Maldives, an island nation in the Indian Ocean, consist of coral island.

Mauritius, known officially as the Republic of Mauritius, is an island nation located off the southeast coast of the African continent in the Indian Ocean. It is a volcanic island of lagoons and palm-fringed beaches with coral reefs surrounding most of the coastline.

The Andaman and Nicobar Islands, a Union territory of India comprising of 572 islands. Mount Harriet National Park (1969) located here is one of the richest areas of butterfly and moth diversity.

60. Ans. C.

Today, India is the world's third largest producer and fourth largest consumer of Natural Rubber.

Kerala accounts for more than 90 percent of the country's total rubber production. The total area under rubber cultivation in the state is 5.45 lakh hectares. The remaining natural rubber is produced in Tamil Nadu and North East states.

Neyveli Thermal Power Station is a cluster of power plants located near lignite mines in Neyveli, Tamil Nadu.

Ratnagiri bauxite mines are located in Maharashtra. Mostly, bauxite is mined in Odisha, Jharkhand, Chhattisgarh and MP. Bauxite is a mineral found mostly in a belt around the equator.

India is one of the largest producers of tea in the world, second only to China. About 52% of the total tea produced in India comes from the state of Assam. The state recorded 652.95 million kg of tea production in the year 2015-16. Lakhimpur, Kamrup, Goalpara, Sivasagar, Cachar, Nagaon and Derang districts of the state are the major producers of tea.

61. Ans. D.

Taungup Pass connects India with Myanmar.

62. Ans. A.

Alaknanda river meets Dhauliganga river at Vishnuprayag.

Alaknanda river meets Nandakini river at Nandprayag.

Alaknanda river meets Pindar river at Karnaprayag.

Alaknanda river meets Mandakini river at **Rudraprayag**, and

Alaknanda river meets the Bhagirathi river at Devprayag to form Ganga river.

63. Ans. C.

The average annual rainfall is 300–650 millimetres, but much more unreliable than the rest of India, with the southwest monsoon accounting for most of the rainfall. India receives southwest monsoon winds in summer and northeast monsoon winds in winter. The southwest monsoon is caused by the intense low-pressure system formed over the Tibetan Plateau. The Northeast Monsoon is associated with high-pressure cells over the Tibetan and Siberian plateaus.

64. Ans. A.

The UNESCO World Network of Biosphere Reserves (WNBR) covers internationally designated protected areas. The WNBR has more than 650 Biosphere Reserves in 120 countries. 10 Biosphere Reserves from India have been included in the list of World Network of Biosphere Reserves -

- 1) Nilgiri
- 2) Gulf of Mannar
- 3) Sunderban
- 4) Nanda Devi
- 5) Nokrek
- 6) Pachmarhi
- 7) Similipal
- 8) Achanakmar-Amarkantak

9) Great Nicobar

10) Agasthyamala

65. Ans. B.

Kolkata port is a type of riverine port. It is situated in the city of Kolkata and was constructed by British East India Company. It is located 203 Kms from the sea. It is one of the oldest operating port and having no variation in salinity. It is a freshwater port.

Mormugao port is situated on the entrance of the estuary. It lies on the southern part of the mouth of river Zuari. It commissioned in 1885 in the current Indian state Goa. It is India's oldest port.

Visakhapatnam port located in Andhra pradesh is deepest landlocked port in India. Located on the east coast of India and midway between chennai and Kolkata ports. It carries Iron and many other export commodities from Mayurbhanj, Kendurjhar and some eastern part of the country.

Paradip port is present in the east coast of India in Jagatsinghpur district of Odisha. It is situated in the confluence of Mahanadi river and Bay of Bengal that means in the delta region of Mahanadi.

66. Ans. C.

Shikhari Devi Wildlife Sanctuary is located in the state of Himachal Pradesh.

Bhadra Wildlife Sanctuary is located in the state of Karnataka.

Simplipal Wildlife Sanctuary is located in the state of Odisha.

