CBSE 12th 2024 Compartment Geography Set-2 (64/S/2) Solutions

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SECTION A

Questions no. 1 to 17 are Multiple Choice Type Questions.

Q.1. Which one of the following is the positive impact of irrigation in the 'Indira Gandhi Canal Command Area'?
(A) Waterlogging
(B) Increase in agricultural productivity
(C) Increase in soil salinity
(D) Increase in evaporation from canal water.

Solution. (B) Increase in agricultural productivity,The positive impact of irrigation in the 'Indira Gandhi Canal Command Area' is (B) Increase in agricultural productivity
Explanation:
The Indira Gandhi Canal Command Area, located in the arid regions of Rajasthan, benefits significantly from irrigation provided by the Indira Gandhi Canal. This irrigation system has transformed previously dry and unproductive land into fertile agricultural fields, resulting in a substantial increase in agricultural productivity. By providing a reliable water source, the canal system supports the cultivation of various crops, improves soil fertility, and enhances the overall agricultural output of the region.

Q.2. The Brundtland Report' is known by which one of the following?
(A) Our Common Future
(B) The Population Bomb
(C) The Limits to Growth
(D) Redistribution with Growth

Solution. The Brundtland Report is known by:

(A) Our Common Future
Explanation:
The Brundtland Report, formally titled "Our Common Future," was published in 1987 by the World Commission on Environment and Development (WCED), chaired by Gro Harlem Brundtland. This report is renowned for popularizing the concept of sustainable development, emphasizing the need to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Q.3. Bharmour tribal region is dominated by which one of the following tribes?
(A) Gond
(B) Santhal
(C) Bhils
(D) Gaddi

Solution.(D) Gaddi , The Bharmour tribal region is dominated by:
(D) Gaddi
Explanation:
The Gaddi tribe primarily inhabits the Bharmour region in Himachal Pradesh. They are known for their unique culture and traditional lifestyle, and Bharmour is one of the key areas where this tribe is prominently found.

Q.4. Which one of the following is a component of population change in the world?
(A) Urbanization
(B) Industrialisation
(C) Migration
(D) Education

Solution.(C) Migration, A component of population change in the world is Migration
Explanation:
Migration refers to the movement of people from one place to another, which directly impacts population distribution and growth. It can involve

both internal migration (within a country) and international migration (between countries). Urbanization, industrialization, and education can influence migration patterns but are not themselves direct components of population change.

Q.5. Which one of the following is a leading jute growing state in India?
(A) Assam
(B) Bihar
(C) West Bengal
(D) Odisha

Solution. The leading jutegrowing state in India is (C) West Bengal
Explanation:
West Bengal is the largest producer of jute in India, accounting for a significant portion of the country's jute production. The state's climate and soil conditions are ideal for jute cultivation, making it a major hub for this important cash crop.

Q.6. Which one of the following is a leading maize growing state in India?
(A) Tamil Nadu
(B) Rajasthan
(C) Karnataka
(D) Odisha

Solution. (C) Karnataka ,The leading maizegrowing state in India is:
(C) Karnataka
Explanation:
Karnataka is one of the top producers of maize in India. The state's climate and soil conditions are favorable for maize cultivation, and it has a wellestablished agricultural infrastructure to support the crop. While other states also grow maize, Karnataka is particularly notable for its significant production levels.

Q.7. Which one of the following sectors utilizes the lowest surface and groundwater in India?
(A) Agricultural
(B) Industrial
(C) Domestic
(D) Transport

Solution.(D) Transport, The sector that utilizes the lowest surface and groundwater in India is (D) Transport
Explanation:
Among the listed sectors, transport uses the least amount of surface and groundwater compared to agriculture, industry, and domestic uses. Agriculture and industry are the major consumers of water resources in India, while domestic use also accounts for a significant portion of water consumption. Transport, on the other hand, relies far less on these water resources.

Q.8. Under which one of the following commodities was the export from India the highest during 2016-17?
(A) Agriculture and allied products
(B) Ores and minerals
(C) Manufactured goods
(D) Crude and petroleum products

Solution. During 201617, the highest export from India was under:
(C) Manufactured goods
Explanation:
In the fiscal year 201617, manufactured goods topped the list of India's exports. This category includes a wide range of products such as textiles, chemicals, machinery, and electronics, which collectively contribute a significant portion to India's export earnings. Agriculture and allied products, ores and minerals, and crude and petroleum products are also important, but manufactured goods lead in terms of export value.

