# CUET-UG Geography Sample Paper-15

**Duration: 1 Hour** **Maximum Marks: 250**

## Instructions

- This paper contains a total of 50 Multiple Choice Questions.
- Each correct answer carries **+5 marks**.
- Each incorrect answer carries **-1 mark**.
- No negative marking for unattempted questions.

**Q1.** Which of the following approaches to human geography was mainly associated with the period of late 1960s to the 1970s, focusing on the use of statistical techniques and spatial organization?

(A) Regional analysis

(B) Areal differentiation

(C) Spatial organization

(D) Humanistic approach

**Q2.** Which scholar defined human geography as the "synthetic study of relationship between human societies and earth's surface"?

(A) Ellen C. Semple

(B) Friedrich Ratzel

(C) Paul Vidal de la Blache

(D) Lucian Gallois

**Q3.** The concept of 'Neo-Determinism' or 'Stop and Go Determinism' was introduced by which of the following geographers?

(A) Griffith Taylor

(B) Alexander von Humboldt

(C) Carl Ritter

(D) Vidal de la Blache

**Q4.** Which of the following regions has the highest density of population in the world?

(A) North-Eastern part of U.S.A.

(B) North-Western part of Europe

(C) South, South-East and East Asia

(D) All of the above

**Q5.** The transition from high birth and high death rates to low birth and low death rates in a society is known as:

(A) Demographic cycle

(B) Population growth

(C) Demographic transition

(D) Vital index

**Q6.** In which of the following stages of the Demographic Transition Model is the population growth the highest due to a rapid decline in the death rate but a high birth rate?

(A) Stage I

(B) Stage II

(C) Stage III

(D) Stage IV

**Q7.** The 'Human Development Index' (HDI) was introduced by Dr. Mahbub-ul-Haq and Prof. Amartya Sen in the year:

(A) 1985

(B) 1990

(C) 1995

(D) 2000

**Q8.** Which of the following countries has the highest rank in the Human Development Index as per recent global reports?

(A) Norway

(B) Switzerland

(C) Australia

(D) Germany

**Q9.** Which one of the following is NOT a characteristic of plantation agriculture?

(A) Large estates or plantations

(B) Scientific methods of cultivation

(C) Multiple crops grown together on the same plot

(D) Cheap labor and good transport linkage

**Q10.** The type of farming in which the main focus is on the rearing of animals, particularly in the cold and temperate regions of Europe and North America, is:

(A) Nomadic herding

(B) Commercial livestock rearing

(C) Mixed farming

(D) Dairy farming

**Q11.** Gathering and hunting are types of:

(A) Tertiary activities

(B) Secondary activities

(C) Primary activities

(D) Quaternary activities

**Q12.** Which of the following industries is known as a 'Footloose' industry?

(A) Iron and Steel industry

(B) Cement industry

(C) Watch making or electronics

(D) Sugar industry

**Q13.** The Ruhr region, famous for its coal and iron-steel industrial base, is located in:

(A) France

(B) Germany

(C) United Kingdom

(D) Russia

**Q14.** Tourism, medical services, and teaching fall under which category of economic activities?

(A) Primary

(B) Secondary

(C) Tertiary

(D) Quinary

**Q15.** Which of the following is a quaternary activity?

(A) Retail trading

(B) Research and development

(C) Farming

(D) Manufacturing

**Q16.** Which of the following describes the most accurate relationship between the size of a city and its rank in the urban hierarchy as per the 'Rank-Size Rule'?

(A) The $n^{th}$ largest city is $1/n$ the size of the largest city.

(B) The $n^{th}$ largest city is twice the size of the smallest city.

(C) All cities in a region have approximately the same population.

(D) The largest city is always ten times bigger than the second largest.

**Q17.** The major disadvantage of pipeline transport for moving liquids and gases is:

(A) High operational and maintenance costs.

(B) Inability to increase the capacity once the pipeline is laid.

(C) High risk of cargo theft during transit.

(D) Impact of weather conditions on the speed of delivery.

**Q18.** Match the following Railway Headquarters in List I with their correct Locations in List II:

| **List I (Railway Zone)** | **List II (Headquarters)** |
|---|---|
| (i) North Central Railway | (1) Gorakhpur |
| (ii) North Eastern Railway | (2) Prayagraj |
| (iii) East Central Railway | (3) Jabalpur |
| (iv) West Central Railway | (4) Hajipur |

(A) i-2, ii-1, iii-4, iv-3

(B) i-1, ii-2, iii-3, iv-4

(C) i-2, ii-1, iii-3, iv-4

(D) i-4, ii-3, iii-2, iv-1

**Q19.** Complete the following statement: In the 'Concentric Zone Model' of urban land use, the area immediately surrounding the Central Business District (CBD) is known as the _____.

(A) Zone of commuters

(B) Zone of transition

(C) Working-class residential zone

(D) Middle-class residential zone

**Q20.** Which of the following regions in India is the leading producer of Jute, often referred to as the 'Golden Fibre'?

(A) The Malabar Coast

(B) The Hugli Basin

(C) The Cauvery Delta

(D) The Brahmaputra Valley

**Q21.** Which of the following minerals is found in the 'Hazaribagh plateau' of Jharkhand and is used extensively in the electrical industry?

(A) Bauxite

(B) Mica

(C) Copper

(D) Iron Ore

**Q22.** The 'National Waterway 1' (NW-1) of India connects which two cities?

(A) Sadiya and Dhubri

(B) Kottapuram and Kollam

(C) Prayagraj and Haldia

(D) Kakinada and Puducherry

**Q23.** In terms of 'Human Settlements', a 'Megalopolis' is a term first popularized by Jean Gottmann to describe:

(A) A single city with more than one million people.

(B) A chain of roughly adjacent metropolitan areas.

(C) A village that has recently been urbanized.

(D) A planned city built from scratch.

**Q24.** Which of the following is the primary objective of the 'Command Area Development Program' in India?

(A) To increase the forest cover in hilly regions.

(B) To optimize the utilization of irrigation potential.

(C) To promote organic farming in drylands.

(D) To build new dams for hydroelectricity.

**Q25.** The world's highest roadway, connecting Manali to Leh, is maintained by which organization?

(A) National Highways Authority of India (NHAI)

(B) Border Roads Organization (BRO)

(C) Central Public Works Department (CPWD)

(D) Ministry of Road Transport and Highways

**Q26.** The movement of chemical and pharmaceutical industries away from traditional locations to coastal areas is primarily due to:

(A) Easy availability of fresh water.

(B) Proximity to international markets and easy waste disposal.

(C) Cheap agricultural labor in coastal villages.

(D) Favorable tropical climate for chemical reactions.

**Q27.** Which of the following describes 'Ageing of Population' in a country?

(A) An increase in the proportion of the young population.

(B) An increase in the proportion of the elderly population.

(C) A decrease in the total life expectancy.

(D) A rapid increase in the crude birth rate.

(E) A decrease in the working-age population only.

**Q28.** The 'Panama Canal' fundamentally changed global trade by providing a short-cut between:

(A) The Atlantic Ocean and the Indian Ocean.

(B) The Pacific Ocean and the Atlantic Ocean.

(C) The Mediterranean Sea and the Red Sea.

(D) The Arctic Ocean and the Pacific Ocean.

**Q29.** Which of the following is a major 'Land-locked' port in India?

(A) Mumbai

(B) Vishakhapatnam

(C) Kandla

(D) Ennore

**Q30.** The process of 'Urban Sprawl' typically results in:

(A) Higher density of population in the city center.

(B) The conversion of agricultural land into urban land-use at the periphery.

