Class 11 - Geography
Sample Paper - 01 (2023-24)

Maximum Marks: 70
Time Allowed: : 3 hours

General Instructions:

i. This question paper contains 30 questions. All questions are compulsory.
ii. This question paper is divided into five sections. Sections-A, B, C, D and E.
iii. Section A - Question number 1 to 17 are Multiple Choice type questions carrying 1 mark each.
iv. Section B- Question number 18 and 19 are Source based questions carrying 3 marks each.
v. Section C- Question number 20 to 23 are Short Answer type questions carrying 3 marks each. Answer to these questions shall be written in 80 to 100 words.
vi. Section D Question number 24 to 28 are Long Answer type questions carrying 5 marks each. Answer to these questions shall be written in 120 to 150 words.
vii. Section E Question number 29 and 30 are Map based questions.

Section A

1. **Assertion (A):** The word geography is a combination of two Greek words. 'Geo' meaning the earth and 'Graphy' meaning description.
   Reason (R): It is an independent subject and learns about the physical environment of the earth, human activities, and their interactive relationships.
   a) Both A and R are true and R is the correct explanation of A.
   b) Both A and R are true but R is not the correct explanation of A.
   c) A is true but R is false.
   d) A is false but R is true.
2. Which of the following pairs is matched correctly?

Type of Vegetation	Trees
(a) Moist deciduous forests	(i) Blue pine and spruce
(b) Dry deciduous forests	(ii) Teak and sal
(c) Tropical Thorn Forests	(iii) Neem and khejri
(d) Montane Forests	(iv) Babool and ber

   a) (c) - (iii)
   b) (b) - (ii)
   c) (a) - (i)
   d) (d) - (iv)
3. How many years back did stars originate?
   a) About 4 to 5 billion years before
   b) About 6 to 7 billion years before

c) About 5 to 6 billion years before
d) About 3 to 4 billion years before

4. Consider the following statements and choose the correct option from the given options
   I. A ship at sea is greatly affected by tsunami and it is easy to detect a tsunami in the deeper parts of sea.
   II. Over deep water the tsunami has very short wave-length and virtually unlimited wave-height.
   a) Both the statements I and II are incorrect
   b) Both the statements are true and statement II correctly present the reason for statement I
   c) Only statement I is correct
   d) Only Statement II is correct
5. What is the main characteristic of geography which got introduced from the very beginning?
   a) Cultural
   b) Naturalism
   c) Dualism
   d) Socialism
6. What do we say to the number of water vapors present in the atmosphere?
   a) Saturation
   b) Dew
   c) Humidity
   d) Dew Points
7. **Assertion (A):** The Ganga has a great cultural significance.
   Reason (R): The Ganges is the embodiment of all sacred waters in Hindu mythology.
   a) Both A and R are true and R is the correct explanation of A.
   b) Both A and R are true but R is not the correct explanation of A.
   c) A is true but R is false.
   d) A is false but R is true.
8. In which one of the following cities, are the days the longest?
   a) Chandigarh
   b) Hyderabad
   c) Nagpur
   d) Thiruvananthapuram
9. What is the rank of India in its land area in the world?
   a) Seventh
   b) Ninth
   c) Fifth
   d) Second

10. Monsoon or Tropical Deciduous forests are found in areas with rainfall between
    a) 70 and 200 cm
    b) 50 and 100 cm
    c) 100 and 200 cm
    d) 200 and 250 cm
11. Arrange the following in correct sequence:
    i. It then passes over west Rajasthan and along the Aravalis, causing only a scanty rainfall.
    ii. A third branch of Arabian monsoon wind strikes the Saurashtra Peninsula and the Kachchh.

iii. These two branches, reinforced by each other, cause rains in the western Himalayas.

iv. In Punjab and Haryana, it too joins the Bay of Bengal branch.

a) (iv) - (ii) - (i) - (iii)

b) (ii) - (i) - (iv) - (iii)

c) (iii) - (ii) - (iv) - (i)

d) (i) - (iv) - (iii) - (ii)

