CUET-UG Geography Sample Paper-1

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. The term _____ refers to the ratio between the total population and the total area of arable (cultivable) land, providing a more accurate measure of the pressure on agricultural resources than simple arithmetic density.

(A) Arithmetic Density

(B) Physiological Density

(C) Agricultural Density

(D) Economic Density

Q2. Assertion (A): The 'Ageing of Population' is a process where the share of the older population becomes larger in the total population. Reason (R): This is caused by a decline in mortality rates alongside a steady or increasing fertility rate in developing nations.

(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.

Q3. Match the Economic Activities with their appropriate Categories:

List I	Activity	List II	Category
(i)	Outsourcing and BPO	(1)	Primary
(ii)	High-level Decision Making	(2)	Tertiary
(iii)	Commercial Dairy Farming	(3)	Quaternary
(iv)	Retail Trade and Tourism	(4)	Quinary

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

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

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

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

Q4. Which of the following describes the most accurate functional relationship in the 'Rank-Size Rule' when applied to a country where the largest city has 10 million people and the fifth largest city has 2 million people?

(A) The urban hierarchy is primate-dominated.

(B) The distribution follows a perfect log-normal pattern.

(C) The second largest city must have exactly 8 million people.

(D) The region lacks a defined Central Business District.

Q5. In the context of 'Demographic Transition', identify the stage where the fertility remains high but mortality declines sharply due to improvements in sanitation and health, leading to a 'population explosion'.

(A) Stage I

(B) Stage II

(C) Stage III

(D) Stage IV

Q6. Which specific type of agriculture is characterized by a high capital investment, large estates, scientific methods, and a focus on a single cash crop like rubber, tea, or coffee for export?

(A) Intensive Subsistence Agriculture

(B) Plantation Agriculture

(C) Mixed Farming

(D) Mediterranean Agriculture

Q7. The 'Digital Divide' in the context of international trade and communication is most accurately reflected by which of the following metrics?

(A) The difference in the number of landline connections between urban and rural areas.

(B) The disparity in the ability of citizens to access and use Information and Communication Technology (ICT).

(C) The total volume of software exports from developing nations.

(D) The physical distance between global submarine cable landing stations.

Q8. Which of the following 'Push Factors' is most likely to cause 'Distress Migration' in the dryland agricultural regions of India?

(A) Proximity to metropolitan leisure centers.

(B) Availability of subsidized high-yield variety seeds.

(C) Frequent crop failure due to erratic monsoons and lack of irrigation.

(D) The expansion of quaternary research centers in rural blocks.

(E) The expansion of quaternary research centers in rural blocks.

Q9. Identify the correct sequence of the 'Demographic Transition' stages for a society transitioning from an agrarian economy to an industrial, urbanized society:

(A) High fertility/High mortality → Low fertility/Low mortality → High fertility/Low mortality

(B) High fertility/High mortality → High fertility/Low mortality → Low fertility/Low mortality

(C) Low fertility/Low mortality → High fertility/Low mortality → High fertility/High mortality

(D) High fertility/Low mortality → High fertility/High mortality → Low fertility/Low mortality

Q10. Which type of 'Rural Settlement Pattern' is most likely to develop in a fertile plain where several metalled roads converge at a single point?

(A) Linear Pattern

(B) Star-like Pattern

(C) Circular Pattern

(D) Dispersed Pattern

Q11. The 'National Waterway 4' (NW-4) in India primarily utilizes which of the following stretches?

(A) The Ganga-Bhagirathi-Hooghly river system.

(B) The Sadiya-Dhubri stretch of the Brahmaputra river.

(C) The Godavari and Krishna rivers along with the Kakinada-Puducherry canals.

(D) The West Coast Canal in Kerala including the Udyogmandal canal.

Q12. The 'Brundtland Commission' (1987) introduced a concept that became a cornerstone of modern Geography. This concept is:

(A) Environmental Determinism

(B) Sustainable Development

(C) Spatial Organization

(D) Areal Differentiation

Q13. In the context of world population distribution, the term 'Ecumen' refers to:

(A) Areas that are permanently inhabited by humans.

(B) Areas with zero population density due to extreme climate.

(C) The ratio between the number of people and the size of land.

(D) The maximum population an ecosystem can support.

Q14. The process of 'Gentrification' in urban settlements is most commonly associated with:

(A) The expansion of slums in the periphery.

(B) The movement of low-income groups to the city center.

(C) The rehabilitation of deteriorated inner-city neighborhoods by middle-class residents.

(D) The conversion of agricultural land into industrial zones.

Q15. 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

Q16. On a world map of major sea routes, the "Great Trunk Road" of the oceans connects which two highly industrialized regions, handling the highest volume of global trade?

(A) North-Eastern USA and Western Europe

(B) South-East Asia and Australia

(C) Western Europe and South Africa

(D) South America and West Africa

Q17. Arrange the following states of India in descending order based on their Total Fertility Rate (TFR) as per recent demographic trends (from highest to lowest):
I. Kerala II. Bihar III. Uttar Pradesh IV. Tamil Nadu

(A) II, III, IV, I

(B) III, II, I, IV

(C) II, III, I, IV

(D) I, IV, III, II

Q18. Statement 1: The 'Golden Quadrilateral' is a National Highway network connecting the four major metropolitan cities of India: Delhi, Mumbai, Chennai, and Kolkata.
Statement 2: The North-South Corridor aims at connecting Srinagar in Jammu and Kashmir with Kanyakumari in Tamil Nadu, passing through the National Capital, Delhi.

(A) Both Statement 1 and Statement 2 are correct.

(B) Both Statement 1 and Statement 2 are incorrect.

(C) Statement 1 is correct but Statement 2 is incorrect.

(D) Statement 1 is incorrect but Statement 2 is correct.

Q19. Which of the following iron and steel plants in India was established with German collaboration and is located in the Sundargarh district of Odisha?

(A) Bhilai Steel Plant

(B) Durgapur Steel Plant

(C) Rourkela Steel Plant

(D) Bokaro Steel Plant

Q20. In the context of Human Settlements, a city that dominates its country's economy, culture, and politics, and is significantly larger than any other city in the urban hierarchy is termed as a:

(A) Conurbation

(B) Megalopolis

(C) Primate City

(D) Satellite Town

Q21. Identify the primary reason for the 'inverted' shape of the age-sex pyramid in several Western European countries like Germany and Italy:

(A) High infant mortality and low life expectancy.

(B) High birth rates and high immigration of young adults.

(C) Low birth rates and a high proportion of the elderly population.

(D) Rapid industrialization leading to rural-to-urban migration.

Q22. The 'Big Trunk Route' is another name for which of the following global transport channels?

(A) The Northern Atlantic Sea Route

(B) The Suez Canal

(C) The Panama Canal

(D) The Trans-Siberian Railway

Q23. Which of the following is a non-conventional source of energy that is harnessed from the organic waste of plants and animals, particularly in rural India?

(A) Nuclear Energy

(B) Geothermal Energy

(C) Biomass Energy

(D) Tidal Energy

Q24. In India, the most significant source of air pollution in major urban centers like Delhi during the winter months, besides vehicular emissions, is:

(A) Marine salt spray

(B) Stubble burning in neighboring states

(C) Volcanic eruptions

(D) Forest fires in the Western Ghats

Q25. The 'Bharatmala Pariyojana' is primarily focused on which of the following infrastructures in India?

(A) Development of state-of-the-art airports.

(B) Construction of a nationwide network of gas pipelines.

(C) Development of national highways and economic corridors.

(D) Modernization of the Indian Railway signal system.

Q26. Which type of migration is most commonly associated with the 'Marriage' factor in the context of the female population in India?

(A) Rural to Rural

(B) Rural to Urban

(C) Urban to Urban

(D) Urban to Rural

Q27. The 'Integrated Tribal Development Project' (ITDP) in the Bharmaur region of Himachal Pradesh was specifically designed to:

(A) Promote international tourism in the Himalayas.

(B) Improve the socio-economic conditions of the Gaddi tribal community.

(C) Establish large-scale hydroelectric power plants. D Build defense infrastructure along the international border.

Q28. Which of the following ports in India is known as the 'Queen of the Arabian Sea' and is a natural harbor located at the head of the Vembanad Kayal?

(A) Mumbai Port

(B) Kandla Port

(C) Kochi Port

(D) Marmagao Port

Q29. In the context of international trade, 'Dumping' refers to the practice of:

(A) Disposing of industrial waste in international waters.