(C) The development of vertical housing in the CBD.

(D) A decrease in the use of private automobiles.

**Q31.** According to the 2011 Census of India, which of the following characteristics defines a 'Statutory Town'?

(A) A minimum population of 5,000 persons.

(B) At least 75% of the male main working population engaged in non-agricultural pursuits.

(C) All places with a municipality, corporation, cantonment board, or notified town area committee.

(D) A density of population of at least 400 persons per square kilometer.

**Q32.** Which of the following rural settlement patterns is typically found in the high-altitude regions of the Himalayas where houses are built on different levels of the slope?

(A) Rectangular pattern

(B) T-shaped pattern

(C) Terrace or Stepped pattern

(D) Cruciform pattern

**Q33.** Which of the following is the primary objective of the 'National Water Mission' under the National Action Plan on Climate Change in India?

(A) To provide 100 liters of water per capita per day to all urban households.

(B) To increase water use efficiency by 20

(C) To privatize all major river basins for better management.

(D) To stop the flow of all Himalayan rivers into neighboring countries.

**Q34.** In the context of Indian agriculture, the term 'Zaid' refers to a short cropping season during:

(A) The winter months from October to March.

(B) The onset of the monsoon from June to September.

(C) The summer months between the Rabi and Kharif seasons.

(D) The retreating monsoon period in October and November.

**Q35.** Identify the correct sequence of the following oil refineries in India from West to East:

(A) Jamnagar, Koyali, Mathura, Digboi

(B) Koyali, Jamnagar, Digboi, Mathura

(C) Mathura, Jamnagar, Koyali, Digboi

(D) Digboi, Mathura, Koyali, Jamnagar

**Q36.** Under the 'Integrated Regional Planning' approach, the National Capital Region (NCR) was created to:

(A) Increase the population density within the core of Delhi.

(B) Decentralize economic activities and reduce population pressure on Delhi.

(C) Convert all agricultural land in Haryana into industrial estates.

(D) Make Delhi the only administrative hub of North India.

**Q37.** Which major port of India is located at the head of the Gulf of Kachchh and was developed to serve as a major hub for petroleum and fertilizer imports?

(A) Mumbai

(B) Kandla (Deendayal Port)

(C) Marmagao

(D) Jawaharlal Nehru Port

**Q38.** Which of the following bodies is responsible for the maintenance of 'Border Roads' in India?

(A) National Highways Authority of India (NHAI)

(B) State Public Works Department (PWD)

(C) Border Roads Organisation (BRO)

(D) Central Public Works Department (CPWD)

**Q39.** The phenomenon of 'Eutrophication' in water bodies is primarily caused by:

(A) Discharge of toxic heavy metals from industries.

(B) Excessive accumulation of nutrients like nitrates and phosphates.

(C) Increase in the water temperature due to global warming.

(D) The depletion of dissolved oxygen due to overfishing.

**Q40.** Which of the following is a primary reason for the high 'Social Vulnerability' of people living in urban slums in India?

(A) Lack of access to high-speed internet.

(B) High cost of luxury goods in the city.

(C) Insecure tenure and lack of basic services like sanitation and clean water.

(D) Excessive availability of low-cost public transport.

Read the following passage and answer the questions from 40 to 45.

The 'Indira Gandhi Canal' (Nahar) project, formerly known as the Rajasthan Canal, is one of the largest canal systems in India. Conceived by Kanwar Sain in 1948, the canal originates at Harike barrage in Punjab and runs parallel to the Pakistan border. The introduction of canal irrigation in this arid region has transformed its ecology, economy, and society. It has influenced the environmental conditions of the region both positively and negatively. On

one hand, it has led to a significant increase in agricultural productivity and afforestation; on the other hand, intensive irrigation has resulted in alarming rates of waterlogging and soil salinity. Sustainable development in this region now requires a shift toward water-conserving technologies and the cultivation of crops that require less water.

**Q41.** The Indira Gandhi Canal originates from which of the following points?

(A) Bhakra Dam

(B) Harike Barrage

(C) Pong Dam

(D) Tehri Dam

**Q42.** What is a major negative environmental impact of intensive irrigation mentioned in the passage?

(A) Deforestation

(B) Soil erosion by wind

(C) Waterlogging and soil salinity

(D) Decrease in groundwater level

**Q43.** According to the passage, what is required for the 'Sustainable Development' of the canal command area?

(A) Increasing the area under rice and sugarcane.

(B) Adoption of water-conserving technologies.

(C) Completely stopping the flow of water in the canal.

(D) Promoting intensive chemical farming.

**Q44.** The canal was originally conceived by:

(A) Jawaharlal Nehru

(B) Kanwar Sain

(C) M. Visvesvaraya

(D) Baba Amte

**Q45.** The canal runs parallel to the border of which country?

(A) China

(B) Pakistan

(C) Nepal

(D) Afghanistan

Read the following Case Study and answer the questions from 46 to 50.

The Bharmaur Tribal Area is located in the Chamba district of Himachal Pradesh. This region is inhabited by the 'Gaddi' tribal community, who practice transhumance and speak the Gadi dialect. The region was notified as a tribal area in 1975. Historically, the Gaddis were economically backward due to the harsh climate, high altitude, and isolation. Under the 'Integrated Tribal Development Project' (ITDP), the government focused on developing infrastructure like roads, schools, and healthcare. This led to a significant improvement in the literacy rate and a decline in the dependence on pastoralism, as more people moved into settled agriculture and the service sector. However, the fragile ecology of the region remains a challenge for future development.

**Q46.** The Gaddi community of Bharmaur is traditionally known for:

(A) Marine fishing

(B) Transhumance (seasonal migration with livestock)

(C) Mining of iron ore

(D) Intensive plantation agriculture

**Q47.** When was the Bharmaur region notified as a tribal area?

(A) 1947

(B) 1965

(C) 1975

(D) 1991

**Q48.** What was the primary focus of the 'Integrated Tribal Development Project' (ITDP) in Bharmaur?

(A) Building international airports.

(B) Developing basic infrastructure like roads and social services.

(C) Privatizing all forest land for timber.

(D) Promoting heavy industrialization in the mountains.

**Q49.** What has been a positive outcome of the ITDP in the region?

(A) Increase in the death rate.

(B) Rapid increase in the literacy rate.

(C) Total depletion of the Gadi dialect.

(D) Increase in the number of nomadic pastoralists.

**Q50.** Bharmaur is located in which district of Himachal Pradesh?

(A) Kangra

(B) Shimla

(C) Chamba

(D) Lahaul and Spiti

## Detailed Solutions

**Q1.**

### Solution

**Concept:**

The evolution of Human Geography involves various schools of thought and approaches. During the late 1960s and 1970s, the focus shifted toward using mathematical models and statistical tools to explain spatial patterns. This phase is characterized by the dominance of the quantitative revolution and the study of spatial organization.

**Solution:**

(a) The period mentioned (late 1960s to 1970s) was the era of the Quantitative Revolution.

(b) This approach emphasized the use of "Spatial Organization" to explain the distribution of human phenomena.

(c) Regional analysis and Areal differentiation were earlier approaches (colonial and inter-war periods).

(d) Humanistic approaches emerged later as a reaction against the mechanical nature of spatial organization.

(e) Therefore, Spatial organization is the correct approach for this timeline.

**Final Answer:** The correct approach is Spatial organization.

**Answer: (C)**

## Q2.

### Solution

**Concept:**

Human Geography has been defined by various geographers over time. These definitions reflect the varying perspectives on the relationship between humans and the environment, ranging from environmental determinism to possibilism and synthetic studies.