12. Bamboos are the important raw material for making

a) Boxes

b) Books

c) A match stick

d) Musical instrument

13. India is the

a) 2nd largest country

b) 10th largest country

c) 7th largest country of the world

d) 5th largest country

14. Which of the following pairs is matched correctly?

River	**Place of Origin**
(a) Indus	(i) Sulaiman ranges
(b) Beas	(ii) Bokhar Chu
(c) Satluj	(iii) Raksas tal
(d) Ghagra	(iv) Peninsular plateau

a) (c) - (iii)

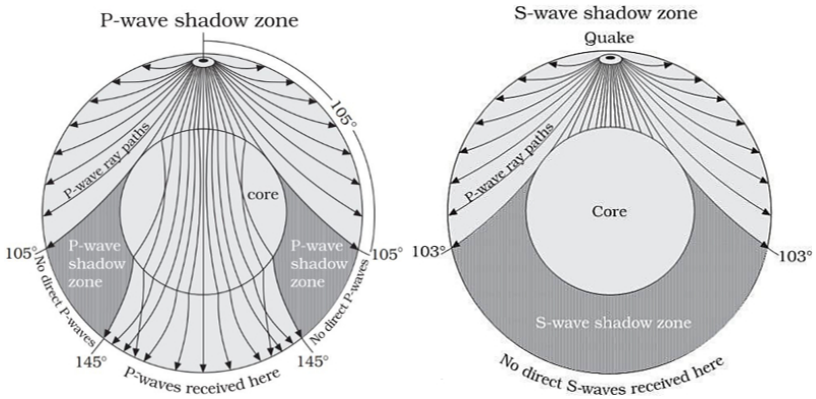
b) (a) - (i)

c) (d) - (iv)

d) (b) - (ii)

Question No. 15 to 17 are based on the given text. Read the text carefully and answer the questions:

Read the following diagram and answer:



15. What is the characteristic of the shadow zone for S-waves?

a) It does not receive any seismic waves.

b) It falls within 40% of the earth's surface.

c) It extends beyond 145^{o} from the epicenter.

d) It is smaller in extent compared to the P-wave shadow zone.

16. Which distance range from the epicenter marks the shadow zone for S-waves?

    a) Within 40^o from the epicenter

    b) Between 105^o and 145^o from the epicenter

    c) Within 90^o from the epicenter

    d) Beyond 180^o from the epicenter

17. Which type of earthquake wave has a larger shadow zone?

    a) Neither P nor S-waves have a shadow zone.

    b) Both P and S-waves have the same shadow zone.

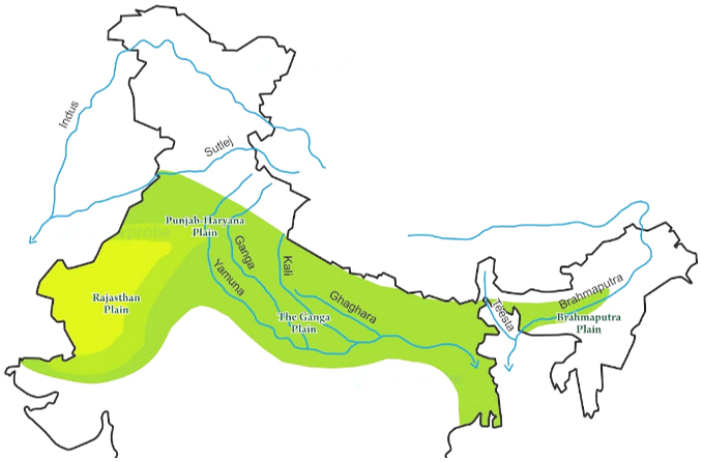
    c) S-waves

    d) P-waves

Section B

18. **Read the text carefully and answer the questions:**

    Observe the given map:



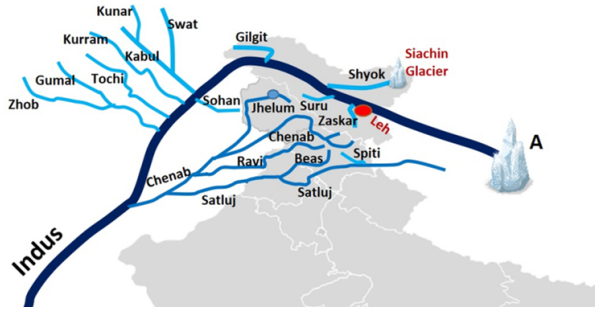
    i. The northern plains are formed by the alluvial deposits brought by the rivers. Name the three major rivers.

    ii. Name the states forming a water divide between the Indus and the Ganga River systems.

    iii. Name the river that flows from the northeast to the southwest direction before it takes an almost 90° southward turn at Dhubri before it enters into Bangladesh.

19. **Read the text carefully and answer the questions:**

    Observe the given map and answer the following questions:



    i. Near which location in Jammu and Kashmir does the Indus River cut across the Ladakh range, forming a spectacular gorge?

    ii. Name the origination point of Indus River marked as **A**.

    iii. **The Indus receives a number of Himalayan tributaries.** Name any one tributary indicated in the map.

20. What is the size of India with reference to the World? Name the countries larger in area than India? Explain the location of India on the globe.

OR

Describe how geographical features of the country have fostered unity and homogeneity in the Indian society.

21. Write down the important features of the Tropical thorn forest?
22. Time and parent material play a passive role in soil formation. Do you agree? Justify.

OR

What do you mean by Diastrophism? Which processes are included in it?

23. Explain the depositional landforms formed by groundwater.

Section C

24. Differentiate between Consequent rivers and Antecedent rivers.
25. What were the major post-drift discoveries that rejuvenated the interest of scientists in the study of distribution of oceans and continents?

26. When you move into the ocean what thermal layers would you encounter? Why the temperature varies with depth?

OR

Compare the reliefs features of Pacific Ocean with Indian Ocean.

27. What is atmospheric pressure? Explain about different atmospheric belts.

OR

Why does tropical cyclone originate over the seas? In which part of the tropical cyclone do torrential rains and high velocity winds blow and why?

28. What is the Inter-Tropical Convergene Zone?

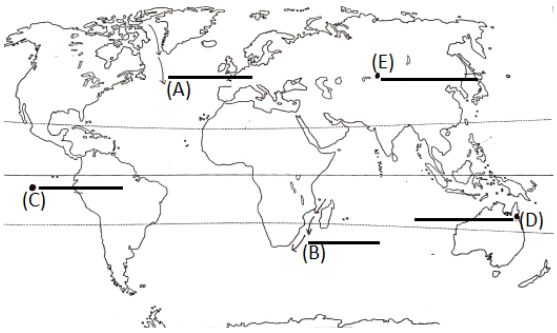
OR

Define climate region? What are the bases of Koeppen's classification?

Section D

29. On the outline map of India, locate and label the following:
    i. Highest peak
    ii. River also known as **Sorrow of Bihar**
    iii. The most widespread and most productive category of soil
    iv. Aravalli Ranges
    v. Areas having montane forests

30. With the help of the following key, identify the areas marked as A, B, C, D and E on the given outline map of the World. Write the correct name of the place in the blank space given on the map.
    A. A cold ocean current
    B. A warm ocean current
    C. A Volcanic Hot spot
    D. An ecological hotspot
    E. The largest continent