(B) Selling a product in a foreign market at a price lower than its domestic cost.

(C) Excessive import of essential commodities to create a domestic surplus.

(D) Legalizing the trade of prohibited narcotics between two nations.

Q30. Which of the following minerals is also known as 'Brown Coal' due to its low carbon content and high moisture?

(A) Anthracite

(B) Bituminous

(C) Lignite

(D) Peat

Q31. Which of the following is a tertiary activity that involves the provision of expertise to clients, such as legal services or financial consultancy, and is distinct from the production of goods?

(A) Manufacturing

(B) Professional Services

(C) Mining

(D) Agriculture

Q32. The 'Panama Canal' connects which two major water bodies, significantly shortening the distance between the Atlantic and Pacific coasts of the Americas?

(A) Mediterranean Sea and Red Sea

(B) Atlantic Ocean and Pacific Ocean

(C) Indian Ocean and Pacific Ocean

(D) Arctic Ocean and Atlantic Ocean

Q33. Which of the following terms describes the number of people per unit of area of arable land, providing a more detailed measure of population pressure on agricultural resources?

(A) Arithmetic Density

(B) Physiological Density

(C) Agricultural Density

(D) Economic Density

Q34. In the context of 'Demographic Transition', identify the stage where both birth and death rates are low, leading to a stable or slowly growing population.

(A) Stage I

(B) Stage II

(C) Stage III

(D) Stage IV

Q35. Which of the following describes the most accurate functional relationship in the 'Rank-Size Rule' when applied to a country where the largest city has 12 million people and the third largest city has 4 million people?

(A) The urban hierarchy is primate-dominated.

(B) The distribution follows a perfect log-normal pattern.

(C) The second largest city must have exactly 8 million people.

(D) The region lacks a defined Central Business District.

Q36. The 'Suez Canal' is a vital maritime route that connects which two seas, facilitating trade between Europe and Asia?

(A) Mediterranean Sea and Red Sea

(B) Black Sea and Caspian Sea

(C) Caribbean Sea and Gulf of Mexico

(D) Arabian Sea and Bay of Bengal

Q37. Which of the following is a non-conventional source of energy that is harnessed from the heat generated within the Earth's interior?

(A) Solar Energy

(B) Wind Energy

(C) Geothermal Energy

(D) Tidal Energy

Q38. The 'National Waterway 1' (NW-1) in India primarily utilizes which of the following stretches?

(A) The Ganga-Bhagirathi-Hooghly river system.

(B) The Sadiya-Dhubri stretch of the Brahmaputra river.

(C) The West Coast Canal in Kerala.

(D) The Kakinada-Puducherry canals.

Q39. Identify the primary reason for the 'inverted' shape of the age-sex pyramid in several developed countries like Japan:

(A) High infant mortality and low life expectancy.

(B) High birth rates and high immigration.

(C) Low birth rates and a high proportion of the elderly population.

(D) Rapid industrialization leading to rural-to-urban migration.

Q40. Which of the following terms refers to the movement of people from rural areas to urban centers in search of better economic opportunities and living standards?

(A) Counter-urbanization

(B) Rural-Urban Migration

(C) Suburbanization

(D) Gentrification

Passage-Based Questions (41–45):

Read the following passage carefully and answer the questions that follow:

"The process of 'Gentrification' is a significant phenomenon in contemporary urban geography. It involves the rehabilitation of deteriorated inner-city neighborhoods by middle and upper-middle-class residents. This process often leads

to the displacement of lower-income residents as property values and rents rise. While it can bring economic investment and physical improvements to neglected areas, it also raises concerns about social equity and the loss of community identity. Gentrification is frequently observed in cities where there is a strong demand for housing near central business districts (CBDs) and where historic architecture is valued."

Q41. The primary goal of 'Gentrification' is to:

(A) Expand slums in the periphery.

(B) Rehabilitate deteriorated inner-city neighborhoods.

(C) Promote rural-to-urban migration.

(D) Build high-rise commercial buildings in the CBD.

Q42. Gentrification often leads to which of the following consequences for lower-income residents?

(A) Increased access to affordable housing.

(B) Displacement due to rising property values and rents.

(C) Improved economic opportunities within the neighborhood.

(D) Preservation of community identity.

Q43. In which of the following areas is gentrification most frequently observed?

(A) Remote rural villages.

(B) Suburbs far from the city center.

(C) Inner-city neighborhoods near the CBD.

(D) Industrial zones on the outskirts.

Q44. What is a common concern associated with the process of gentrification?

(A) Lack of economic investment.

(B) Loss of community identity and social equity.

(C) Decrease in property values.

(D) Preservation of historic architecture.

Q45. The passage suggests that gentrification is often driven by a demand for housing near which urban feature?

(A) Industrial parks.

(B) Central Business Districts (CBDs).

(C) Peripheral slums.

(D) Rural-urban fringes.

Case Study-Based Questions (46–50):

Read the following case study carefully and answer the questions that follow:

"The 'Brundtland Commission' (1987) introduced the concept of 'Sustainable Development' in its report titled 'Our Common Future'. This concept emphasizes meeting the needs of the present without compromising the ability of future generations to meet their own needs. In the context of the Indira Gandhi Canal Command Area, sustainable development requires balancing agricultural productivity with environmental conservation. Intensive irrigation has led to issues such as soil salinity and waterlogging. To address these challenges, integrated planning and the adoption of water-conserving technologies are essential. The goal is to ensure long-term economic prosperity while protecting the fragile desert ecosystem."

Q46. The 'Brundtland Commission' report (1987) is famously titled:

(A) Our common Earth

(B) Our Common Future

(C) Sustainable World

(D) The Future of Development

Q47. The concept of 'Sustainable Development' primarily focuses on:

(A) Maximizing short-term economic growth.

(B) Meeting the needs of the present without compromising future generations.

(C) Promoting industrialization at any cost.

(D) Expanding agricultural productivity through intensive irrigation.

Q48. In the Indira Gandhi Canal Command Area, intensive irrigation has led to which environmental issue?

(A) Air pollution.

(B) Soil salinity and waterlogging.

(C) Deforestation.

(D) Overgrazing.

Q49. To achieve sustainable development in the canal command area, what is considered essential?

(A) Increasing the use of chemical fertilizers.

(B) Expanding the canal network further into the desert.

(C) Integrated planning and the adoption of water-conserving technologies.

(D) Promoting large-scale industrialization.

Q50. The ultimate goal of sustainable development in the fragile desert ecosystem is to:

(A) Ensure short-term economic gains.

(B) Protect the environment while ensuring long-term economic prosperity.

(C) Discourage agricultural activities altogether.

(D) Prioritize economic growth over environmental conservation.

Detailed Solutions

Q1.

Solution

Concept:

In population geography, density is not just about the total number of people divided by the total land area (Arithmetic Density). To understand the actual pressure on land that can produce food, geographers use Physiological Density.

Solution:

(a) Arithmetic density is the ratio of total population to total land area, which can be misleading in countries with large deserts or mountains.

(b) Physiological density is the ratio of the total population to the total arable (cultivable) land area.

(c) This metric is crucial for understanding food security and the carrying capacity of an agricultural region.

(d) Agricultural density, by contrast, is the ratio of the total agricultural population to the total arable land area.

(e) Therefore, Physiological Density is the correct term for the total population relative to cultivable land.

Final Answer: The term is Physiological Density.

Answer: (B)

Q2.

Solution

Concept:

The '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.

Solution:

(a) Assertion (A) is true: Ageing of population results in a demographic pyramid with a narrow base (fewer children) and a broader top (more elderly people).

(b) Reason (R) is false: While a decline in mortality (due to medical advancements) contributes to ageing, the primary driver is a *decline* in fertility rates, not a steady or increasing rate.

(c) In many developed nations, low birth rates mean there are fewer young people to replace the ageing workforce.

(d) Therefore, while the assertion correctly describes the phenomenon, the reason incorrectly identifies the birth rate trend.

Final Answer: (A) is true but (R) is false.

Answer: (C)

Q3.

Solution

Concept:

Human activities are classified into sectors based on the level of complexity and the nature of the service or production.