**Solution:**

(a) The definition "synthetic study of relationship between human societies and earth's surface" emphasizes synthesis.

(b) Friedrich Ratzel, in his work 'Anthropogeographie', provided this specific definition.

(c) Ellen C. Semple defined it as the study of the "changing relationship between the unresting man and the unstable earth."

(d) Vidal de la Blache offered a concept centered more on 'Possibilism' and the conception resulting from a more synthetic knowledge of physical laws.

(e) Since the wording matches Ratzel's core contribution exactly, he is the correct author.

**Final Answer:** The definition was given by Friedrich Ratzel.

**Answer: (B)**

## Q3.

### Solution

**Concept:**

In the study of Human Geography, there was a long-standing debate between Environmental Determinism (nature dictates human action) and Possibilism (humans can overcome nature). A middle path was suggested to balance these extremes.

**Solution:**

(a) Griffith Taylor introduced a concept that sits between the two extremes of determinism and possibilism.

(b) He called it 'Neo-Determinism' or 'Stop and Go Determinism.'

(c) Using the analogy of a traffic controller, he suggested that humans can accelerate or slow down the pace of development but cannot deviate from the limits set by nature.

(d) This balanced the idea that nature is not a blind force, but humans also do not have absolute freedom.

(e) Thus, Griffith Taylor is the geographer associated with this concept.

**Final Answer:** The concept was introduced by Griffith Taylor.

**Answer: (A)**

## Q4.

### Solution

**Concept:**

The distribution of the world's population is highly uneven. Certain regions, due to favorable climate, fertile soil, industrialization, and urbanization, support very high densities of people. These are often referred to as the 'ecumene' regions.

**Solution:**

(a) The North-Eastern U.S.A. is a highly industrialized and urbanized zone with very high population density.

(b) North-Western Europe is the industrial heartland of Europe, also characterized by dense settlements.

(c) South, South-East, and East Asia are the most populous regions due to intensive agriculture and growing industrial sectors.

(d) All three listed regions are globally recognized as the major clusters of high population density.

(e) Therefore, the answer includes all of the options provided.

**Final Answer:** All of the mentioned regions have high population density.

**Answer: (D)**

## Q5.

### Solution

**Concept:**

Demography tracks how populations change over time as a country moves from an agrarian, rural, and illiterate society to an industrial, urban, and literate one. This transformation is modeled through specific stages of birth and death rate changes.

**Solution:**

(a) The process describes the movement of birth and death rates over time.

(b) The overall sequence—starting from high birth/death rates and moving toward low birth/death rates—is termed 'Demographic Transition.'

(c) The 'Demographic Cycle' refers to the cyclical nature, but the theory itself is known as Demographic Transition.

(d) 'Population Growth' is just the net change, and 'Vital Index' is a ratio, neither of which describes the whole process.

(e) Hence, Demographic transition is the correct term for this shift.

**Final Answer:** This process is known as Demographic transition.

**Answer: (C)**

## Q6.

### Solution

**Concept:**

The Demographic Transition Model (DTM) explains the transformation of countries from high birth and death rates to low birth and death rates. This process is divided into specific stages. In the middle stages, a significant gap often emerges between the frequency of births and deaths, leading to what is known as a "population explosion" or rapid natural increase.

**Solution:**

(a) In Stage I, both birth and death rates are very high, resulting in low and stable population growth.

(b) In Stage II, advancements in sanitation, healthcare, and food security cause a rapid decline in the death rate. However, the birth rate remains high because social norms regarding family size take longer to change.

(c) The wide gap between the high birth rate and the falling death rate in Stage II results in the highest rate of natural increase (population growth) seen in the model.

(d) In Stage III, the birth rate begins to fall significantly, leading to a slowdown in growth.

(e) Therefore, Stage II is the period of maximum population expansion.

**Final Answer:** The highest growth occurs in Stage II.

**Answer: (B)**

## Q7.

### Solution

**Concept:**

Human development is a concept that shifted the focus of development from purely economic indicators (like GDP) to human-centric indicators. It emphasizes the expansion of people's choices and the improvement of their well-being, focusing on health, education, and access to resources.

**Solution:**

(a) The Human Development Index (HDI) was a revolutionary metric designed to measure progress beyond just monetary wealth.

(b) It was pioneered by Pakistani economist Dr. Mahbub-ul-Haq, who worked closely with Indian Nobel laureate Prof. Amartya Sen.

(c) The United Nations Development Programme (UNDP) published the first Human Development Report (HDR) featuring the HDI in 1990.

(d) This index has since been used annually to rank countries based on life expectancy, expected/mean years of schooling, and gross national income per capita.

(e) Thus, the year 1990 marks the official introduction of the HDI.

**Final Answer:** The HDI was introduced in 1990.

**Answer: (B)**

## Q8.

### Solution

**Concept:**

The Human Development Index (HDI) uses a scale of 0 to 1 to rank countries. Countries with high levels of life expectancy, high literacy rates, and high per capita income are categorized as having "Very High" human development. These rankings fluctuate slightly year to year based on the Human Development Report.

**Solution:**

(a) The question asks for the highest-ranking country in recent global reports (typically covering the 2020-2024 period).

(b) For many years, Norway held the top position consistently due to its robust social welfare system and economic stability.

(c) However, in the most recent reports (2022/2023/2024), Switzerland has frequently overtaken Norway to occupy the number one spot globally.

(d) While Norway, Australia, and Germany remain in the "Very High" category and near the top, Switzerland currently leads the index.

(e) Therefore, based on current global data, Switzerland is the correct choice.

**Final Answer:** Switzerland has the highest rank in the HDI.

**Answer: (B)**

## Q9.

### Solution

**Concept:**

Plantation agriculture is a form of commercial farming where a single cash crop is grown on a large scale. It was introduced by Europeans in their colonies in the tropics. Common plantation crops include tea, coffee, rubber, cocoa, cotton, and sugarcane.

**Solution:**

(a) Plantation agriculture is characterized by large landholdings known as "estates."

(b) It requires heavy capital investment and the application of scientific methods and modern machinery.

(c) It is a "monoculture" system, meaning only one single crop is grown over a vast area to ensure specialized production.

(d) The statement "Multiple crops grown together on the same plot" describes inter-cropping or mixed farming, which is the opposite of the plantation system.

(e) Cheap labor and efficient transport are essential for moving the produce to processing factories or ports.

(f) Thus, the practice of growing multiple crops is NOT a characteristic of this farming type.

**Final Answer:** Growing multiple crops is not a characteristic of plantation agriculture.

**Answer: (C)**

## Q10.

### Solution

**Concept:**

Dairy farming is the most advanced and efficient type of agriculture for the rearing of milch (milk-producing) animals. It is highly capital-intensive and requires specialized knowledge, refrigeration facilities, and proximity to urban markets.

**Solution:**

(a) The question focuses on the rearing of animals in cold and temperate regions like Europe and North America.

(b) While Mixed Farming involves both crops and animals, and Commercial Livestock Rearing is focused on meat/wool, the specific focus on dairy products in these regions is the hallmark of Dairy Farming.

(c) Dairy farming is concentrated near industrial centers because milk and its products are perishable and require quick transport.

(d) Countries like Denmark, the Netherlands, and areas in the North-Eastern USA/Canada are global leaders in this sector.

(e) Therefore, Dairy farming is the correct classification for this specialized animal-rearing activity.

**Final Answer:** The type of farming is Dairy farming.

**Answer: (D)**

## Q11.

### Solution

**Concept:**

Economic activities are classified into various sectors based on the nature of the work and the level of processing involved. Primary activities are those that are directly dependent on the environment as they utilize earth's resources. These include activities like hunting, gathering, pastoral activities, fishing, forestry, and agriculture. They form the base of the economic pyramid in many developing regions.