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Section A

1. (b) Both A and R are true but R is not the correct explanation of A.
   Explanation: The meaning of geography could be to write about the earth including all that is upon it. It means a description of the earth.
2. (a) (c) - (iii)
   Explanation: Tropical Thorn Forests - Neem and khejri
3. (c) About 5 to 6 billion years before
   Explanation: About 5 to 6 billion years before
4. (a) Both the statements I and II are incorrect
   Explanation: A ship at sea is **not much affected** by tsunami **and it is difficult to detect** a tsunami in the deeper parts of sea. It is so because over deep water the **tsunami has very long wave-length and limited wave-height**.
5. (c) Dualism
   Explanation: Dualism is one of the main characteristics of geography which got introduced from the very beginning. This dualism depended on the aspect emphasised in the study.
6. (c) Humidity
   Explanation: Humidity
7. (b) Both A and R are true but R is not the correct explanation of A.
   Explanation: The River Ganges (also referred to as Ganga) is a symbol of faith, hope, culture, and sanity, as well as a source of livelihood for millions since time immemorial. She is the centre of social and religious tradition in the Indian sub-continent and particularly sacred in Hinduism.
8. (d) Thiruvananthapuram
   Explanation: Thiruvananthapuram
9. (a) Seventh
   Explanation: Seventh
10. (a) 70 and 200 cm
    Explanation: Monsoon or Tropical Deciduous forests are spread over regions that receive rainfall **between 70-200 cm.**
11. (b) (ii) - (i) - (iv) - (iii)
    Explanation: (ii) - (i) - (iv) - (iii)
12. (d) Musical instrument
    Explanation: Bamboos are the important raw material for making **musical instruments.**
13. (c) 7th largest country of the world
    Explanation: India with its area of 3.28 million sq. km accounts for 2.4 per cent of the world's land surface area and stands as **the seventh largest country** in the world.
14. (a) (c) - (iii)
    Explanation: Satluj - Raksas tal
15. **(b)** It falls within 40% of the earth's surface.
    Explanation: It falls within 40% of the earth's surface.
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16. **(b)** Between 105^{o} and 145^{o} from the epicenter

    Explanation: Between 105^{o} and 145^{o} from the epicenter

17. **(c)** S-waves

    Explanation: The shadow zone of S-waves is not only larger in extent but it is also a little over 40 per cent of the earth surface

Section B

18. i. The Indus, the Ganga and the Brahmaputra.
    ii. Haryana and Delhi
    iii. The Brahmaputra River

19. i. Gilgit
    ii. It originates from **a glacier near Bokhar Chu** in the Tibetan region at an altitude of 4,164 m in the Kailash Mountain range.
    iii. Shyok, the Gilgit, the Zaskar, the Hunza. [Any 1]

20. **Size of India :**

    The size of India is 3.28 million square km which accounts for 2.6% of the total land of the world.

    Ranking:

    India is the seventh largest country in the world. The following countries are larger in area than India: Russia, China, Canada, Brazil and Australia.

    Location of India :

    - India lies entirely in the Northern Hemisphere.
    - India’s mainland extends between 8^{o} 4' N and 37^{o}8'N latitudes, and 68^{o}7'E and 97^{o}25'E longitudes.
    - The Tropic of Cancer (23^{o} 30'N) divides India into two almost equal parts.
    - The island groups of Lakshadweep and Andaman & Nicobar are also part of India.
    - India's territorial limit extends towards the sea up to 12 nautical miles (about 21.9 km) from the coast.

OR

The vastness of India has produced diversity in the physical conditions of the country. But there is a fundamental cultural unity behind all this diversity. Indian culture has developed independently. The land frontiers and the water frontiers have given a partially enclosed character to the Indian sub-continent. The following two features have fostered a unique homogeneity in the Indian civilization.

i. The unbroken chain of lofty mountains in the north has isolated India from the rest of Asia. It has played a great unifying role in strengthening our people.
ii. The vast expanse of the Indian Ocean has separated India as an independent unit. The Indian Ocean has provided our links with countries of West Asia and South-East Asia.

21. Tropical thorn forest occurs in the areas which receive rainfall less than 50cm. These consist of a variety of grasses and shrubs. It includes semi-arid areas of south-west Punjab, Haryana, Maharashtra, Madhya Pradesh and Uttar Pradesh. In these forests, plants remain leafless for the most part of the year and give an expression of scrub vegetation. Important species found are babool, Khair, neem, Kherjiri, palas, etc. Tussocky grass grows up to a height of 2m as the under-growth and cactus is an important plant of these forests.