Solution:

(a) **Quaternary Activities:** Focus on information processing, research, and specialized services like BPO and outsourcing. (i - 3)

(b) **Quinary Activities:** Involve high-level decision-making, policy formulation, and the "gold collar" professions. (ii - 4)

(c) **Primary Activities:** Involve direct extraction or utilization of natural resources, such as farming or mining. (iii - 1)

(d) **Tertiary Activities:** Provide services to the general population and businesses, including trade, transport, and tourism. (iv - 2)

(e) Matching these pairs leads to the sequence i-3, ii-4, iii-1, iv-2.

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

Answer: (A)

Q4.

Solution

Concept:

The Rank-Size Rule, proposed by G.K. Zipf, suggests that in a well-integrated urban system, the population of the n^{th} ranked city is $1/n$ of the population of the largest city.

Solution:

(a) If the largest city has 10 million people, according to the rule, the 5th largest city should have $10/5 = 2$ million people.

(b) Since the data provided (Largest = 10m, 5th = 2m) matches the rule perfectly, the urban hierarchy follows a log-normal distribution.

(c) This indicates a balanced urban system where various tiers of cities are well-represented, unlike a 'Primate City' system where one city overwhelmingly dominates.

(d) Therefore, this distribution represents a perfect log-normal pattern.

Final Answer: The distribution follows a perfect log-normal pattern.

Answer: (B)

Q5.

Solution

Concept:

The Demographic Transition Model (DTM) describes the transformation of countries from high birth and death rates to low birth and death rates.

Solution:

(a) Stage I is characterized by high birth and high death rates, resulting in low population growth.

(b) Stage II (Early Expanding) sees a rapid drop in death rates due to better food supply and medical care, while birth rates remain high.

(c) This "gap" between high births and falling deaths creates a massive surge in population, often called a population explosion.

(d) Stage III sees birth rates begin to fall, and Stage IV represents a stable, low-growth population.

(e) Thus, Stage II is the stage of rapid expansion.

Final Answer: Stage II is the correct stage.

Answer: (B)

Q6.

Solution

Concept:

Agricultural systems are classified based on their scale, purpose, and the intensity of labor and capital involved. Plantation agriculture is a distinctive form of commercial farming that was introduced by European powers in their colonies located in the tropics to meet the global demand for specific luxury and industrial crops.

Solution:

(a) Plantation agriculture is defined by several unique characteristics that set it apart from subsistence or mixed farming. It involves the cultivation of a single cash crop on a massive scale, often spanning thousands of hectares.

(b) A key feature is the high capital investment required for machinery, processing units, and logistics. Unlike subsistence farming, where the goal is local consumption, plantations are entirely export-oriented, requiring efficient transport links to global markets.

(c) The management is typically scientific and highly organized. Specialized labor is used, and the estates often include housing for workers, factories for primary processing (like drying tea leaves or smoking rubber), and research facilities to improve crop yield.

(d) Mediterranean agriculture, by contrast, focuses on viticulture and citrus fruits in specific climatic zones. Intensive subsistence agriculture is practiced in densely populated regions like Monsoon Asia with small landholdings.

(e) Therefore, Plantation Agriculture is the correct answer as it matches the description of large estates, high capital, and single-crop specialization for export.

Final Answer: The agricultural type is Plantation Agriculture.

Answer: (B)

Q7.

Solution

Concept:

The 'Digital Divide' is a fundamental concept in modern economic geography and communication studies. It refers to the gap between demographics and regions that have access to modern information and communication technology (ICT) and those that don't or have restricted access.

Solution:

(a) In the era of globalization, information is a key resource. However, this resource is not distributed evenly across the globe. Developed countries have high-speed internet, satellite connectivity, and high computer literacy, whereas many developing nations still struggle with basic infrastructure.

(b) This divide is not just about the physical presence of cables or towers; it is about the "ability" of the population to use these tools for economic gain, education, and political participation.

(c) For example, while a city in India might have 5G connectivity, a remote village might not have even a stable electricity connection to charge a phone. This disparity is the "Digital Divide."

(d) Option (A) is too narrow as it only looks at landlines. Option (C) only looks at exports, and Option (D) only looks at physical hardware locations.

(e) The most comprehensive definition is the disparity in the access and usage of ICT among citizens, which directly impacts their ability to participate in the global "knowledge economy."

Final Answer: The disparity in the ability of citizens to access and use ICT.

Answer: (B)

Q8.

Solution

Concept:

Migration is driven by 'Push Factors' and 'Pull Factors'. Push factors are negative conditions at the place of origin that force people to leave, while pull factors are positive attractions at the destination. 'Distress Migration' is a survival strategy used when the push factors become unbearable.

Solution:

(a) In the dryland regions of India, agriculture is the primary livelihood, but it is heavily dependent on the monsoon. When rainfall becomes erratic or fails entirely, the lack of irrigation infrastructure leads to widespread crop failure.

(b) Crop failure results in a total loss of income for the farmer, leading to debt traps and food insecurity. In such a "distress" situation, the rural population is forced to migrate to cities to find manual labor jobs, often in the construction or informal service sectors.

(c) Option (A) is a lifestyle choice, not a distress factor. Option (B) is a positive development that would actually reduce the need for migration. Option (D) involves high-end quaternary sectors which are irrelevant to the typical distress migrant.

(d) The core driver of distress in Indian rural geography remains the vulnerability of rain-fed agriculture. Thus, the environmental and economic instability caused by erratic monsoons is the primary push factor.

(e) This movement is often temporary or seasonal, with migrants returning to their villages once the agricultural season improves or when local work becomes available.

Final Answer: Frequent crop failure due to erratic monsoons and lack of irrigation.

Answer: (C)

Q9.

Solution

Concept:

The Demographic Transition Model (DTM) is a sequence of stages that every society goes through as it develops economically. It maps the relationship between birth rates (fertility) and death rates (mortality).

Solution:

(a) In the initial stage (Stage I), societies are pre-industrial and agrarian. Both birth and death rates are high due to poor medical facilities and a high reliance on children for labor, resulting in a stable but low population.

(b) As the society begins to develop (Stage II), medical technology improves and food supply stabilizes. This causes the mortality rate to drop significantly. However, social norms take longer to change, so birth rates remain high. This is the period of rapid population growth.

(c) In the final stage (Stage III and IV), the society becomes urbanized and industrial. People realize that large families are an economic burden in an urban setting, leading to a decline in birth rates. Eventually, birth and death rates both become low and stable.

(d) Therefore, the correct progression is: High fertility/High mortality → High fertility/Low mortality → Low fertility/Low mortality.

(e) This model helps geographers predict future population trends and plan for infrastructure and resource allocation based on which stage a country currently occupies.

Final Answer: High fertility/High mortality → High fertility/Low mortality → Low fertility/Low mortality.

Answer: (B)

Q10.

Solution

Concept:

Rural settlement patterns are determined by the physical environment (topography, water) and cultural/economic factors (roads, markets, religious sites). The shape of a village often reflects how it interacts with its surroundings.

Solution:

(a) A Linear Pattern occurs along a single road, river, or canal. A Circular Pattern typically forms around a central pond or a common grazing ground. A Dispersed Pattern consists of isolated farmsteads.

(b) When several metalled roads converge at a single point (a nodal point), the houses tend to be built along these roads, extending outward from the center.

(c) This creates a Star-like Pattern. Because the roads provide the primary means of transport and trade, every household wants to be as close to the road as possible while staying connected to the central market or junction.

(d) In fertile plains, there are few physical barriers to this growth, allowing the village to expand symmetrically along the transport axes.

(e) Understanding these patterns is essential for rural planning, as it dictates how services like electricity, water, and waste management can be most efficiently distributed to the residents.

Final Answer: Star-like Pattern.

Answer: (B)

Q11.

Solution

Concept:

Inland waterways are a vital component of a nation's transport infrastructure, especially for bulky goods. In India, the Inland Waterways Authority of India (IWAI) classifies specific stretches of rivers and canals as National Waterways (NW) to prioritize their development for navigation and commerce.

Solution:

(a) National Waterway 1 (NW-1) is the longest, covering the Ganga-Bhagirathi-Hooghly river system. NW-2 covers the Brahmaputra river (Sadiya-Dhubri), and NW-3 is located in the West Coast Canal of Kerala.

(b) National Waterway 4 (NW-4) is a significant route in South India. It encompasses a total length of around 1,095 km, making it one of the longest planned waterway networks in the country.