**Solution:**

(a) Gathering and hunting represent the oldest known human economic activities.

(b) These activities involve the direct extraction of resources from the natural environment without any complex processing or manufacturing.

(c) In the classification of economic sectors, "Primary activities" are defined as those that are directly concerned with the harvest or extraction of natural raw materials.

(d) Secondary activities involve manufacturing, while Tertiary and Quaternary involve services and knowledge-based information.

(e) Because gathering and hunting rely entirely on the immediate natural ecosystem for survival, they are quintessential primary activities.

**Final Answer:** Gathering and hunting are Primary activities.

**Answer: (C)**

## Q12.

### Solution

**Concept:**

Industries are often categorized by their locational factors, such as proximity to raw materials, markets, or power sources. While heavy industries like iron and steel are "weight-losing" and must stay near coal or ore mines, some modern industries are not tied to any specific raw material and have high flexibility in location.

**Solution:**

(a) A 'Footloose' industry is one that can be located in a wide variety of places without significant effect from factors such as resources or transport.

(b) These industries generally depend on component parts that are small and easily transportable, rather than heavy or bulky raw materials.

(c) They do not produce a "weight-losing" product and are often non-polluting, meaning they can be located in urban areas or near residential zones.

(d) Watch making and electronics assembly are classic examples because their value lies in precision and technology rather than the weight of the metal or components used.

(e) Conversely, industries like iron, cement, and sugar are strictly location-bound due to the bulkiness or perishability of their raw materials.

**Final Answer:** The 'Footloose' industry is Watch making or electronics.

**Answer: (C)**

## Q13.

### Solution

**Concept:**

The history of industrialization is marked by major coal and iron ore fields that acted as magnets for heavy manufacturing. These regions are often called "industrial heartlands." Over time, some of these older regions have faced decline (becoming "Rust Belts") while others have diversified into modern engineering and chemical sectors.

**Solution:**

(a) The Ruhr region is one of the most famous industrial coal-fields in the world, often referred to as the "Ruhr Coalfield."

(b) It has historically been the backbone of the heavy industrial infrastructure for its host country, driving the production of steel and heavy machinery.

(c) Geographically, the Ruhr is located in Western Europe, specifically within the borders of Germany.

(d) It is situated in the North Rhine-Westphalia state and is named after the Ruhr River.

(e) While other countries like Russia (Ural) and the UK (Midlands) have their own coal regions, the Ruhr is strictly German.

**Final Answer:** The Ruhr region is located in Germany.

**Answer: (B)**

## Q14.

### Solution

**Concept:**

Economic activities beyond production (primary and secondary) involve the provision of services. This sector does not produce a physical good but instead provides expertise, convenience, or labor to consumers and other businesses. As economies develop, the percentage of the workforce in this sector typically increases.

**Solution:**

(a) Tertiary activities consist of all types of services provided to people or industries.

(b) Tourism is a service provided for recreation; medical services provide healthcare expertise; and teaching provides educational services.

(c) None of these activities involve the extraction of raw materials (Primary) or the manufacturing of goods in factories (Secondary).

(d) Quinary activities are a subset of services but are limited to high-level decision-making and top executive roles.

(e) Since tourism, healthcare, and education are broad service-based industries available to the general population, they fall squarely under the Tertiary sector.

**Final Answer:** These activities fall under the Tertiary category.

**Answer: (C)**

## Q15.

### Solution

**Concept:**

The Quaternary sector is a specialized branch of the service sector that deals with the "knowledge economy." It includes services such as information technology, research and development (R&D), financial planning, and specialized consultancy. It is distinct because it involves high levels of intellectual skill and information processing.

**Solution:**

(a) Retail trading is a standard tertiary activity (buying and selling).

(b) Farming is a primary activity, and manufacturing is a secondary activity.

(c) Research and development (R&D) involves the creation of new knowledge, innovation, and technological improvement.

(d) This focus on high-level information processing and "thinking" services is the defining characteristic of quaternary activities.

(e) Personnel in this sector are often referred to as "white-collar" or "gold-collar" workers depending on their level of specialization.

**Final Answer:** Research and development is a quaternary activity.

**Answer: (B)**

## Q16.

### Solution

**Concept:**

The Rank-Size Rule is a geographical concept used to describe the relationship between the population size of cities within a specific country or region. It was most notably developed and formalized by G.K. Zipf. The rule suggests that in a balanced urban system, there is a predictable mathematical distribution of city sizes, which reflects a mature and integrated national economy where no single "Primate City" dominates the entire landscape.

**Solution:**

(a) The Rank-Size Rule states that the population of a given city should be inversely proportional to its rank in the urban hierarchy.

(b) Mathematically, this is expressed as $P_n = P_1/n$, where $P_n$ is the population of the city ranked '$n$' and $P_1$ is the population of the largest (rank 1) city.

(c) For example, if the largest city has a population of 12 million, the second-largest city should have approximately 6 million $(1/2)$, the third-largest should have 4 million $(1/3)$, and so on.

(d) This rule is typically observed in countries like the United States or Germany, where urban development is spread across multiple major hubs rather than being concentrated in just one capital city.

(e) Therefore, the $n^{th}$ largest city being $1/n$ the size of the largest is the most accurate description of this geographical principle.

**Final Answer:** The $n^{th}$ largest city is $1/n$ the size of the largest city.

**Answer: (A)**

## Q17.

### Solution

**Concept:**

Pipeline transport is a specialized mode of transportation used primarily for the movement of liquids (like water, crude oil, and petroleum products) and gases (like natural gas). In some cases, solids can also be transported as slurry. While pipelines are highly efficient because they offer an uninterrupted flow, are unaffected by weather, and have low operating costs after installation, they possess a significant limitation regarding their physical infrastructure.

**Solution:**

(a) Pipelines are fixed assets buried underground or laid on the surface. Once the diameter of the pipe is chosen and the line is constructed, the capacity is set.

(b) Unlike road transport (where you can add more trucks) or rail (where you can add more wagons), a pipeline's capacity cannot be easily increased to meet a surge in demand.

(c) To increase capacity, an entirely new parallel line would need to be laid, which involves massive capital expenditure and time.

(d) While they have high initial costs, their operational costs are actually very low compared to other modes, making option (A) incorrect.

(e) They are also the safest from theft and weather compared to road or sea routes.

(f) Consequently, the "rigidity" of their capacity is identified as their primary operational disadvantage in geographical studies.

**Final Answer:** Inability to increase the capacity once the pipeline is laid.

**Answer: (B)**

## Q18.

### Solution

**Concept:**

The Indian Railway network is one of the largest in the world and is divided into several zones for better administrative and operational efficiency. Each zone is headed by a General Manager and has a specific headquarters. Understanding the location of these headquarters is crucial for studying the spatial organization of transport in India. The zones are often named based on their cardinal directions relative to the center of the country.

**Solution:**

(a) The North Central Railway (NCR) was formed in 2003 and is headquartered in Prayagraj (formerly Allahabad), Uttar Pradesh. It serves as a vital link between Northern and Eastern India.

(b) The North Eastern Railway (NER) focuses on the regions of Uttar Pradesh and Uttarakhand and is headquartered in Gorakhpur.

(c) The East Central Railway (ECR) covers parts of Bihar and Jharkhand and has its headquarters in Hajipur.

(d) The West Central Railway (WCR) operates mainly in Madhya Pradesh and has its headquarters in Jabalpur.

(e) Mapping these correctly: (i) matches (2), (ii) matches (1), (iii) matches (4), and (iv) matches (3).