And Panchmarhi Wildlife Sanctuary is located in the state of Madhya Pradesh.

67. Ans. D.

Census 2011 recorded a negative population growth in the state of Nagaland. The decadal population growth was 19,80,602 as against 19,88,636 in 2001 figure. It was minus 0.40 percent.

Census 2011 recorded all North Eastern States with a growth more or less around the national average of 17.64%.

68. Ans. D.

Periyar River originates from Western Ghats and ends into Vembanad Lake which is connected to the Lakshadweep Sea.

Bharatpuzha River originates at Anamalai hills in Western Ghats and takes a westerly course to empty into Lakshadweep Sea.

Pamba river originates in Western Ghats and it finally joins the Arabian Sea.

Tamraparni River or Thamirabarani River originates from Pothigai hills of Western Ghats and flows through state of Tamil Nadu into Gulf of Mannar. It flows eastward.

69. Ans. B.

The river Jhelum is called 'Vitasta' river in Rigveda and Hydaspes by the ancient Greeks. Vitasta is believed to be one of the seven rivers that have been mentioned in Rigveda (Sapta-sindhu). The name is mentioned as Vyeth in Kashmir.

70. Ans. C.

River Sarada originates from far northern Uttarakhand state in Great Himalayas on the eastern slopes of Nanda Devi massif. Before entering to the plains, it is known as River Kali. It then flows south-west. It enters the Gangetic plain at Barmdeo Madi (Nepal). Below that, it is known as Sarada River. It then enters Uttar Pradesh and joins the Ghaghara River south of Behraich.

71. Ans. B.

A Solar Eclipse happens when the moon will move in front of the sun. It will be seen from a location on earth.

72. Ans. D.

Biomass energy is considered a conventional energy source as it has been used from ancient times.

73. Ans. C.

Survey of India is India's central engineering agency which prepares topographical maps of India.

74. Ans. A.

Dresden Line- It is a network of tramway forming public transportation system in Dresden, a city in Germany.

75. Ans. D.

River Narmada came from Amarkantak Hill in Maikal range. The Narmada river as well the Son, the Mahanadi, and Arnadoh which is a major tributary of the Godavari, these all arise in the Amarkantak plateau.

Son river is largest of southern tributaries of Ganga. It originates near Amarkantak in Madhya Pradesh near the source of Narmada river.

76. Ans. A.

The correct sequence is -

Bhubaneshwar (Odisha) > Patna (Bihar) > Rishikesh (Uttrakhand) > New Delhi.

77. Ans. A.

मध्यरेखीय क्षेत्र कई कारणों से कम आिदी वाला है। कुछ हैं- • दिन और रात के बीच में महान तापमान अंतर, • यहाँ न्यूनतम वर्षा के कारण, वनस्पत बहुत घनी है और तजी से ढिती है, वारोपण खेती का अभ्यास दुनिया के गम और नम भागों में किया जाता है। यह मुख्य रूप से उष्णकटिबंधीय क्षेत्रों के भीतर सीमित है, अर्थात्, मध्यरेखा के दोनों किनारों।

78. Ans. B.

For the Northern Hemisphere:

- Vernal Equinox occurs on March 21
- Summer Solstice on 21 June
- Autumnal Equinox occurs on September 23
- Winter Solstice occurs December 22

79. Ans. B.

Spruce and Cedar are tree varieties which are usually available in temperate coniferous forest.

80. Ans. D.



Taklamakan Desert is situated in the Xinjiang Uyghur Autonomous Region of the People's Republic of China.

'Taklamakan' which in local language means- "you can get in, but you can't get out", is the **second-largest non-polar sand-shifting desert in the world**. It is also known as 'The Sea of Death'.