22. Yes, I agree.

    (i) Time: Time is the third important controlling factor in soil formation. The length of time the soil forming processes operate, determines maturation of soils and profile development. A soil becomes mature when all soil-forming processes act for a sufficiently long time developing a profile.

    (ii) Parent Material: It is a passive control factor in soil formation. Parent materials can be any in-situ or on-site weathered rock debris (residual soils) or transported deposits (transported soils). Soil formation depends upon the texture

(sizes of debris) and structure (disposition of individual grains/particles of debris) as well as the mineral and chemical composition of the rock debris/deposits.Nature and rate of weathering and depth of weathering mantle are important considerations under parent materials.

OR

Diastrophism: All processes that move, elevate or build up portions of the earth's crust come under diastrophism. **They include:**

i. orogenic processes involving mountain building through severe folding and affecting long and narrow belts of the earth's crust.
ii. Epeirogenic processes involving the uplift or warping of large parts of the earth's crust.
iii. earthquakes involving local, relatively minor movements.
iv. plate tectonics, involving horizontal movements of the crustal plates. In the process of orogeny, the crust is severely deformed into folds. Due to epeirogeny, there may be simple deformation.

Orogeny is a mountain building process whereas epeirogeny is a continental building process. Through the processes of orogeny, epeirogeny, earthquakes, and plate tectonics, there can be faulting and fracturing of the crust. All these processes cause pressure, volume, and temperature (PVT) changes which in turn induce the metamorphism of rocks.

23. The depositional landform formed by the groundwater are:
(i) Stalactites: It is a type of formation that hangs from the ceiling of caves, hot springs, or manmade structures such as bridges and mines. Any material which is soluble, can be deposited as a colloid , or is in suspension, or is capable of being melted , may form a stalactite. Stalactites may be composed of lava, minerals,mud, peat, pitch,sand, sinter and amberat.
(ii) Stalagmites: Stalagmites rise up from the floor of the caves. In fact stalagmites form due to dripping water from the surface. A stalagmite appears like an inverted stalactite, rising from the floor of a cavern. Stalagmites have thicker proportions and grow up on the bottom of a cavern from the same drip-water source, the mineral from which is deposited after the water droplet falls across the open space in the rock.
(iii) Pillars: A pillar is more commonly called a "column." A column is simply a stalagmite and a stalagmite that have grown enough to meet in the middle. Here's the process. A stalactite begins growing from the ceiling as a little circle of calcite left from the edges of a slow drip filtered through the limestone.

Section C

24.

Basis	Consequent rivers	Antecedent rivers
Shape	These rivers maintain their original shapes, deposits, the rise of land due to folding. The rivers keep on following in the same direction.	It is an uplift area the rivers flow in the direction resulting as consequent of the slope
Age	These rivers are older than the old mountain.	These rivers are formed after the uplift of an area.
Gorges	These rivers cut deep gorges due to downcutting.	These rivers do not form gorges.
Examples	Trans-Himalayan rivers such as Indus, Satluj, represent consequent rivers.	The eastward flowing river of a peninsular plateau which flows according to the slope is antecedent rivers.

25. A number of discoveries during the post-war period added new information to geological literature. Particularly, the information collected from the ocean floor mapping provided new dimensions for the study of the distribution of oceans and continents.

i. These currents are generated due to radioactive elements causing thermal differences in the mantle portion. Holmes argued that there exists a system of such currents in the entire mantle portion. This was an attempt to provide an explanation to the issue of force, on the basis of which contemporary scientists discarded the continental drift theory.
ii. Detailed research of the ocean configuration revealed that the ocean floor is not just a vast plain but it is full of relief.
iii. Expeditions to map the oceanic floor in the post-war period provided a detailed picture of the ocean relief and indicated the existence of submerged mountain ranges as well as deep trenches, mostly
iv. located closest to the continental margins.
v. The mid-oceanic ridges were found to be most active m terms of volcanic eruptions. The dating of the rocks from the oceanic crust revealed the fact that they are much younger than the continental areas,
vi. Rocks on either side of the crest of oceanic ridges and having equidistant locations from the crest were found to have remarkable similarities both in terms of their constituents and their age.