(c) This waterway primarily utilizes the stretches of the Godavari and Krishna rivers. Furthermore, it integrates a network of canals, most notably the Kakinada-Puducherry canal system, which runs along the east coast.

(d) The development of NW-4 is intended to facilitate the movement of industrial goods, agricultural produce, and minerals between the states of Andhra Pradesh, Tamil Nadu, and the Union Territory of Puducherry.

(e) Therefore, the Godavari-Krishna river system and the Kakinada-Puducherry canals are the defining features of NW-4.

Final Answer: The Godavari and Krishna rivers along with the Kakinada-Puducherry canals.

Answer: (C)

Q12.

Solution

Concept:

Sustainable development is a multi-dimensional concept that seeks to balance economic growth, social equity, and environmental protection. While the idea had been discussed in various forms, it gained global political and academic prominence through the work of the World Commission on Environment and Development (WCED).

Solution:

(a) The WCED, more commonly known as the Brundtland Commission (named after its chair, Gro Harlem Brundtland), was established by the United Nations to address the growing concern over the accelerating deterioration of the human environment and natural resources.

(b) In 1987, the commission published its landmark report titled 'Our Common Future'. This report provided the most widely accepted definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

(c) This definition shifted the focus from purely economic metrics (like GDP) to a "resource-based" and "inter-generational" view of progress.

(d) In Geography, this concept is fundamental as it bridges the gap between physical geography (resource limits) and human geography (developmental needs).

(e) Therefore, the Brundtland Commission is directly responsible for introducing and institutionalizing the concept of Sustainable Development.

Final Answer: Sustainable Development.

Answer: (B)

Q13.

Solution

Concept:

In Population Geography, geographers distinguish between areas of the world that are suitable for human habitation and those that are not. The Earth's surface is not uniformly habitable due to constraints like extreme cold, lack of water, or high altitude.

Solution:

(a) The term 'Ecumen' (or Oecumene) is derived from ancient Greek and refers to the "inhabited world." In a modern geographical context, it describes the parts of the Earth's surface where humans have made their permanent home and where social and economic activities take place.

(b) Conversely, the term 'Non-Ecumen' (or Anecumene) refers to the uninhabited or very sparsely populated areas, such as the polar ice caps, the deep Sahara desert, or the high peaks of the Himalayas.

(c) The boundary of the ecumen is constantly shifting as technology allows humans to settle in previously "impossible" environments (e.g., air-conditioned cities in deserts or research stations in Antarctica).

(d) Understanding the ecumen helps geographers analyze population density more accurately, as they can focus on the ratio of people to the land that is actually capable of supporting them.

(e) Therefore, 'Ecumen' refers specifically to areas that are permanently inhabited by humans.

Final Answer: Areas that are permanently inhabited by humans.

Answer: (A)

Q14.

Solution

Concept:

Gentrification is a complex process of urban change that affects the socio-economic and physical fabric of a city. It typically occurs in inner-city areas that have previously experienced disinvestment, physical decay, and a decline in population.

Solution:

(a) The process begins when individuals from the middle and upper-middle classes begin to buy and renovate properties in deteriorated or low-income urban neighborhoods.

(b) These new residents are often attracted by the historic architecture, proximity to the city center, and lower property prices compared to established wealthy suburbs.

(c) As more affluent residents move in, property values and rents rise. This often leads to the displacement of the original, lower-income residents who can no longer afford to live in the neighborhood.

(d) While gentrification leads to improved infrastructure, higher tax revenues for the city, and lower crime rates in that specific area, it is often criticized for destroying the cultural identity of the neighborhood and exacerbating social inequality.

(e) Hence, the rehabilitation of deteriorated inner-city neighborhoods by middle-class residents is the hallmark of gentrification.

Final Answer: The rehabilitation of deteriorated inner-city neighborhoods by middle-class residents.

Answer: (C)

Q15.

Solution

Concept:

The history of Human Geography is marked by several paradigm shifts. In the post-World War II era, there was a move away from descriptive and regional approaches toward more analytical and "scientific" methods.

Solution:

(a) During the late 1960s and the 1970s, the "Quantitative Revolution" reached its peak. Geographers began to use sophisticated statistical models and computer simulations to explain geographical patterns.

(b) This period is characterized by the 'Spatial Organization' approach. The focus was on identifying the universal laws that govern the distribution of human activities across space.

(c) Concepts like the 'Central Place Theory' and the 'Gravity Model' became central to the discipline during this time. The emphasis was on efficiency, optimization, and the geometric arrangement of cities, industries, and transport networks.

(d) Areal differentiation and regional analysis are older, more traditional approaches, while the humanistic approach emerged later as a critique of the "soulless" statistical models of the spatial organization era.

(e) Thus, the late 1960s to 1970s are most closely linked to the spatial organization approach.

Final Answer: Spatial organization.

Answer: (C)

Q16.

Solution

Concept:

In global transport geography, the Northern Atlantic Sea Route is famously referred to as the "Great Trunk Route" or "Big Trunk Route." It is the most heavily trafficked maritime passage in the world, serving as a vital artery for international trade between the two most technologically advanced and industrialized continents.

Solution:

(a) The route traverses the North Atlantic Ocean, physically and economically bridging North-Eastern USA (the American Manufacturing Belt) and Western Europe (including the UK, Germany, and France).

(b) This specific corridor accounts for nearly one-fourth of the world's total maritime trade volume. It facilitates the exchange of manufactured goods, heavy machinery, chemical products, and high-tech equipment.

(c) Unlike the Suez or Panama canals, which are artificial "bottlenecks," the North Atlantic route is an open-sea highway that utilizes the vastness of the ocean to connect global financial and industrial hubs.

(d) Geographically, it benefits from having well-equipped, deep-water ports on both sides, such as New York and Rotterdam, which are capable of handling massive container ships.

(e) Therefore, the logic of the world map places this "Great Trunk" between North-Eastern USA and Western Europe, reflecting the highest intensity of global spatial interaction.

Final Answer: North-Eastern USA and Western Europe.

Answer: (A)

Q17.

Solution

Concept:

The Total Fertility Rate (TFR) is a standard demographic indicator representing the average number of children a woman would have during her reproductive years. In India, there is a stark regional disparity in TFR, often correlating with literacy rates, healthcare access, and urbanization.

Solution:

(a) To arrange these states in descending order (highest to lowest TFR), we must look at the socio-economic indicators of the "BIMARU" states versus the Southern states.

(b) **Bihar (II):** Currently holds the highest TFR in India (approx. 2.9 to 3.0). It is in a stage of demographic transition where mortality has fallen, but fertility remains high due to lower female literacy and rural dominance.

(c) **Uttar Pradesh (III):** Follows Bihar closely with a high TFR (approx. 2.4). While declining, it remains above the national replacement level of 2.1.

(d) **Tamil Nadu (IV) and Kerala (I):** These states have already achieved "replacement level" or below-replacement fertility (approx. 1.7 to 1.8). Kerala historically has the lowest TFR due to 100

(e) Thus, the descending order is Bihar (Highest), followed by Uttar Pradesh, then Tamil Nadu, and finally Kerala (Lowest). This gives the sequence II, III, IV, I.

Final Answer: The order is II, III, IV, I.

Answer: (A)

Q18.

Solution

Concept:

The National Highways Development Project (NHDP) was launched to modernize India's road infrastructure. Two of its most prominent pillars are the Golden Quadrilateral and the North-South and East-West Corridors.

Solution:

(a) **Statement 1 analysis:** The Golden Quadrilateral (GQ) is indeed a 5,846 km high-speed highway project. It forms a "quad" by linking India's four primary economic engines: Delhi (North), Mumbai (West), Chennai (South), and Kolkata (East). It was designed to reduce travel time between these metros significantly. This statement is correct.

(b) **Statement 2 analysis:** The North-South Corridor is the largest ongoing highway project in India. It aims to provide a continuous road link from the northernmost tip (Srinagar) to the southernmost tip (Kanyakumari). It passes through key cities including Delhi, Agra, and Hyderabad. This statement is also correct.

(c) Together, these projects form the backbone of the domestic supply chain, allowing for faster movement of perishable goods and industrial raw materials.

(d) Since both statements accurately describe the geographic extent and objective of these specific highway projects, the correct option is (A).

Final Answer: Both Statement 1 and Statement 2 are correct.

Answer: (A)

Q19.