(f) This specific sequence corresponds to Option A.

**Final Answer:** The correct sequence is i-2, ii-1, iii-4, iv-3.

**Answer: (A)**

## Q19.

### Solution

**Concept:**

The Concentric Zone Model, also known as the Burgess Model, was one of the earliest theoretical models to explain urban social structures. Developed by sociologist Ernest Burgess in 1925, it suggests that a city grows outward from a central point in a series of five concentric rings. Each ring represents a different type of land use and socio-economic group, reflecting the competition for land and the impact of distance from the city center.

**Solution:**

(a) The innermost circle (Zone 1) is the Central Business District (CBD), the heart of commercial and civic life.

(b) The second ring (Zone 2) is the "Zone of Transition." This area is characterized by a mix of residential and commercial use, often containing older housing, small-scale manufacturing, and low-income populations.

(c) The Zone of Transition is constantly under pressure from the expanding CBD and often faces physical deterioration.

(d) Zone 3 is the zone of independent workers' homes (working class), Zone 4 is for better residences (middle class), and Zone 5 is the commuters' zone (suburbs).

(e) Since the question specifically asks for the area immediately surrounding the CBD, the correct geographical term is the Zone of Transition.

**Final Answer:** The area is known as the Zone of transition.

**Answer: (B)**

## Q20.

### Solution

**Concept:**

Jute is an important commercial crop in India, known as the 'Golden Fibre' due to its color and high cash value. It is used for making gunny bags, ropes, mats, and carpets. Jute cultivation requires specific geographical conditions: a hot and humid climate (tropical), heavy rainfall, and, most importantly, fertile alluvial soil that is renewed annually. The extraction of the fiber (retting) also requires a vast supply of clean, slow-moving water.

**Solution:**

(a) The Hugli Basin in West Bengal provides the ideal environment for jute. It has the required fertile deltaic soil and high humidity.

(b) Historically, the first jute mill was established at Rishra (near Kolkata) in 1855 because of the region's proximity to the jute-growing areas.

(c) The Hugli River provides the abundant water needed for retting the jute stalks to separate the fiber.

(d) While the Brahmaputra Valley also produces jute, the Hugli Basin is the dominant industrial and agricultural hub for this specific crop in India.

(e) West Bengal remains the leading producer in the country, followed by Bihar and Assam.

(f) Therefore, the Hugli Basin is the most significant region associated with the 'Golden Fibre.'

**Final Answer:** The leading producer is the Hugli Basin.

**Answer: (B)**

## Q21.

### Solution

**Concept:**

Mineral resources are the backbone of industrial development, and India is endowed with a rich variety of them, particularly in the Chotanagpur plateau region. Mica is a non-metallic mineral that is highly valued for its unique physical properties. It can be easily split into very thin, tough, and flexible sheets. It possesses a high dielectric strength, low power loss factor, insulating properties, and resistance to high voltage, making it one of the most indispensable minerals in the electrical and electronic industries.

**Solution:**

(a) The Hazaribagh plateau, located in the state of Jharkhand, is part of the "Mica Belt" of India. This region historically produced the world's finest quality of "ruby mica."

(b) While Jharkhand is famous for Iron Ore and Coal, the specific geographic mention of the Hazaribagh plateau in the context of the electrical industry points directly to Mica.

(c) Bauxite is the ore for aluminum and is found more prominently in the Lohardaga region of Jharkhand.

(d) Copper is found in the Singhbhum belt (Musabani and Rakha mines), not primarily in the Hazaribagh plateau.

(e) Mica acts as an insulator in electrical appliances like heaters, toasters, and high-voltage power equipment because it can withstand high temperatures without melting or conducting electricity through its bulk.

(f) Therefore, Mica is the mineral identified with the Hazaribagh plateau for electrical applications.

**Final Answer:** The mineral found in the Hazaribagh plateau is Mica.

**Answer: (B)**

## Q22.

### Solution

**Concept:**

Inland waterways in India are managed by the Inland Waterways Authority of India (IWAI). Similar to National Highways, certain stretches of rivers have been designated as "National Waterways" (NW). These routes are developed for commercial navigation to reduce the load on rail and road transport, as water transport is the most fuel-efficient and environment-friendly mode for bulky cargo.

**Solution:**

(a) National Waterway 1 (NW-1) is the longest and most important waterway in India. It was declared in 1986 and spans a length of approximately 1620 km.

(b) This waterway follows the course of the Ganga-Bhagirathi-Hooghly river system.

(c) It connects the historical and religious city of Prayagraj (formerly Allahabad) in Uttar Pradesh to the industrial port of Haldia in West Bengal.

(d) This route passes through major urban centers like Varanasi, Patna, and Munger, serving as a critical artery for the movement of coal, fertilizers, and food grains.

(e) In contrast, Sadiya and Dhubri are connected by NW-2 on the Brahmaputra river, and Kottapuram and Kollam are connected by NW-3 (West Coast Canal).

(f) Thus, the Prayagraj-Haldia stretch is the correct definition for NW-1.

**Final Answer:** NW-1 connects Prayagraj and Haldia.

**Answer: (C)**

## Q23.

### Solution

**Concept:**

In urban geography, the classification of settlements is based on size, function, and the degree of connectivity. The term 'Megalopolis' comes from Greek roots meaning 'Great City.' It represents a higher level of urban agglomeration than a metropolis or a conurbation. It is a massive urban complex formed when several large cities and their surrounding metropolitan areas expand and eventually merge along major transport corridors.

**Solution:**

(a) The term was first applied by Jean Gottmann in 1961 to describe the urbanized northeastern seaboard of the United States, stretching from Boston to Washington D.C. (the BosWash corridor).

(b) A Megalopolis is not just a single large city; it is a "chain" or a "super-city" where multiple metropolitan centers have grown so large that their boundaries overlap.

(c) Option (A) describes a "Million City," which is a much smaller unit of urban classification.

(d) Option (C) refers to "Rurbanization" or urban fringes, while Option (D) refers to "New Towns."

(e) The defining characteristic of a Megalopolis is the continuous urban landscape and the high level of economic and social integration between the constituent cities.

(f) Therefore, it is a chain of adjacent metropolitan areas.

**Final Answer:** A Megalopolis is a chain of roughly adjacent metropolitan areas.

**Answer: (B)**

## Q24.

### Solution

**Concept:**

Irrigation is a vital component of Indian agriculture, especially in the arid and semi-arid regions. While the construction of dams and canals provides the physical infrastructure for water delivery, the actual benefit to farmers depends on how effectively that water is used in the fields. The "Command Area Development Program" (CADP) was launched in 1974-75 to bridge the gap between the irrigation potential created and the irrigation potential utilized.

**Solution:**

(a) The "Command Area" refers to the specific area that can be irrigated by a canal system.

(b) Historically, there was a significant lag between the completion of a dam/canal and the actual use of water by farmers due to a lack of field channels and land leveling.

(c) The CADP focuses on "on-farm development," which includes constructing field channels, land leveling, and educating farmers on efficient water management techniques.

(d) It aims to ensure that every drop of water stored in the reservoir reaches the crop root zone effectively, thereby optimizing the utilization of irrigation potential.

(e) It is not primarily about forestry (A), organic farming (C), or building new dams (D), though these might be secondary components of regional planning.

(f) Hence, the optimization of water use is the core objective.

**Final Answer:** To optimize the utilization of irrigation potential.

**Answer: (B)**

## Q25.

### Solution

**Concept:**

Transport in high-altitude terrain presents extreme engineering challenges. Roads in these regions are vital for national security, border trade, and the socio-economic development of remote tribal populations. In India, the responsibility for constructing and maintaining roads in the difficult north and northeastern border areas is given to a specialized agency under the Ministry of Defence.