26. The temperature of the ocean decreases as we go deeper due to the lack of thermal radiation from the sun. Water is generally incompressible. Thus, we cannot increase the intra-molecular collisions by applying pressure to water. Therefore the lack of thermal radiation far out weights the increased pressure with respect to temperature. The temperature structure of oceans over middle and low latitudes can be described as a three-layer system from the surface to the bottom.
    i. The surface layer of the ocean is known as the **epipelagic** zone and extends from the surface to 200 meters (656 feet). It is also known as the sunlight zone because this is where most of the visible light exists. With the light comes heat. This layer represents the top layer of warm oceanic water and it is about 500m thick with temperatures ranging between 20° C and 25° C. This layer, within the tropical region, is present throughout the year but in mid-latitudes, it develops only during summer.
    ii. **Thermocline:** oceanic water layer in which water temperature decreases rapidly with increasing depth. A widespread permanent thermocline exists beneath the relatively warm, well-mixed surface layer, from depths of about 200 m (660 feet) to about 1,000 m (3,000 feet), in which interval temperatures diminish steadily. It lies below the first layer and is characterised by a rapid decrease in temperature with increasing depth. The thermocline is 500 -1,000 m thick.
    iii. **Hyplomnion:** The third layer, the lower layer of water characterised by a uniform temperature that is cooler than other layers. The third layer is very cold and extends up to the deep ocean floor. In the Arctic and Antarctic circles, the surface water temperatures are close to 0° C and so the temperature variation with the depth is very slight.

OR

Basic	Relief feature of the Pacific Ocean	Relief feature of the Indian Ocean
Extention	It extends to 165 million sq. km.	It is extended from 20° E to 115° E longitude.
Ridges	There is an absence of long ridges.	There are a number of broad submarine ridges on its floor.
Ocean basins	The Pacific Ocean has a number of shallow basins. These are five in number.	The central ridge divides the ocean into six basins.
Ocean deeps	There are 32 deeps in this ocean. The deepest one is Mariana Trench (11022 m).	Ocean deeps are almost absent from this ocean.
Marginal seas	Marginal seas are few.	The true marginal seas are the Red sea, Persian, Arabian, Bay of Bengal, etc.
Islands	It has more than 20,000 islands.	Continental islands are Sri Lanka and Madagascar.

27. Atmospheric pressure, sometimes also called barometric pressure, is the pressure within the atmosphere of earth (or that of another planet). In most circumstances atmospheric pressure is closely approximated by the hydrostatic pressure caused by the weight of air above the measurement point. As elevation increases, there is less overlying atmospheric mass, so that atmospheric pressure decreases with increasing elevation.
    There are four atmospheric pressure belts:
    a) Equatorial Low Pressure Belt: At the Equator heated air rises leaving a low-pressure area at the surface. This low pressure area is known as equatorial low pressure. This area extends between 50°N and 50°S latitudes. The zone shifts along with the northward or southward movement of sun during summer solstice and winter solstice respectively. The pressure belt is thermally induced because the ground surface gets heated during the day. Thus warm air expands, rises up and creates low pressure.

    b) Sub-tropical High Pressure Belt: The warm air risen up at the equator due to heating reaches the troposphere and bend towards the pole. Due to coriolis force the air descends at 30-35º latitude thus creates the belt of sub-tropical high pressure. The pressure belt is dynamically induced as it owes its origin to the rotation of the earth and sinking and settling of winds. This zone is characterized by anticyclonic conditions which cause atmospheric stability and aridity. Thus the hot deserts of the world are present in this region extending between 25-35 degrees in both the hemisphere.
    c) Sub-Polar Low Pressure Belt: This belt is located between 60-65 degrees latitudes in both the hemisphere. This pressure belt is also dynamically induced. The surface air spreads outward from this zone due to rotation of the earth thus produces low pressure. The belt is more developed and regular in the southern hemisphere than the northern due to over dominance of water in the former.
    d) Polar High Pressure Belt: High pressure persists at the pole due to low temperature. Thus the Polar High Pressure Belt is thermally induced as well as dynamically induced as the rotation of earth also plays a minor role.