Solution

Concept:

The growth of the Iron and Steel industry in post-independence India was largely driven by Five-Year Plans, where several Public Sector Undertakings (PSUs) were established in collaboration with foreign nations to bring in advanced technology.

Solution:

(a) The Rourkela Steel Plant (RSP) was the first integrated steel plant in the public sector in India. It was established in 1959 in the Sundargarh district of Odisha.

(b) The plant was set up specifically with the technical and financial collaboration of West Germany (consortium of Krupp and Demag). It is strategically located near iron ore, coal, and manganese mines.

(c) For comparison: Bhilai (Chhattisgarh) was established with Soviet (USSR) help, Durgapur (West Bengal) with British help, and Bokaro (Jharkhand) again with Soviet assistance.

(d) Rourkela is significant because it was the first plant in Asia to use the LD (Linz-Donawitz) process of steel-making.

(e) Given the district (Sundargarh) and the collaborator (Germany), Rourkela is the only plant that fits the description perfectly.

Final Answer: Rourkela Steel Plant.

Answer: (C)

Q20.

Solution

Concept:

Urban hierarchies describe the relative size and importance of cities within a country. The concept of the 'Primate City' was first proposed by Mark Jefferson in 1939 to describe a specific type of urban imbalance.

Solution:

(a) A Primate City is defined as being at least twice as large as the second-largest city in the country. However, it is not just about population; it is about "primacy" in every sector.

(b) Such a city acts as the national hub for all major political decisions, financial transactions, cultural events, and educational institutions. Examples include Paris in France, London in the UK, or Bangkok in Thailand.

(c) A 'Conurbation' is a region comprising a number of cities, large towns, and other urban areas that, through population growth and physical expansion, have merged to form one continuous urban and industrially developed area (e.g., Greater London).

(d) A 'Megalopolis' (like the BosWash corridor in the USA) is a chain of roughly adjacent metropolitan areas.

(e) Because the question specifies a city that is "significantly larger" and "dominates" economy, culture, and politics, the term 'Primate City' is the most accurate geographic classification.

Final Answer: The term is Primate City.

Answer: (C)

Q21.

Solution

Concept:

The population pyramid, or age-sex pyramid, is a graphical illustration that shows the distribution of various age groups in a population. The shape of the pyramid directly reflects the demographic history and future potential of a nation. In many developed Western European countries, the traditional pyramid shape has evolved into an 'inverted' or 'constrictive' form.

Solution:

(a) An inverted pyramid is characterized by a narrow base and a relatively wider top or middle. The narrow base indicates a very low number of births over recent decades. This is a direct result of low Total Fertility Rates (TFR), often well below the replacement level of 2.1.

(b) Simultaneously, these nations have highly advanced healthcare systems, which have significantly increased life expectancy. This results in a larger proportion of the population surviving into old age, creating a "top-heavy" structure.

(c) Countries like Germany, Italy, and Japan exhibit this pattern. The economic implication is a shrinking labor force and an increasing "dependency ratio," where a smaller number of working-age individuals must support a larger number of retirees.

(d) Option (A) describes Stage 1 of demographic transition (broad base, rapidly tapering top). Option (B) describes a growing population seen in developing nations. Option (D) relates to urbanization, which affects settlement patterns rather than the fundamental birth/death ratio.

(e) Therefore, the inverted shape is a hallmark of the final stage of demographic transition, driven by low birth rates and an ageing population.

Final Answer: Low birth rates and a high proportion of the elderly population.

Answer: (C)

Q22.

Solution

Concept:

In global maritime geography, the "Big Trunk Route" (or Great Trunk Route) refers to the busiest and most significant oceanic path used for international commerce. This route serves as the primary link between the most industrialized regions of the world, specifically connecting the Eastern United States with Western Europe.

Solution:

(a) The Northern Atlantic Sea Route is designated as the "Big Trunk Route" because it carries the highest volume of trade in terms of both value and tonnage. It is the maritime equivalent of a main highway (trunk road) that connects the two powerhouses of global industry.

(b) This route handles approximately one-fourth of the world's total maritime trade. It is used for the transportation of a diverse range of goods, including machinery, automobiles, chemicals, and consumer electronics.

(c) The presence of world-class ports like New York, London, Rotterdam, and Hamburg along this route facilitates efficient loading and unloading, making it the most reliable corridor for transatlantic shipping.

(d) While the Suez Canal (Option B) and Panama Canal (Option C) are vital "choke points," they are transit passages rather than the "trunk" itself. The Trans-Siberian Railway (Option D) is a land route, not a sea route.

(e) Understanding this route is crucial for CUET UG Geography as it highlights the concept of "Spatial Interaction" and the dominance of the North Atlantic region in the global economic landscape.

Final Answer: The Northern Atlantic Sea Route.

Answer: (A)

Q23.

Solution

Concept:

Energy resources are classified as conventional (exhaustible fossil fuels) and non-conventional (renewable and eco-friendly). Biomass energy is a significant non-conventional source, particularly in rural India, where organic matter is abundant and can be converted into fuel.

Solution:

(a) Biomass energy is derived from organic materials such as agricultural residue, cattle dung, and municipal solid waste. In rural India, "Bio-gas" (Gobar Gas) plants are a common application, where anaerobic digestion of waste produces methane used for cooking and lighting.

(b) Unlike nuclear energy (Option A), which requires uranium and advanced technology, biomass is decentralized and accessible to rural communities. It provides a dual benefit: waste management and energy production.

(c) Geothermal (Option B) and Tidal (Option D) energy are location-specific (requiring hot springs or coastal areas with high tides) and are not yet widely harnessed in rural domestic sectors compared to biomass.

(d) Biomass is considered "carbon neutral" in a cycle because the carbon released during burning is roughly equal to the carbon absorbed by the plants during their growth.

(e) This source of energy is promoted by the Indian government to reduce the reliance on firewood, thereby preventing deforestation and reducing indoor air pollution for rural women.

Final Answer: Biomass Energy.

Answer: (C)

Q24.

Solution

Concept:

Air pollution in Indian metros is a seasonal and multi-factorial problem. While vehicular and industrial emissions are year-round contributors, specific geographic and agricultural practices in Northern India lead to a severe spike in pollution levels during the onset of winter.

Solution:

(a) During the months of October and November, farmers in the states of Punjab, Haryana, and Western Uttar Pradesh clear their fields for the next crop cycle (Rabi season). Due to the short window between harvesting paddy and sowing wheat, they often resort to 'Stubble Burning' (burning crop residue).

(b) The smoke from thousands of such fires carries particulate matter (PM2.5 and PM10) toward the National Capital Region (NCR). This is exacerbated by the "Thermal Inversion" phenomenon, where a layer of cold air traps these pollutants near the ground.

(c) Marine salt spray (Option A) is a coastal phenomenon. Volcanic eruptions (Option C) are not a factor in the Indian mainland. Forest fires in the Western Ghats (Option D) are geographically too distant to affect the air quality of Delhi significantly.

(d) This issue is a classic example of "Geographical Perspective on Environmental Issues," showing how rural agricultural practices can have a direct and hazardous impact on distant urban ecosystems.

(e) Therefore, stubble burning remains the most significant seasonal driver of the hazardous "smog" experienced in Delhi and neighboring cities.

Final Answer: Stubble burning in neighboring states.

Answer: (B)

Q25.

Solution

Concept:

India's transport infrastructure is undergoing a massive transformation through umbrella projects designed to improve connectivity and economic efficiency. The 'Bharatmala Pariyojana' is the largest program for the highway sector in India, focusing on optimizing the efficiency of freight and passenger movement.

Solution:

(a) Launched by the Ministry of Road Transport and Highways, Bharatmala Pariyojana aims to bridge critical infrastructure gaps through effective interventions like the development of Economic Corridors, Inter-corridors and Feeder Routes, and National Corridor Efficiency Improvement.

(b) The project emphasizes "port-led development" and seeks to connect coastal areas and border regions to improve international and domestic trade. It also includes the construction of several "Expressways" and "Ring Roads" around major cities to bypass traffic.

(c) Option (A) refers to the 'UDAN' scheme. Option (B) relates to the 'Pradhan Mantri Urja Ganga' project. Option (D) is related to the modernization of railways, often referred under 'Kavach' or general rail redevelopment plans.

(d) Bharatmala is specifically a road and highway project. Its primary goal is to reduce logistics costs in India from the current 14% to approximately 10%, making Indian exports more competitive globally.