**Solution:**

(a) The Manali-Leh Highway is one of the highest motorable roads in the world, crossing several high-altitude passes such as Rohtang La (now bypassed by the Atal Tunnel), Taglang La, and Lachulung La.

(b) The maintenance of such roads requires specialized equipment to clear snow and repair landslides, which are common in the Himalayas.

(c) The Border Roads Organization (BRO), established in 1960, is the dedicated agency for this task.

(d) While the NHAI manages major National Highways in the plains and the CPWD handles general government buildings and roads, they do not operate in these extreme high-altitude border sensitive zones.

(e) The BRO plays a dual role: helping the military with strategic movement and providing the local population with year-round connectivity.

(f) Therefore, the BRO is the organization responsible for this highway.

**Final Answer:** The road is maintained by the Border Roads Organization (BRO).

**Answer: (B)**

## Q26.

### Solution

**Concept:**

Industrial location theory explores why industries are situated in specific geographic areas. While traditional "heavy" industries (like steel) are located near raw material sources to minimize transport costs of bulky ore, the modern chemical and pharmaceutical sectors are influenced by different factors. These industries often deal with hazardous materials, require high volumes of water for processing and cooling, and rely heavily on international trade for both importing specialized precursors and exporting finished high-value products.

**Solution:**

(a) Chemical and pharmaceutical industries are increasingly "market-oriented" or "export-oriented" in the globalized era.

(b) Coastal locations provide direct access to major ports, significantly reducing the inland transportation costs for bulky chemical exports and the import of raw materials.

(c) Furthermore, many chemical processes produce significant amounts of industrial effluent. Proximity to the sea historically provided an easy (though environmentally debated) method for waste disposal via deep-sea discharge.

(d) While fresh water is needed, coastal areas often utilize desalinated water or are situated near river estuaries.

(e) The shift is primarily driven by the "break-of-bulk" advantage and the logistical efficiency of being near global shipping lanes.

**Final Answer:** The movement is due to proximity to international markets and easy waste disposal.

**Answer: (B)**

## Q27.

### Solution

**Concept:**

Ageing of population is a demographic phenomenon where the median age of a country or region rises due to rising life expectancy and/or declining fertility rates. This is a characteristic feature of the later stages of the Demographic Transition Model, commonly observed in developed nations like Japan, Germany, and Italy. It poses unique socio-economic challenges, such as a shrinking workforce and increased pressure on healthcare and pension systems.

**Solution:**

(a) Population ageing occurs when the birth rate falls significantly, leading to fewer children in the population pyramid.

(b) Simultaneously, improvements in medical technology and living standards allow people to live longer, increasing the number of people in the 60+ age bracket.

(c) Consequently, the "proportion" of the elderly population relative to the total population increases.

(d) This is not about a decrease in total life expectancy (which would be the opposite) or an increase in the young population.

(e) It results in a "top-heavy" population pyramid, where the dependency ratio of the elderly increases, requiring governments to shift focus toward geriatric care.

**Final Answer:** It refers to an increase in the proportion of the elderly population.

**Answer: (B)**

## Q28.

### Solution

**Concept:**

Artificial waterways, or canals, are engineered to connect major bodies of water, drastically reducing the travel distance for maritime trade. The Panama Canal, completed in 1914, is one of the two most strategic artificial waterways in the world (the other being the Suez Canal). It utilizes a complex system of locks to lift ships over the Isthmus of Panama, acting as a bridge between the world's two largest oceans.

**Solution:**

(a) Before the Panama Canal was built, ships traveling from the East Coast of the USA (Atlantic) to the West Coast (Pacific) had to sail all the way around the southern tip of South America via Cape Horn.

(b) The canal cuts through the narrow Isthmus of Panama in Central America.

(c) By connecting the Atlantic Ocean and the Pacific Ocean, it shortened the journey from New York to San Francisco by nearly $13,000$ km.

(d) The Mediterranean and Red Sea connection refers to the Suez Canal, not the Panama Canal.

(e) Therefore, the canal serves as the vital link between the Pacific and Atlantic realms.

**Final Answer:** It provides a short-cut between the Pacific Ocean and the Atlantic Ocean.

**Answer: (B)**

## Q29.

### Solution

**Concept:**

Ports in India are classified based on their location and the nature of their infrastructure. While most major ports are "tidal" or "natural harbors" located directly on the coastline, some are situated at the end of long inlets or are protected by land masses on multiple sides. A land-locked port is one that is surrounded by land with an opening to the sea through a channel, providing it with natural protection from storms and high tides.

**Solution:**

(a) Vishakhapatnam (Vizag) is a premier port on the East Coast of India, located in Andhra Pradesh.

(b) It is famously known as a land-locked port because the harbor is cut into the land and is protected by a high promontory known as "Dolphin's Nose" to the south.

(c) This natural land barrier protects the port from the direct fury of cyclones that frequently hit the Bay of Bengal.

(d) Mumbai is a natural deep-water harbor but is an island port; Kandla is a tidal port; Ennore is a corporatized satellite port.

(e) Thus, Vishakhapatnam is the textbook example of a land-locked, deep-water harbor in India.

**Final Answer:** Vishakhapatnam is the major land-locked port.

**Answer: (B)**

## Q30.

### Solution

**Concept:**

Urban Sprawl is the uncontrolled expansion of urban areas into the surrounding countryside. It is characterized by low-density residential housing, single-use zoning, and a heavy reliance on private automobiles for commuting. As the core of the city becomes congested and expensive, development "spills over" into the rural-urban fringe, leading to significant changes in land-use patterns and environmental challenges.

**Solution:**

(a) Sprawl occurs when the city grows horizontally rather than vertically.

(b) The most immediate geographic impact is the "encroachment" on the agricultural hinterland surrounding the city.

(c) Fertile farmland, forests, and wetlands at the urban periphery are cleared and paved over to build housing colonies, shopping malls, and highways.

(d) This results in the loss of "green belts" and leads to longer commuting distances, which actually increases (rather than decreases) the use of private automobiles.

(e) Therefore, the primary result is the conversion of agricultural land into urban land-use at the city's periphery.

**Final Answer:** The process results in the conversion of agricultural land into urban land-use.

**Answer: (B)**

## Q31.

### Solution

**Concept:**

The Census of India classifies urban areas into two categories: Statutory Towns and Census Towns. Statutory towns are defined by their administrative status rather than specific demographic metrics like population size or density.

**Solution:**

1. Statutory Towns are defined as all places with a municipality, corporation, cantonment board, or notified town area committee, regardless of their population size or occupation patterns. 2. In contrast, 'Census Towns' must satisfy three specific criteria: a minimum population of 5,000, at least 75 percent of the male main working population engaged in non-agricultural pursuits, and a population density of at least 400 persons per square kilometer. 3. Therefore, while options A, B, and D describe the quantitative requirements for a Census Town, option C correctly identifies the legal/administrative requirement for a Statutory Town. 4. As per the 2011 Census, there were 4,041 statutory towns in India compared to 3,799 census towns.

**Final Answer:** All places with a municipality, corporation, cantonment board, or notified town area committee.

**Answer: (C)**

## Q32.

### Solution

**Concept:**

Rural settlement patterns are influenced by the site's topography, availability of water, and landform. In mountainous regions, the physical terrain dictates the arrangement of houses.