Q.9. Which one of the following seaports is situated in Mahanadi delta in India?
(A) Visakhapatnam
(B) Haldia
(C) Paradwip
(D) Nhava Sheva

Solution. (C) Paradwip , The seaport situated in the Mahanadi delta in India is Paradip
Explanation:
Paradip Port is located in the Mahanadi delta, on the eastern coast of India in Odisha. It is a major seaport handling a large volume of cargo, including iron ore, coal, and other bulk commodities. Visakhapatnam and Haldia are also important ports, but they are not located in the Mahanadi delta. Nhava Sheva, now known as Jawaharlal Nehru Port, is situated near Mumbai, Maharashtra.

Q.10. 'Haryali' , a watershed development project in India, is sponsored by which one of the following?
(A) Central Government
(B) State Governments
(C) District Administration
(D) NonGovernmental Organization

Solution. (B) State Governments, The 'Haryali' watershed development project in India is sponsored by State Governments

Explanation:
The 'Hariyali' project is a state government initiative aimed at improving watershed management and promoting sustainable agricultural practices. It focuses on water conservation, soil management, and enhancing rural livelihoods through community participation and statelevel support. The project is part of a broader effort by state governments to address environmental and agricultural challenges.

Q.11. Which one of the following is the main reason for pollution of the river Ganga at Kanpur?
(A) Domestic waste
(C) Agricultural waste
(B) Industrial waste
(D) Transportation waste

Solution. (B) Industrial waste, The main reason for the pollution of the river Ganga at Kanpur is Industrial waste
Explanation:
Kanpur, being an industrial hub, has significant industrial activity along the banks of the Ganga. The discharge of untreated or inadequately treated industrial waste, including toxic chemicals and heavy metals, has been a major contributor to the river's pollution in this region. While domestic and agricultural waste also contribute to pollution, industrial waste is particularly significant in Kanpur due to the concentration of industries in the area.

Q.12. Which of the following is regarded as a Tertiary activity?
(A) Cattle rearing
(B) Farming
(C) Work of plumbers
(D) Industrial work

Solution.(C) Work of plumbers, A Tertiary activity is Work of plumbers

Explanation:
Tertiary activities are those that involve providing services rather than producing goods. This includes a wide range of services such as healthcare, education, retail, and maintenance work. The work of plumbers falls into this category as it involves providing a service related to the installation and repair of plumbing systems, rather than producing physical goods. Cattle rearing and farming are primary activities, while industrial work is considered a secondary activity.

Q.13. Two statements are given below as Assertion (A) and Reason (R). Read them carefully and choose the correct option.

Assertion (A): "Slums are residential areas of least choice for living."
Reason (R): "Slums are associated with unregulated drainage, lack of basic amenities like drinking water, toilets, lights, etc."
Options:
(A) Assertion (A) is correct, but Reason (R) is not correct.
(B) Assertion (A) is not correct, but Reason (R) is correct.
(C) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).
(D) Both Assertion (A) and Reason (R) are correct, but Reason (R) is not the correct explanation of Assertion (A).

Solution. (C) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).

Explanation:
Assertion (A): "Slums are residential areas of least choice for living." This is correct because slums often represent the least desirable living conditions due to their poor infrastructure and overcrowded conditions.
Reason (R): "Slums are associated with unregulated drainage, lack of basic amenities like drinking water, toilets, lights, etc." This is also correct and explains why slums are considered areas of least choice for living. The lack of essential amenities and poor living conditions make them undesirable.
Together, the Reason (R) explains why Assertion (A) is true, making option (C) the best choice.

Q.14. Two statements are given below as Assertion (A) and Reason (R). Read them carefully and choose the correct option.
Assertion (A): Areas with mineral deposits and industries are densely populated.
Reason (R): "Mining and industrial activities generate employment opportunities and thus attract a large population.

Options:
(A) Assertion (A) is correct, but Reason (R) is not correct.
(B) Assertion (A) is not correct, but Reason (R) is correct.
(C) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).
(D) Both Assertion (A) and Reason (R) are correct, but Reason (R) is not the correct explanation of Assertion (A).

Solution. (D) Both Assertion (A) and Reason (R) are correct, but Reason (R) is not the correct explanation of Assertion (A).
Explanation:
Assertion (A): "Areas with mineral deposits and industries are densely populated." This is generally true because such areas often attract workers and their families, leading to higher population densities.
Reason (R): "Mining and industrial activities generate employment opportunities and thus attract a large population." While it's true that employment opportunities attract people, this is not always the sole reason for high population density in these areas. Other factors, such as historical development, geographic location, and infrastructure, also play roles in determining population density.

Thus, while both statements are correct, Reason (R) does not fully explain why areas with mineral deposits and industries are densely populated.