(e) Hence, it is the correct answer for a project focused on national highways and economic corridors.

Final Answer: Development of national highways and economic corridors.

Answer: (C)

Q26.

Solution

Concept:

Migration in India is a deeply gendered process, influenced by social customs, economic necessities, and regional traditions. In the Indian census, the reasons for migration are categorized into work, business, education, marriage, and others. For the female population, social factors overwhelmingly dominate the spatial movement patterns across the country.

Solution:

(a) Marriage is the single most significant cause of migration among females in India. Due to the patrilocal system of residence, women almost universally move from their parental home to their husband's home after marriage.

(b) Geographically, this movement is predominantly "Rural to Rural." Since a large majority of the Indian population still resides in villages, marriages frequently take place between families in neighboring or nearby villages. This results in a massive volume of short-distance migration.

(c) While "Rural to Urban" migration is significant for men seeking employment, it is secondary for women, who often migrate to cities as "associated migrants" (moving with their husbands) rather than as primary economic migrants.

(d) Urban to Urban and Urban to Rural streams are much smaller in volume compared to the Rural to Rural stream when specifically looking at the marriage factor.

(e) In some states like Meghalaya, where matrilocal systems exist, this pattern differs, but on a national scale, rural-to-rural migration driven by marriage remains the dominant demographic trend for Indian women.

Final Answer: Rural to Rural.

Answer: (A)

Q27.

Solution

Concept:

Regional planning in India often focuses on backward area development to reduce disparities. The Integrated Tribal Development Project (ITDP) is a specialized planning approach meant to provide a focused thrust for the socio-economic advancement of tribal communities living in identified blocks.

Solution:

(a) The Bharmaur region of Himachal Pradesh is inhabited by the 'Gaddi' tribal community. This region is geographically isolated, characterized by harsh climatic conditions, high altitude, and a fragile ecology, which historically led to lower levels of development.

(b) The ITDP was launched in the 1970s with the primary objective of improving the quality of life for the Gaddis. The plan focused on developing infrastructure such as schools, healthcare centers, potable water, and electricity.

(c) A major component of the project was the transformation of the local economy. Before the project, the Gaddis practiced transhumance (seasonal migration with livestock). The ITDP encouraged settled agriculture and the cultivation of high-value crops like pulses and medicinal plants.

(d) Infrastructure like the bridge over the Ravi river was crucial as it integrated the remote tribal villages with larger market centers, facilitating the commercialization of their traditional agrarian economy.

(e) Thus, the project was a targeted effort at human development and social justice for a specific marginalized group, rather than a general tourism or industrial project.

Final Answer: Improve the socio-economic conditions of the Gaddi tribal community.

Answer: (B)

Q28.

Solution

Concept:

India's coastline is dotted with several major ports that serve as gateways for international trade. Each port has unique geographical advantages. Kochi Port, located on the southwest coast in Kerala, is one of the most strategic and picturesque ports in India.

Solution:

(a) Kochi (Cochin) is known as the 'Queen of the Arabian Sea' due to its historical importance as a spice trading hub and its magnificent natural harbor. It is situated on the Willingdon and Vallarpadam islands.

(b) Geographically, it is located at the head of the 'Vembanad Kayal' (Vembanad Lake), which is the longest lake in India and a significant backwater system. This location provides a calm, sheltered environment for ships, protected from the open sea's turbulence.

(c) Mumbai (Option A) is the largest port but is not associated with the Vembanad backwaters. Kandla (Option B) is a tidal port in Gujarat. Marmagao (Option D) in Goa is primarily an iron-ore exporting port located at the entrance of the Zuari estuary.

(d) Kochi serves a vast hinterland comprising Kerala, South Tamil Nadu, and parts of Karnataka. It is also home to the International Container Transshipment Terminal (ICTT) at Vallarpadam, the first of its kind in India.

(e) Its proximity to the international sea route (connecting Europe to the Far East) makes it a vital point for bunkering and maritime services.

Final Answer: Kochi Port.

Answer: (C)

Q29.

Solution

Concept:

In international trade and economics, 'Dumping' is a term used to describe a specific type of predatory pricing strategy. It occurs when a manufacturer exports a product to another country at a price that is significantly lower than the price it charges in its home market or below its cost of production.

Solution:

(a) The primary goal of dumping is usually to gain a competitive advantage in the foreign market. By selling goods at an artificially low price, the exporting company can drive out domestic competitors in the importing country who cannot match such low prices.

(b) Once the local competition is eliminated, the exporting company can potentially raise prices and establish a monopoly. This is considered an "unfair" trade practice under the rules of the World Trade Organization (WTO).

(c) Countries often protect their domestic industries from this practice by imposing 'Anti-Dumping Duties'—special tariffs on imported goods that are believed to be dumped.

(d) Option (A) refers to environmental pollution. Option (C) is a trade deficit issue. Option (D) relates to illegal smuggling.

(e) Therefore, dumping is strictly an economic and trade term referring to the export of goods at prices lower than their domestic value or production cost to capture market share.

Final Answer: Selling a product in a foreign market at a price lower than its domestic cost.

Answer: (B)

Q30.

Solution

Concept:

Coal is the most abundant fossil fuel in India and is classified into four types—Anthracite, Bituminous, Lignite, and Peat—based on its carbon content, heat value, and moisture. Lignite is a specific grade of coal that marks the intermediate stage between peat and bituminous coal.

Solution:

(a) Lignite is popularly known as 'Brown Coal'. It has a relatively low carbon content (around 40

(b) Because of its high moisture, it is soft and tends to crumble easily. It also has a lower heating value and produces more smoke when burned.

(c) In India, the most significant deposits of Lignite are found in Neyveli in Tamil Nadu. It is primarily used for specialized purposes like thermal power generation in localized plants.

(d) Anthracite is the highest quality "Hard Coal," while Bituminous is the most common commercial coal. Peat is the first stage of coal formation and is more like organic soil than a rock.

(e) Understanding the classification of coal is vital for industrial geography as it determines the location of thermal power plants and heavy industries based on the quality of fuel available nearby.

Final Answer: Lignite.

Answer: (C)

Q31.

Solution

Concept:

In economic geography, human activities are classified into primary, secondary, tertiary, quaternary, and quinary sectors. Tertiary activities focus on providing services rather than the production of tangible goods. These include trade, transport, communication, and professional services where the output is "expertise" or "service" consumed at the point of delivery.

Solution:

(a) Primary activities (e.g., agriculture, mining) involve direct extraction of resources from nature.

(b) Secondary activities (e.g., manufacturing) involve the transformation of raw materials into finished goods.

(c) Tertiary activities bridge the gap between production and consumption. Professional services, such as those provided by lawyers, doctors, and financial consultants, are classic examples. These roles provide specialized knowledge and expertise to solve client problems.

(d) Unlike quaternary activities, which are information-centric (research, data analysis), or quinary activities (high-level decision-making), tertiary services are generally the "support" services for the economy and society.

(e) Professional Services, therefore, fall squarely into the tertiary sector as they are intangible service provisions.

Final Answer: Professional Services.

Answer: (B)

Q32.

Solution

Concept:

The Panama Canal is one of the most important engineering marvels in human history, fundamentally altering global shipping routes. It is an artificial 82 km waterway in Panama that connects the Atlantic Ocean with the Pacific Ocean, cutting across the Isthmus of Panama.

Solution:

(a) Before the completion of the Panama Canal in 1914, ships traveling between the East Coast and West Coast of the Americas had to sail all the way around the southern tip of South America via Cape Horn—a long and dangerous journey.

(b) By connecting the Atlantic and Pacific Oceans, the canal reduced the voyage by nearly 13,000 km for ships traveling from New York to San Francisco.

(c) The canal uses a system of locks to lift ships 26 meters above sea level to Gatun Lake and then lower them again at the other end.

(d) Option (A) refers to the Suez Canal. Option (C) and (D) involve different geographic regions not bridged by a canal in this manner.

(e) Thus, the Panama Canal serves as the critical link between the Atlantic and Pacific Oceans.

Final Answer: Atlantic Ocean and Pacific Ocean.

Answer: (B)

Q33.

Solution

Concept:

Population density measures the concentration of people in a given area. However, not all land is equal in terms of its ability to support a population. To understand the real pressure on resources, geographers use specialized density metrics beyond the simple arithmetic ratio.