**Solution:**

1. In mountainous areas such as the Himalayas, the Alps, or the Andes, the availability of flat land is extremely limited. To maximize the use of the terrain, settlements follow the contours of the slopes. 2. The Terrace or Stepped pattern occurs where houses are constructed on different levels of the mountain, often integrated with terrace farming. 3. Linear patterns are found along valleys or roads, while rectangular patterns are common in plains. 4. The stepped arrangement ensures that each dwelling has access to the slope and is protected from landslides while maintaining proximity to agricultural terraces.

**Final Answer:** Terrace or Stepped pattern.

**Answer: (C)**

## Q33.

### Solution

**Concept:**

The National Water Mission (NWM) is one of the eight missions under the National Action Plan on Climate Change (NAPCC) launched by the Government of India to ensure integrated water resource management.

**Solution:**

1. The main objective of the National Water Mission is the conservation of water, minimizing wastage, and ensuring its more equitable distribution both across and within states through integrated water resources development and management. 2. A key quantitative goal of the mission is to increase water use efficiency by 20 percent. 3. This involves the promotion of water-neutral and water-positive technologies, recycling of wastewater, and incentivizing the use of micro-irrigation systems. 4. It also focuses on the promotion of basin-level integrated water resources management and the creation of a comprehensive water database in the public domain.

**Final Answer:** To increase water use efficiency by 20% through various regulatory mechanisms.

**Answer: (B)**

## Q34.

### Solution

**Concept:**

India has three distinct cropping seasons: Kharif, Rabi, and Zaid. These are determined by the monsoon patterns and temperature variations across the subcontinent.

**Solution:**

1. The Kharif season coincides with the Southwest Monsoon (June to September). The Rabi season begins with the onset of winter (October to March). 2. Zaid is a short duration summer cropping season that occurs between the harvesting of Rabi crops and the sowing of Kharif crops, typically from March to June. 3. During this period, farmers grow crops that thrive in warm, dry weather, such as watermelon, cucumber, muskmelon, vegetables, and fodder crops. 4. This season is largely dependent on irrigation facilities since it occurs during the peak of the Indian summer.

**Final Answer:** The summer months between the Rabi and Kharif seasons.

**Answer: (C)**

## Q35.

### Solution

**Concept:**

The distribution of oil refineries in India follows the location of oil fields (inland) and major ports (coastal). Mapping these requires an understanding of Indian state geography.

**Solution:**

1. Jamnagar (Reliance Industries) and Koyali (IOCL) are both located in Gujarat. Jamnagar is further west on the coast of the Gulf of Kachchh, while Koyali is located near Vadodara. 2. Mathura refinery is located in Uttar Pradesh, which is to the east of Gujarat. 3. Digboi is located in the Tinsukia district of Assam in North-East India. It is India's oldest refinery and the easternmost on this list. 4. Therefore, the West-to-East sequence is Jamnagar (Gujarat) -> Koyali (Gujarat) -> Mathura (UP) -> Digboi (Assam).

**Final Answer:** Jamnagar, Koyali, Mathura, Digboi.

**Answer: (A)**

## Q36.

### Solution

**Concept:**

Regional planning aims to reduce disparities between regions and manage the growth of mega-cities. The NCR is a prime example of an interstate regional planning initiative in India.

**Solution:**

1. The National Capital Region (NCR) was established to manage the haphazard growth and excessive population pressure on Delhi. 2. The primary strategy was to decentralize economic activities by developing 'Counter-Magnet' towns and satellite cities like Gurugram, Noida, and Faridabad. 3. By providing infrastructure and employment opportunities in these surrounding areas, planners aimed to divert the influx of migrants away from the core of Delhi. 4. This approach falls under Integrated Regional Planning, as it involves the coordinated development of parts of Delhi, Haryana, Uttar Pradesh, and Rajasthan.

**Final Answer:** Decentralize economic activities and reduce population pressure on Delhi.

**Answer: (B)**

## Q37.

### Solution

**Concept:**

Post-independence, India developed new ports to replace those lost during partition and to handle the increasing volume of international trade.

**Solution:**

1. Kandla Port, now officially known as Deendayal Port, is situated at the head of the Gulf of Kachchh in Gujarat. 2. It was developed in the 1950s as a major port to serve the northwestern part of the country, especially after the loss of Karachi port to Pakistan during Partition. 3. Kandla is a tidal port and acts as a major gateway for the import of crude oil, petroleum products, fertilizers, and food grains. 4. It features a vast hinterland including Rajasthan, Haryana, Punjab, Himachal Pradesh, and Jammu and Kashmir.

**Final Answer:** Kandla (Deendayal Port).

**Answer: (B)**

## Q38.

### Solution

**Concept:**

Transport infrastructure in India is categorized based on administrative responsibility into National Highways, State Highways, District Roads, and Border Roads.

**Solution:**

1. The Border Roads Organisation (BRO) was established in May 1960 for the purpose of accelerating economic development and strengthening defense preparedness through the rapid and coordinated improvement of roads in the north and northeastern boundary nations. 2. Unlike the NHAI which handles major national corridors, or the PWD which handles state-level roads, the BRO works in difficult terrains under challenging climatic conditions. 3. BRO is also responsible for snow clearance in high-altitude areas like the Rohtang Pass to ensure connectivity remains open for the military and civilians. 4. It operates under the Ministry of Defence.

**Final Answer:** Border Roads Organisation (BRO).

**Answer: (C)**

## Q39.

### Solution

**Concept:**

Eutrophication is a form of water pollution that leads to the structural change of an entire ecosystem. It is a significant environmental challenge for lakes and ponds near agricultural or urban areas.

**Solution:**

1. Eutrophication occurs when a water body becomes overly enriched with minerals and nutrients, specifically nitrates and phosphates. 2. These nutrients often enter the water through fertilizer runoff from agricultural fields or discharge of untreated domestic sewage. 3. This nutrient surplus causes the excessive growth of algae (algal bloom). When the algae die and decompose, the process consumes vast amounts of dissolved oxygen in the water. 4. The resulting oxygen depletion (hypoxia) leads to the death of fish and other aquatic organisms, effectively creating 'dead zones' in the water body.

**Final Answer:** Excessive accumulation of nutrients like nitrates and phosphates.

**Answer: (B)**

## Q40.

### Solution

**Concept:**

Slums are residential areas characterized by dilapidated housing, overcrowding, and a lack of basic civic amenities. Social vulnerability refers to the inability of people to withstand adverse impacts from environmental or economic shocks.

**Solution:**

1. The primary cause of vulnerability in slums is the lack of 'Secure Tenure' (legal right to live on the land), which makes residents constantly liable to eviction. 2. Furthermore, the absence of basic services like piped clean water, functional sewage systems, and waste disposal leads to poor health outcomes and the rapid spread of diseases. 3. These areas are often located on marginal lands (like floodplains or steep slopes), further increasing physical risk. 4. While poverty is the root cause, the social vulnerability is compounded by the lack of institutional support and basic infrastructure.

**Final Answer:** Insecure tenure and lack of basic services like sanitation and clean water.

**Answer: (C)**

## Q41.

### Solution

**Concept:**

The Indira Gandhi Canal (IGNP) is a monumental engineering feat designed to bring water from the Punjab rivers to the arid Thar Desert of Rajasthan. Understanding its geographic origin is essential for studying India's irrigation infrastructure.

**Solution:**

1. The canal starts at the Harike Barrage, which is situated at the confluence of the Satluj and Beas rivers in the state of Punjab. 2. This barrage diverts water into the canal system, which then flows through Punjab and Haryana before entering Rajasthan. 3. Options like Bhakra Dam and Pong Dam are associated with the supply of water to the system, but the physical "head" or starting point of the canal itself is the Harike Barrage. 4. The canal project was designed to utilize India's share of the Indus water system following the Indus Waters Treaty.