81. Ans. A.

स्टेपी जलवायु आमतौर पर एक अर्द्ध शुष्क क्षेत्र या महाद्वीपीय जलवायु है।  
वर्षा- इसमें अर्द्ध और उपोष्णकटिबंधीय जलवायु, गर्मि वषा  
ग्रीष्म और लघु शुष्क सर्दियाँ होती हैं। सस्केवेन- यह पश्चिमी कनाडा में  
एक रेगिस्तान और ओरियल प्रांत है। यह अर्द्ध महाद्वीपीय जलवायु का अनुसरण  
करता है। यह ठंडी और गीली हो रही है। यह गमि ग्रीष्म काल में मध्य सागरीय जलवायु है।

पथ-

ब्यस आयसि- यह अर्द्ध उपोष्णकटिबंधीय जलवायु क्षेत्र में है।

अटलांटिक महासागर द्वारा समुद्री

प्रभावों के कारण अत्यधिक तापमान के होने के साथ समशीतोष्ण है।

दलभ

82. Ans. A.

The Atacama is the driest desert of the world. It is in the territorial region of Chile.

83. Ans. B.

The Mariana Trench is located in the western Pacific Ocean, east of the Philippines. The Mariana Trench is a 2,550 km long and 69 km wide crescent-shaped scar in the Earth's crust.

Such trenches are formed at convergent plate boundaries where one of the plates dives beneath the other into the Earth's mantle, creating an ocean trench.

The depths of the Mariana Trench were first plumbed in 1875 by the

British ship H.M.S. Challenger and after his name, its deepest point was

named as “the Challenger Deep”, which is about 300 km southwest of Guam, a U.S.A island.

84. Ans. A.

- Strait of Hormuz lies between Iran, Oman and the U.A.E and connects the Persian Gulf with the Gulf of Oman and Arabian sea. It provides only sea passage from Persian Gulf to open ocean (Arabian Sea). Hence pair 1 is correctly matched.
- Bab-el Mandeb is between Yemen on the Arabian Peninsula and Djibouti and Eritrea on the Horn of Africa. It connects Red Sea to the Gulf of Aden and the Indian Ocean. Hence pair 2 is not correctly matched.



- Bosphorous Strait is Between Asian Turkey and European Turkey. It connects Black Sea to the Sea of Marmara.



85. Ans. A.

लापीसकाननमाणिजोडोंकेसाथ टंक्टांनकेघोलऔरपानीद्वाराघुलनशील  
घुलनशीलताके  
ित्रोंमेंहोताहै।



प्रपात-कुंड एक समान कटोरों के आकार की विशेषता है। यह धगरने वाले पानी के प्राकृतिक िल से िनता है, जैसे कड़रना; वे मानव संरिनाओं जैसे कुछ स्पलवेड जड़ों से भी नमसररणाममत होते हैं।

86. Ans. B.

Kuroshio, also known as Black Japan Current or Black Stream, is a north-flowing ocean west of the North Pacific Ocean. It is similar to the Gulf Stream in the North Atlantic and is part of the Gulf of the North Pacific Ocean. Like the Gulf Stream, it has a strong western boundary current.

**Some Ocean Currents of the World :**

Name of Current	Nature of Current
North Equatorial Current	Hot or Warm
Kuroshio Current	Warm
North Pacific Current	Warm
Alaskan Current	Warm
Counter Equatorial Current	Warm
El Nino Current	Warm
Tsushima Current	Warm
Benguela Current	Cold
Humboldt or Peruvian Current	Cold
Labrador Current	Cold

87. Ans. B.

Tuaregs are passtoral nomads essentially living in Sahara desert. They can be found in Libya, Algeria, Mali and Niger.

88. Ans. B.

Selvas- Torophytes

Savanna – Grasses and trees

Tundra – Mosses and Lichens

Monsoon Land – Epiphytes

89. Ans. D.

The Mekong River originates from China and flows through Myanmar, Laos and Thailand before reaching Vietnam and flowing to the sea through the distributaries network. The river is locally known as "Nine Dragon River" in Vietnam and forms a Delta in the South-West of Vietnam.