Solution:

(a) Arithmetic Density is the total population divided by total land area. This can be misleading in countries with large uninhabitable regions.

(b) Physiological Density (also known as Real Density) is the ratio between the total population and the total area of arable (cultivable) land. This gives a much clearer picture of how many people a country's agricultural land must actually feed.

(c) Agricultural Density is the ratio of the agricultural population (farmers and their families) to the total arable land area.

(d) Economic Density refers to the population in relation to the overall economic resources of a region.

(e) Since the question asks for the number of people per unit of arable land, Physiological Density is the correct term.

Final Answer: Physiological Density.

Answer: (B)

Q34.

Solution

Concept:

The Demographic Transition Model (DTM) maps the historical shift from high birth and death rates to low birth and death rates as a society develops economically and industrially.

Solution:

(a) Stage I (High Stationary) has high births and high deaths, resulting in a stable but low total population.

(b) Stage II (Early Expanding) has high births and falling deaths, leading to rapid population growth.

(c) Stage III (Late Expanding) has falling birth rates and low death rates, with population growth slowing down.

(d) Stage IV (Low Stationary) is characterized by both low birth rates and low death rates. In this stage, the population is either stable or growing very slowly. This stage is typical of highly developed, urbanized nations where small family sizes are the norm.

(e) Therefore, Stage IV is the stage where both rates are low and the population stabilizes.

Final Answer: Stage IV.

Answer: (D)

Q35.

Solution

Concept:

The Rank-Size Rule is a geographical principle that describes the numerical relationship between city sizes in a country. It suggests that the population of a city is inversely proportional to its rank in the hierarchy.

Solution:

(a) According to the rule ($Pn = P1/n$), the n-th rank city should have a population equal to the largest city's population divided by n.

(b) In this case, the largest city (Rank 1) has 12 million people.

(c) For a perfect log-normal distribution, the 3rd rank city should have $12/3 = 4$ million people.

(d) Since the 3rd rank city actually has 4 million people (as stated in the question), the distribution matches the Rank-Size Rule perfectly. This indicates a well-balanced urban hierarchy, known as a log-normal pattern.

(e) Primate cities (Option A) occur when one city is significantly larger than the rule predicts (e.g., if the largest was 12m and the next was only 2m).

Final Answer: The distribution follows a perfect log-normal pattern.

Answer: (B)

Q36.

Solution

Concept:

The Suez Canal is one of the most strategically significant artificial waterways in the world. Opened in 1869, it provides a direct maritime link between the North Atlantic and the northern Indian Ocean, fundamentally altering the geography of global trade by providing a shortcut between Europe and Asia.

Solution:

(a) Geographically, the Suez Canal is located in Egypt, cutting through the Isthmus of Suez. It connects the Mediterranean Sea in the north to the Red Sea in the south.

(b) Before its construction, ships traveling from Europe to the Arabian Sea or the Indian subcontinent had to navigate around the entire continent of Africa via the Cape of Good Hope. The canal reduced this distance by approximately 7,000 to 9,000 kilometers.

(c) Unlike the Panama Canal, the Suez Canal is a sea-level waterway, meaning it does not require a system of locks to move ships between different water levels.

(d) It serves as a "choke point" for global energy supplies, as a significant portion of the world's crude oil and refined petroleum products pass through it from the Persian Gulf to Europe and North America.

(e) Option (B) is incorrect as the Black and Caspian Seas are connected by land/canals but not the Suez. Option (C) refers to the Caribbean region. Option (D) refers to the waters surrounding India.

Final Answer: Mediterranean Sea and Red Sea.

Answer: (A)

Q37.

Solution

Concept:

Non-conventional energy sources are renewable, sustainable, and generally have a lower environmental impact than fossil fuels. Geothermal energy is a unique form of renewable energy that taps into the thermal energy stored within the Earth's crust.

Solution:

(a) The Earth's interior is extremely hot due to the radioactive decay of minerals and the heat left over from the planet's formation. In certain areas, this heat comes close to the surface, heating underground water into steam or hot water.

(b) Geothermal energy is harnessed by drilling wells into these "geothermal reservoirs" to bring the steam or hot water to the surface, where it is used to drive turbines and generate electricity.

(c) In India, potential areas for geothermal energy include the Puga Valley in Ladakh and Tatapani in Chhattisgarh. These are often associated with tectonic plate boundaries or volcanic regions.

(d) Solar energy (Option A) is derived from the sun, Wind energy (Option B) from air currents, and Tidal energy (Option D) from the gravitational pull of the moon on oceans.

(e) Geothermal energy is considered highly reliable because it provides a "baseload" power supply, meaning it can generate electricity 24 hours a day, regardless of weather conditions.

Final Answer: Geothermal Energy.

Answer: (C)

Q38.

Solution

Concept:

National Waterways (NW) are inland water routes in India that have been designated for development by the Central Government. National Waterway 1 (NW-1) is the most significant and longest among them, serving as a lifeline for the Indo-Gangetic plains.

Solution:

(a) National Waterway 1 covers a total length of 1,620 kilometers. It utilizes the stretch of the Ganga, Bhagirathi, and Hooghly river system.

(b) The route extends from Haldia (near Kolkata) in West Bengal to Prayagraj (Allahabad) in Uttar Pradesh. It passes through major industrial and cultural hubs including Patna, Varanasi, and Munger.

(c) This waterway is crucial for the transport of bulky cargo like coal, fertilizers, and food grains. The Jal Marg Vikas Project (JMVP) is currently being implemented to increase the capacity of this route for larger vessels.

(d) For context, Option (B) refers to NW-2, Option (C) refers to NW-3, and Option (D) refers to NW-4.

(e) The development of NW-1 is a key part of India's strategy to promote "multimodal transport," reducing the pressure on the heavily congested rail and road networks in North India.

Final Answer: The Ganga-Bhagirathi-Hooghly river system.

Answer: (A)

Q39.

Solution

Concept:

The age-sex pyramid of a country is a direct reflection of its birth and death rates over the past century. In several highly developed nations, particularly Japan, the pyramid has taken on an "inverted" or "top-heavy" shape.

Solution:

(a) An inverted pyramid is characterized by a very narrow base, indicating that birth rates have fallen significantly below the replacement level. In Japan, the fertility rate is among the lowest in the world, leading to a shrinking younger population.

(b) Simultaneously, Japan has one of the highest life expectancies globally. Excellent nutrition, healthcare, and social security mean that people are living much longer. This results in a very wide top of the pyramid (elderly population).

(c) This demographic structure presents significant economic challenges, as the "working-age" population (the middle of the pyramid) must support an increasingly large "dependent" elderly population.

(d) Option (A) describes a Stage 1 society. Option (B) describes a rapidly growing population like that of Nigeria or India in the 1970s. Option (D) is a socio-economic process but doesn't explain the fundamental birth/death ratio.

(e) Therefore, the inverted shape is the classic indicator of a "super-aged" society where low births and high longevity coexist.

Final Answer: Low birth rates and a high proportion of the elderly population.

Answer: (C)

Q40.

Solution

Concept:

Internal migration in India is driven by a complex interplay of "push" and "pull" factors. One of the most dominant streams of migration is the movement of people from villages to cities, which fundamentally changes the landscape of both the origin and the destination.

Solution:

(a) Rural-Urban migration is primarily an economic phenomenon. The "push factors" in rural areas include population pressure on land, lack of modern healthcare and education, and low agricultural productivity.

(b) The "pull factors" of cities include better employment opportunities, higher wages, superior infrastructure, and the promise of a more modern lifestyle.

(c) This stream of migration is largely responsible for the rapid urbanization witnessed in India. It leads to the growth of megacities like Mumbai, Delhi, and Bengaluru.

(d) However, it also creates challenges such as the growth of slums, environmental degradation, and the "feminization of agriculture" in rural areas as men move to cities for work.

(e) Counter-urbanization (Option A) is the movement from cities back to rural areas, seen in some developed nations. Suburbanization (Option C) is the movement to the outskirts of a city. Gentrification (Option D) is the revitalization of inner-city neighborhoods.

Final Answer: Rural-Urban Migration.

Answer: (B)

Q41.

Solution

Concept:

Urban geography focuses on the evolution and transformation of city spaces. Gentrification is a specific process of neighborhood change that involves both physical renovation and socio-economic shifting. It is often seen as a double-edged sword: it brings capital back into decaying urban cores but often at the cost of social displacement.