    OR

    Tropical Cyclones are low pressure systems that form over warm tropical waters. Tropical cyclones derive their energy from the warm tropical oceans and do not form unless the sea-surface temperature is above 26.5°C, although once formed, they can persist over lower sea-surface temperatures. Tropical cyclones can persist for many days and may follow quite erratic paths. They usually dissipate over land or colder oceans. At the equator, the Coriolis force is zero and the wind blows perpendicular to the isobars. The low pressure gets filled instead of getting intensified. That is the reason why tropical cyclones are not formed near the equator.
    Intensive Rainfall occurs to the left of the Cyclone. Maximum rainfall occurs close to the centre of the storm. Secondary maximum of rainfall occurs 2º away from Primary maximum to the right of the storm centre. Slow moving/big size cyclones give more rainfall, whereas, fast
    moving/small size ones give less rainfall. More than 90% of rainfall is limited within 200 Km radius of the storm. Torrential rain occurs in the eye of the cyclone. The strong spirally circulating wind around the centre is called the eye. The diameter of the circulating system can vary between 150 and 250 km. The eye is a region of calm with subsiding air. Around the eye is the eye wall, where there is a strong spiralling ascent of air to greater height reaching the tropopause. The wind reaches maximum velocity in this region, reaching as high as 250 km per hour. From the eye wall rain bands may radiate and trains of cumulus and cumulonimbus clouds may drift into the outer region.
    Due to torrential rain, wind blowing from those regions are humid. It brings precipitation in oceanic regions. Due to torrential rains, heavy rain takes place on eastern coast of India and north east coast of China.
28. The Inter-Tropical Convergence Zone (ITCZ) is a low-pressure zone located at the equator where trade winds converge, and so, it is a zone where air tends to ascend. In July, the ITCZ has located around 20°N-25°N latitudes (over the Gangetic plain). These are sometimes called the monsoon trough. This monsoon trough encourages the development of thermal low over north and northwest India. Due to the shift of ITCZ, the trade winds of the southern hemisphere cross the equator between 40° and 60°E longitudes and start blowing from southwest to northeast due to the Coriolis force. It

becomes southwest monsoon. In winter, the ITCZ moves southward, and so the reversal of winds from northeast to south and southwest takes place. They are called northeast monsoons.

OR

A climatic region has a homogeneous climatic condition which is the result of a combination of factors. Temperature and rainfall are two important elements that are considered to be decisive in all the schemes of climatic classification, Koeppen identified a close relationship between the distribution of vegetation and climate. He selected certain values of temperature and precipitation and related them to the distribution of vegetation and used these values for classifying the climates. Koeppen introduced the use of capital and small letters to designate climatic groups and types. Koeppen recognised five major climatic groups, four of them are based on temperature and one on precipitation.

i. Tropical climates.
ii. Dry climates.
iii. Warm temperate climates.
iv. Cool temperate climates.
v. Ice climate.

Section D

29. i. **k2:** It lies in the Karakoram range, in part in the Gilgit-Baltistan region of Pakistan-administered Kashmir and in part in a China-administered territory of the Kashmir region.
    ii. **River Son:** It originates at Amarkantak in Madhya Pradesh and flows through the states of Uttarakhand, Bihar, Jharkhand, and even the Northeast.
    iii. **Alluvial Soils:** Found in Rajasthan, Haryana, and Southern Punjab.
    iv. **The Aravali Ranges:** It lies on the western and northwestern margins of the peninsular plateau. They extend from Gujarat to Delhi in a southwest-northeast direction.
    v. **Montane Forests:** Areas of Arunachal Pradesh.

    [**Note:** Alluvial Soils and Montane forests are found in multiple areas]

30. A. Labrador current
    B. Agulhas current
    C. Galapagos
    D. Queensland
    E. Asia