Mekong delta is spread in an area of about 40,000 km<sup>2</sup>. And it is known as one of the widest and richest deltas in ASEAN, in Vietnam, it is considered as the biggest granary of Vietnam. The Delta region is known as "The Rice Bowl" for it produces about half of the total of Vietnam's agricultural output.

90. Ans. D.

A light year is a unit for measurement of the very large distance.

A light-year is a unit of the distance. A light year is a distance that light can travel within one year of time. Light moves at a velocity of approx. about 300,000 kilometres (km) in each second. So in one year, it may travel about 10 trillion km. More precisely, one light-year is equals to 9,500,000,000,000 kilometers.

In our solar system, we tend to denote distances in terms of the Astronomical Unit (AU). The Astronomical Unit (AU) is defined as the average distance between the Earth and the Sun. It is approx. 150 million km (93 million miles). Mercury can be described to be about one-third of an AU from the Sun and Pluto, which averages about 40 AU from the Sun. The AU, although, is not big enough of a unit when we start talking about the distances to objects outside our solar system.

For measuring distances to other parts of the Milky Way Galaxy (or even further than that), astronomers use units of the light-year or the parsec. The parsec equals to the 3.3 light-years. By using the light-year, we can say that :

- The Crab supernova remnant is approx. about 4,000 light-years away.
- The Andromeda Galaxy is approx. about 2.3 million light-years away.
- The Milky Way Galaxy is approx. about 150,000 light-years across.

91. Ans. D.

आर्द्र-ध्रुवीय जलवायु: यह आमतौर पर भूमध्य रेखा के 50 और 100, उत्तर और दक्षिण के

पाई जाती है। यह पर्वतों के समान तापमान होता है। औसत मासिक तापमान हमेशा 24-

27 डिग्री सेल्सियस के आसपास रहता है। कोई सर्द नहीं है और वर्षा भारी है।

मानस और हवा तटीय क्षेत्रों में व्यापार: यह पृथ्वी मात्रामें वर्षा हो रही है लंबे कनस्रबां मौसमी

पैटर्न दिखा रहा है। उच्च मौसम में, आईटीसीजेड पास है और वर्षा ध्रुवीय रेखा के अधीक होती है। भ

50 से 250 उत्तर और दक्षिण के जलवायु होती है।

आर्द्र-शुष्क उष्णकटिबंधीय जलवायु: यह मधुर-वालों की ओर जाते हैं तापमान और तापमान का

मौसमी क्रम में होता है। यह कम में हुत

शुष्क मौसम और उच्च जपरगीला

मौसम होता है। यह भूमध्य रेखा के 50 और 200 उत्तर और दक्षिण के स्थित है। तेज के

दौरान इसका तापमान अधीक होता है।

शुष्क-उष्णकटिबंधीय जलवायु: यह

की ओर

उपोष्णकटिबंधीय उच्च दिवा सटके के और प

स्थित है। यहां ज्यादातर समय आसमान साफ रहता है, इस मलएस ज हुत तीव्रता से सतह को

गमिकरता है। यह हवा के तापमान को उच्च रखता है। उच्च सिके मौसम के दौरान, गमी रम

होती है और कमस ज के मौसम का तापमान कम हो जाता है।

92. Ans. C.

Tropical Rainforest (Selva) Vegetation:

- Broadleaf evergreen trees
- understory, canopy layer, emergent layer
- thick root mat on the forest floor
- very high diversity

Northern Coniferous Forest (Taiga) Vegetation:

- Coniferous Forests

- Needle leaf, evergreen trees (Spruce, Pine, Fir, Larch)
- broadleaf deciduous trees in early successional sites

Savanna Biome Vegetation:

- continuous grass cover
- scattered drought-resistant trees

- trees have the deciduous habit and deep tap roots
- moderately high diversity

Tundra Biome Vegetation:

- shrubs, mosses, Lichens
- low lying vegetation which gets protection from cold winter temperatures by snow cover
- low species diversity
- animal adaptation strategies: Hibernation, Fat protection, Migration.