**Final Answer:** Harike Barrage.

**Answer: (B)**

## Q42.

### Solution

**Concept:**

While canal irrigation brings prosperity, it also causes environmental degradation if not managed scientifically. This is a classic example of the ecological trade-offs in regional development.

**Solution:**

1. In arid regions with high evaporation rates and specific soil structures, excessive and constant supply of water leads to the rise of the water table. 2. When the water table reaches the root zone, it causes 'Waterlogging,' which chokes the plants. 3. Furthermore, as this water evaporates, it leaves behind dissolved salts on the surface, a process known as 'Soil Salinity' or alkalization. 4. This renders the land barren over time. The passage explicitly highlights these two issues as the "alarming" negative impacts of intensive irrigation in the Rajasthan Canal command area.

**Final Answer:** Waterlogging and soil salinity.

**Answer: (C)**

## Q43.

### Solution

**Concept:**

Sustainable development in agriculture involves balancing productivity with resource conservation. In water-scarce regions, this primarily involves 'Demand-Side Management' of water.

**Solution:**

1. To counter the problems of waterlogging and salinity, the passage suggests a shift in the agricultural paradigm. 2. Instead of flood irrigation and water-intensive crops (like paddy or sugarcane), the focus must shift to water-conserving technologies such as drip and sprinkler irrigation. 3. This ensures that only the required amount of water is delivered to the plants, preventing the saturation of the soil. 4. Additionally, cultivating crops that are naturally suited to semi-arid conditions helps in maintaining the ecological balance of the region.

**Final Answer:** Adoption of water-conserving technologies.

**Answer: (B)**

## Q44.

### Solution

**Concept:**

Historical context and key figures associated with major national projects are frequently tested in Geography and General Awareness sections of exams like CUET.

**Solution:**

1. The idea of bringing the waters of the Himalayan rivers to the desert of Bikaner and surrounding areas was first formally proposed in a report in 1948. 2. This report was prepared by Kanwar Sain, who was a prominent hydraulic engineer and the then Chief Engineer of Bikaner State. 3. His vision was to transform the wasteland into an "orchard" of Rajasthan. The project was subsequently launched in the late 1950s and renamed in honor of Prime Minister Indira Gandhi in 1984. 4. While political leaders like Nehru inaugurated stages of the project, the conceptual credit goes to the engineer Kanwar Sain.

**Final Answer:** Kanwar Sain.

**Answer: (B)**

## Q45.

### Solution

**Concept:**

Spatial awareness and the location of major infrastructure relative to international borders are important for understanding the strategic and geographic significance of a project.

**Solution:**

1. The Indira Gandhi Canal flows through the western districts of Rajasthan, including Ganganagar, Bikaner, Jaisalmer, and Barmer. 2. These districts form the international boundary between India and Pakistan. 3. The canal was designed to provide water for irrigation and drinking to the border populations and to facilitate afforestation (shelterbelts) to check the eastward expansion of the Thar Desert. 4. Its proximity to the Pakistan border makes it a vital resource for the security and economic stability of the western frontier.

**Final Answer:** Pakistan.

**Answer: (B)**

## Q46.

### Solution

**Concept:**

The study of tribal communities involves understanding their livelihood patterns, which are often dictated by the physical environment of their habitat.

**Solution:**

1. The Gaddis are a prominent tribal group inhabiting the Dhauladhar and Pir Panjal ranges of Himachal Pradesh. 2. Their primary traditional occupation is 'Transhumance,' which is the seasonal migration of people with their livestock (sheep and goats) between mountain pastures and low-lying valleys. 3. During summer, they move to the high-altitude Alpine pastures (Bugyals), and during winter, they descend to the lower valleys to escape the heavy snow. 4. This nomadic lifestyle is a specialized adaptation to the mountain ecosystem where permanent high-altitude grazing is impossible in winter.

**Final Answer:** Transhumance (seasonal migration with livestock).

**Answer: (B)**

## Q47.

### Solution

**Concept:**

The administrative recognition of tribal areas is part of the Indian government's policy for the protection and development of Scheduled Tribes under the Fifth and Sixth Schedules.

**Solution:**

1. The Bharmaur region was officially notified as a tribal area in the year 1975. 2. This notification allowed the region to benefit from the 'Tribal Sub-Plan' and dedicated development funds from the Central and State governments. 3. Prior to this, the region was highly isolated and suffered from extreme socio-economic backwardness. 4. The 1975 designation marked the beginning of intensive government intervention to integrate the Gaddi community into the national developmental framework.

**Final Answer:** 1975.

**Answer: (C)**

## Q48.

### Solution

**Concept:**

ITDP is a targeted planning approach aimed at improving the quality of life in tribal areas by addressing their specific needs through multi-sectoral development.

**Solution:**

1. The ITDP in Bharmaur focused on breaking the geographical isolation of the region and improving the human development index of the inhabitants. 2. The primary focus areas included the development of physical infrastructure such as all-weather roads and electricity. 3. Equally important was social infrastructure, which involved setting up schools, healthcare centers, and providing clean drinking water. 4. By focusing on these basics, the project aimed to create a foundation for economic diversification, moving the community away from pure subsistence pastoralism.

**Final Answer:** Developing basic infrastructure like roads and social services.

**Answer: (B)**

## Q49.

### Solution

**Concept:**

Evaluating the success of a development project involves looking at key social indicators like education, health, and occupational shifts.

**Solution:**

1. One of the most significant and measurable successes of the ITDP in the Bharmaur region has been the rapid increase in the literacy rate, especially among women. 2. This educational advancement has led to a reduction in the gender gap and improved social awareness. 3. Economically, there has been a noticeable shift from a purely nomadic/pastoral economy to settled agriculture and employment in the service sector (government jobs, tourism, etc.). 4. These changes have collectively improved the standard of living and reduced the historical "backwardness" of the Gaddi community.

**Final Answer:** Rapid increase in the literacy rate.

**Answer: (B)**

## Q50.

### Solution

**Concept:**

Locational geography within the context of case studies is a frequent subject of questions in the CUET Geography paper.

**Solution:**

1. Bharmaur is a sub-division of the Chamba district in the state of Himachal Pradesh. 2. It is situated between the North latitude 32° 11' and 32° 41' and East longitude 76° 22' and 76° 53'. 3. The region is bounded by high mountain ranges and is drained by the river Ravi and its tributaries. 4. Known as 'Brahmpura' in ancient times, it is a significant cultural and geographic pocket within the Chamba district, home to the famous Chaurasi Temple complex.

**Final Answer:** Chamba.

**Answer: (C)**

# Answer Key

| Q | Ans | Q | Ans | Q | Ans | Q | Ans | Q | Ans |
|---|---|---|---|---|---|---|---|---|---|
| 1 | C | 2 | B | 3 | A | 4 | D | 5 | C |
| 6 | B | 7 | B | 8 | B | 9 | C | 10 | D |
| 11 | C | 12 | C | 13 | B | 14 | C | 15 | B |
| 16 | A | 17 | B | 18 | A | 19 | B | 20 | B |
| 21 | B | 22 | C | 23 | B | 24 | B | 25 | B |
| 26 | B | 27 | B | 28 | B | 29 | B | 30 | B |
| 31 | C | 32 | C | 33 | B | 34 | C | 35 | A |
| 36 | B | 37 | B | 38 | C | 39 | B | 40 | C |
| 41 | B | 42 | C | 43 | B | 44 | B | 45 | B |
| 46 | B | 47 | C | 48 | B | 49 | B | 50 | C |