Q.19. Read the given passage carefully and answer the questions that follow:

A Role Model to Restore the Ecology and Safeguard Human Health in Daurala

Based on the universal law "Polluter pays", effort to restore the ecology and safeguard the human health with people's participation has taken place in Daurala near Meerut. These efforts are now bearing fruits after a span of three years when a Meerut based NGO had developed a model for ecological restoration. The meeting of the

Daurala Industries Officials, NGOs, Government officials and other stakeholders at Meerut has brought out results. The powerful logics, authentic studies and the pressure of people have brought a new lease of life to the twelve thousand residents of this village. It was in the year 2003 that the pitiable condition of Dauralaites drew the attention of the civil society. The groundwater of this village was contaminated with heavy metals. The reason was that the untreated wastewater of Daurala industries was leaching to the groundwater table. The NGO conducted a door to door survey of the health status of the residents and came out with a report. The organization, the village community and people's representatives sat together to find out sustainable solutions to the health problem. The industrialists showed a keen interest towards checking the deteriorating ecology. The overhead water tank's capacity in the village was enhanced and a 900 m extra pipeline was laid to supply potable water to the community. The silted pond of the village was cleaned and recharged by desilting it. Large quantity of silt was removed paving way to a large quantity of water so that it recharged the aquifers. Rainwater harvesting structures have been constructed at different places which has helped in diluting the contaminants of the groundwater after the monsoons. 1000 trees have also been planted which have improved the environment.

(19.1) Mention the problems faced by the people of Daurala.
(19.2) Describe measures taken to restore the deteriorating ecology of Daurala.
(19.3) Examine the role of NonGovernmental Organizations improving the health status of the people of Daurala.

SECTION C

Questions number 20 to 23 are Short Answer Type Questions.

Q.20. "In the early stages of development, the primitive societies were highly influenced by nature and adapted to its dictates." Examine the statement.

Solution. The statement "In the early stages of development, the primitive societies were highly influenced by nature and adapted to its dictates" reflects how early human societies were deeply intertwined with their natural environment. Here's an examination of this statement:

Influence of Nature on Primitive Societies

1. Subsistence and Survival:

Dependence on Natural Resources: Primitive societies relied heavily on their immediate natural surroundings for survival. Their subsistence activities, such as hunting, gathering, and later agriculture, were directly influenced by the availability of natural resources like animals, plants, and water sources.

Seasonal Changes: They had to adapt to seasonal variations in weather and climate, which affected their food supply and living conditions. This dependence on nature's cycles shaped their seasonal practices and settlement patterns.

2. Cultural and Spiritual Practices:

Nature Reverence: Many primitive societies developed spiritual and religious practices centered around natural elements. Mountains, rivers, forests, and celestial bodies were often revered and considered sacred, reflecting their deep connection with nature.

Rituals and Traditions: Their rituals and traditions were often designed to harmonize with natural phenomena. For example, agricultural societies performed ceremonies to ensure favorable weather for crops.

3. Adaptation to Environmental Challenges:

Technological Innovations: To cope with environmental challenges, primitive societies developed tools and techniques suited to their local conditions. This included developing hunting tools, farming methods, and housing types adapted to the climate.

Resource Management: They also practiced early forms of resource management, such as controlled burns to manage forests or rotational farming to maintain soil fertility.

4. Settlement Patterns:
Location Choices: Settlement locations were chosen based on access to water, fertile land, and protection from harsh elements. Settlements were often located near rivers or fertile plains that supported agriculture and provided other resources.

Q.21. (a) Explain the main features of 'Clustered Settlements' in India.

Solution. Clustered settlements are a common type of rural settlement pattern in India. Here are the main features of clustered settlements:

1. Compact Arrangement:
Dense Housing: In clustered settlements, houses and buildings are closely packed together. This compact arrangement maximizes the use of available land and creates a cohesive community space.
Centralized Layout: The settlement often has a central point, such as a village square or marketplace, around which residential and community buildings are grouped. This central location typically serves as the focal point for social and economic activities.

2. Shared Resources:
Common Facilities: Clustered settlements often share common resources and facilities, such as wells, ponds, and community centers. This shared approach helps in managing resources efficiently and fosters a sense of community.
Agricultural Land: Agricultural fields are usually located on the outskirts of the settlement, with the residential area centrally positioned. This layout helps in reducing the distance between living areas and farming fields.

3. Social and Cultural Integration:

Close Knit Community: The proximity of homes and community spaces promotes social interactions and strengthens community bonds. It's common to find communal activities and festivals celebrated together.

Cultural Significance: In many cases, clustered settlements are shaped by cultural practices and traditions, which influence the layout and organization of the settlement.

4. Defensive Advantage:

Protection: Historically, clustered settlements were often designed for defensive purposes. Being close together provided protection against potential threats, such as invasions or wildlife.

5. Economic and Administrative Center:

Market Hub: The central area in a clustered settlement often serves as the economic hub, where markets, shops, and trading activities take place. This centralization helps in the smooth functioning of local trade and commerce.