93. Ans. A.

The Grand Bank is an area of submerged highlands. It is situated in the east of Laurentian Channel and South-East of Newfoundland on the continental shelf of North America. In this, cold Labrador Current and warm Gulf Stream mixes up. Because of this mixing and shape of the continental shelf, nutrients lift up from the ocean bottom to the surface. Because of all these circumstances, one of the biggest fishing grounds of the world will get created here.

Planktons are organisms that live in water and usually found in shallow water. They are often carried by tides, winds and currents.

94. Ans. B.

Amoeba is a type of cell or unicellular organism which has the ability to alter its shape primarily by retracting and extending its pseudopods. Amoeba performs both vital life activities such as respiration, metabolism, repair and assimilation and organism level activities like intake of food, respiration gases exchange and reproduction.

Cell is the structural and functional unit of the living organism. Cell is the smallest unit of any living organism. It is having its own mechanism for working of life. The cluster of cells called 'Tissue' and cluster of tissue makes 'Organs'.

95. Ans. D.

The first coin which was bearing names and images of rulers were issued by the Indo-Greeks. In 2nd century BCE, they established the control over the whole northwestern part of the subcontinent.

In the first century, the first gold coinage was issued by the Kushans. Kushans ruled over the vast kingdom from Central Asia to northwest Asia during the first century BCE to first century CE

96. Ans. A.

Jahandar Shah's reign came to an end after the defeat by Farrukh Siyar at Agra. Farrukh Siyar was his nephew. The reign came to an end in early January 1713

After that, Farrukh Siyar gave the office of Wazir and Mirbakshi to Saiyid brothers, Abdullah Khan and Husain Ali Khan respectively. Soon after, both the brother dominated the control of state affairs but Farrukh Siyar wanted the personal authority. But in 1719 both brothers killed the emperor and made 18 years old Muhammad Shah as emperor.

97. Ans. A.

The Pitt's India Act, 1794 was passed by the British government after the defects of Regulating Act, 1773 and also of existing British politics. This act was to give the supreme authority to the Government on the Company's affairs. It also gave control over the administration of Company in India.

Provisions:

(a) Act established the Six Governors, which was known as Board of Control. It also included two Cabinet Ministers of British Government. This board was made to direct and control the work of 'Court of Directors' and Government of India.

(b) This act gave the administration in the hand of Governor-General and his Council of three.

(c) It also subordinated the Bombay and Madras Presidency to Bengal Presidency.

(d) Now, East India Company became the Instrument of the British government in India.

98. Ans. D.

Every bar magnet has two poles which are the North Pole and the South Pole. Every magnet must have two poles.

Because every bar magnet exists in a pair of two-pole (North and South) with the help of the compass.

99. Ans. C.

The body, which is moving in a circular path, will experience acceleration towards its centre in a circular path. This acceleration is known as Centripetal and it is provided by the Centripetal Force.

The Centripetal Force is helping the body to keep rotating in a circular path because it is working towards the center.

100. Ans. A.

Recently the world's oldest known Natural Pearl (dubbed the 'Abu Dhabi Pearl') has been discovered by Abu Dhabi Archaeologists at a Neolithic site on Marawah Island, just off the coast of Abu Dhabi, the capital city of United Arab Emirates. The Pearl has been found to be more than 8,000 years old dated back to the Neolithic period



Other significant findings from these sites include imported *Ceramic Vase* from Ubaid civilisation in Mesopotamia, beautifully worked flint *Arrowheads* and *shell and stone beads*.

101. Ans. A.

Periplus is the Latinization of a Greek word, which literally means to 'sailing around.'

Erythraean is the Greek or ancient name for Red sea, not the Mediterranean sea. The greek themselves derived this name from ancient King Erythras, knowing the feature that water described here is deep blue.

102. Ans. B.