Solution:

(a) According to the passage, the primary goal or action involved in gentrification is the "rehabilitation of deteriorated inner-city neighborhoods." This means taking older, often neglected buildings and upgrading them to modern standards.

(b) This rehabilitation is led by middle and upper-middle-class residents who see value in the central location or the "historic architecture" mentioned in the text.

(c) Option (A) is incorrect because gentrification happens in the "inner-city," not the periphery where slums often expand. Option (C) is a general demographic trend, and Option (D) refers to commercial development rather than residential rehabilitation.

(d) The passage explicitly links the process to the movement of more affluent classes into areas that were previously considered "deteriorated," thereby transforming the physical and economic landscape of the neighborhood.

Final Answer: Rehabilitate deteriorated inner-city neighborhoods.

Answer: (B)

Q42.

Solution

Concept:

Displacement is the most controversial aspect of gentrification. In geography, this is studied under the "rent gap" theory, where the potential value of a property after renovation far exceeds its current value, leading to a change in the demographic profile of the area.

Solution:

(a) The passage states that gentrification "often leads to the displacement of lower-income residents." This happens because the influx of wealthier residents drives up the demand for housing, which in turn causes property values and rents to rise sharply.

(b) For residents who were renting or living on fixed/low incomes, these "rising property values and rents" make the neighborhood unaffordable, forcing them to move to cheaper areas, often further from their jobs and social networks.

(c) This contradicts Option (A), as affordability decreases. While Option (C) might be true for the neighborhood's new residents, it usually doesn't benefit the original low-income population. Option (D) is listed in the passage as a "concern" (loss of identity) rather than a consequence.

(d) Therefore, displacement due to economic pressure is the direct consequence highlighted for the original inhabitants.

Final Answer: Displacement due to rising property values and rents.

Answer: (B)

Q43.

Solution

Concept:

The location of gentrification is usually tied to the accessibility of the Central Business District (CBD). In many cities, the "inner-city" consists of neighborhoods built during early industrialization that fell into decay as wealthier residents moved to the suburbs (suburbanization).

Solution:

(a) The passage notes that gentrification is observed where there is a "strong demand for housing near central business districts (CBDs)."

(b) These inner-city neighborhoods are attractive because they reduce commute times and offer proximity to urban amenities like theaters, restaurants, and high-end retail.

(c) This geographic preference distinguishes gentrification from suburbanization (Option B) or rural development (Option A).

(d) The "deteriorated" nature of these specific neighborhoods is what provides the opportunity for "rehabilitation." By focusing on the inner-city, developers and new residents capitalize on the historical value and central location of the land.

Final Answer: Inner-city neighborhoods near the CBD.

Answer: (C)

Q44.

Solution

Concept:

Geographers and sociologists critique gentrification for its impact on social justice. While the physical environment improves, the social fabric of the neighborhood is often torn, leading to a "homogenization" of the urban space.

Solution:

(a) The passage mentions that while the process brings investment, it "raises concerns about social equity and the loss of community identity."

(b) "Social equity" refers to the fairness of the urban process—specifically, who benefits from the improvements and who is harmed by the rising costs.

(c) The "loss of community identity" occurs when long-standing local businesses, cultural centers, and social bonds are replaced by upscale establishments catering to the new, wealthier demographic.

(d) Option (A) and (C) are incorrect as investment and property values actually *increase* during gentrification. Option (D) is a motivation for the move, not a concern.

(e) Thus, the core concerns are rooted in the social and cultural costs of the economic transformation.

Final Answer: Loss of community identity and social equity.

Answer: (B)

Q45.

Solution

Concept:

The Central Business District (CBD) is the focal point of the city, characterized by high land values, high building density, and the convergence of transport routes. The "pull" of the CBD is a primary driver for the middle-class "back-to-the-city" movement.

Solution:

(a) The passage explicitly connects the demand for housing in gentrified areas to their "proximity to central business districts (CBDs)."

(b) The CBD is the hub of quaternary and quinary activities—offices, finance, and high-level services. People working in these sectors value living nearby to avoid long commutes from the suburbs.

(c) This urban feature acts as an anchor for gentrification. As the CBD grows and modernizes, the surrounding "twilight zones" or deteriorated inner-city rings become prime targets for redevelopment.

(d) Options like industrial parks (A) or peripheral slums (C) do not offer the same lifestyle or economic incentives that drive the middle class to invest in rehabilitating old neighborhood blocks.

Final Answer: Central Business Districts (CBDs).

Answer: (B)

Q46.

Solution

Concept:

The Brundtland Commission, formally the World Commission on Environment and Development (WCED), was a turning point in global environmental policy. Its report provided the philosophical foundation for international agreements like the Rio Earth Summit.

Solution:

(a) As mentioned in the case study, the 1987 report was titled 'Our Common Future'.

(b) The title reflects the commission's view that environmental problems are global and that the "future" of humanity depends on a shared responsibility to manage resources sustainably.

(c) This report is famous for codifying the definition of sustainable development that balances the needs of the "present" and the "future."

(d) The other options provided—Our Common Earth, Sustainable World, etc.—are plausible-sounding titles but are historically incorrect.

Final Answer: Our Common Future.

Answer: (B)

Q47.

Solution

Concept:

Sustainable development is defined by three pillars: economic viability, social equity, and environmental protection. The most critical element is the "inter-generational" aspect of this balance.

Solution:

(a) The case study quotes the standard definition: "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

(b) This means that while we must use resources to live and grow today (present needs), we must not exhaust or destroy those resources so that our children and grandchildren are left with nothing (future needs).

(c) Option (A) and (C) prioritize short-term growth and industrialization, which are often the *opposite* of sustainable practices. Option (D) is a specific method used in the canal area but is not the definition of the concept itself.

(d) Therefore, the focus is on a long-term, multi-generational balance of resources.

Final Answer: Meeting the needs of the present without compromising future generations.

Answer: (B)

Q48.

Solution

Concept:
Intensive irrigation in arid regions can lead to severe ecological degradation. When too much water is applied to poorly drained desert soils, it alters the local hydrology and chemistry.
Solution:

(a) The case study highlights that intensive irrigation in the Indira Gandhi Canal area has led to "soil salinity and waterlogging."

(b) Waterlogging occurs when the groundwater table rises to the root zone of crops due to excessive irrigation and lack of drainage.

(c) Soil salinity occurs when this rising water brings underground salts to the surface. As the water evaporates in the hot desert sun, the salt is left behind, making the land infertile.

(d) These are common problems in canal command areas across North-West India and are prime examples of the "unintended consequences" of human-environment interaction.

Final Answer: Soil salinity and waterlogging.

Answer: (B)

Q49.

Solution

Concept:
Managing a fragile ecosystem like the Thar Desert requires a departure from traditional "command and control" methods toward more "integrated" and "adaptive" management strategies.
Solution:

(a) To fix the issues of salinity and waterlogging, the case study suggests "integrated planning and the adoption of water-conserving technologies."

(b) Integrated planning involves looking at the whole system—water, soil, crops, and people—rather than just building more canals.

(c) Water-conserving technologies include drip irrigation and sprinklers, which deliver only the amount of water the plant needs, preventing the excess runoff that causes waterlogging.

(d) This approach aligns with the "Neo-Determinism" philosophy of Geography, where humans "stop and go" to ensure they don't overstep the natural limits of the environment.

Final Answer: Integrated planning and the adoption of water-conserving technologies.

Answer: (C)

Q50.

Solution

Concept:

The ultimate goal of any sustainable development project is to ensure that "development" is not a temporary boom but a permanent improvement in human welfare that respects the Earth's carrying capacity.

Solution:

(a) The case study concludes by stating the goal is to "ensure long-term economic prosperity while protecting the fragile desert ecosystem."

(b) In the context of the Indira Gandhi Canal, this means that farming should continue to provide livelihoods and food, but in a way that doesn't turn the land into a salt-encrusted wasteland within a few decades.

(c) This requires a shift from "intensive" (quantity-focused) to "sustainable" (quality and stability-focused) agriculture.

(d) Protecting the environment (Option B) is not just a moral choice; it is an economic necessity because if the ecosystem collapses, the economy based on it will also collapse.

Final Answer: Protect the environment while ensuring long-term economic prosperity.

Answer: (B)

Answer Key

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