Administrative Functions: The central location can also house administrative offices or local governance structures, facilitating better management and communication within the community.

Examples in India

Traditional Villages: Many traditional Indian villages exhibit a clustered pattern. In states like Punjab, Uttar Pradesh, and Tamil Nadu, you'll find villages where homes are grouped together, with fields and open spaces surrounding them.

Hill and Coastal Areas: Clustered settlements are also common in hilly and coastal regions, where the terrain makes spreading out impractical.

In essence, clustered settlements in India reflect a practical approach to living, emphasizing community, efficiency, and protection. This pattern not only suits the geographical and cultural context but also helps in fostering a strong sense of identity and belonging among the residents.

OR

(b) Explain the main features of Dispersed Settlements' in India.

Solution. Dispersed settlements are characterized by their scattered arrangement, unlike clustered settlements where buildings are tightly packed. Here are the main features of dispersed settlements in India:

1. Scattered Housing:

Individual Homes: In dispersed settlements, houses are spread out over a larger area rather than being grouped together. This creates a more spreadout pattern of habitation.

Varied Locations: Homes and farms are often located at varying distances from each other, influenced by factors such as land use, topography, and availability of resources.

2. Agricultural Focus:

FarmBased Settlements: Dispersed settlements are often found in agricultural regions where each household or farmstead is located on its own plot of land. This allows for extensive farming and easy access to larger areas of land.

Land Use: The space between homes is often used for agricultural activities, such as crop cultivation or livestock rearing.

3. Independent Resources:

SelfSufficiency: Residents of dispersed settlements often rely on their own resources for daily needs, such as water from wells or tanks and fuel from nearby forests. This reduces the need for shared facilities.

Less Centralized Infrastructure: Unlike clustered settlements, dispersed ones may not have centralized infrastructure like markets or community centers. Instead, essential services and facilities are spread out.

4. Geographical and Environmental Adaptation:

Topography: Dispersed settlements are often found in areas with challenging topography, such as hilly or rugged terrains, where clustering would be impractical.

Climate: In some cases, the climate influences the dispersed nature of settlements. For example, in arid regions, settlements might be spread out to reduce the strain on local resources.

5. Low Population Density:

Sparse Population: Due to the scattered nature of homes, dispersed settlements typically have a lower population density compared to clustered settlements. This can lead to a greater sense of privacy and space for each household.

6. Communication and Transportation:

Road Networks: The spreadout nature of dispersed settlements often requires welldeveloped road networks to connect different homes and farms. Efficient transportation is crucial for accessing markets, services, and other communities.

Challenges: While the dispersed pattern offers benefits, it can also pose challenges such as higher transportation costs and difficulty in providing centralized services.

Examples in India

Rural Areas: Dispersed settlements are common in rural parts of states like Rajasthan, Himachal Pradesh, and Uttarakhand, where the topography and land use patterns favor spreadout habitation.

Agricultural Regions: In areas with extensive farming, such as parts of Punjab and Haryana, homes may be dispersed to maximize the use of land for agricultural purposes.

In summary, dispersed settlements in India are characterized by their scattered arrangement, focusing on agriculture and selfsufficiency. They adapt to geographical and environmental conditions, offering privacy and space but requiring effective transportation and infrastructure to connect the widely spreadout homes.

Q.22 (a) Explain the main aspects of the 'Basic Needs Approach' of human development.

Solution. The 'Basic Needs Approach' to human development emphasizes meeting fundamental requirements for a decent standard of living as a primary goal of development. This approach focuses on ensuring that all individuals have access to essential services and resources that support a basic quality of life. Here are the main aspects of this approach:

1. Focus on Fundamental Needs

Essential Services: The approach prioritizes providing access to basic services such as food, clean water, shelter, education, and healthcare. These are considered fundamental for survival and wellbeing.
Minimum Standards: It aims to ensure that all individuals reach a minimum standard of living that is considered adequate for human dignity and health.

2. HumanCentered Development

Quality of Life: The Basic Needs Approach emphasizes improving the quality of life for all individuals, particularly those in poverty. It recognizes that development should be about enhancing human well being rather than just economic growth.
Equity and Inclusivity: It focuses on reducing inequalities by ensuring that even the poorest and most marginalized groups have their basic needs met. This involves targeted interventions to address disparities.

3. Integrated and Comprehensive Approach

MultiSectoral: Addressing basic needs requires a comprehensive strategy that integrates various sectors such as health, education, and housing. For example, improving healthcare access might involve not just building clinics but also ensuring that people have access to medicines and healthcare professionals.

Community Involvement: Successful implementation often involves the participation of local communities in planning and decision making. This ensures that the solutions are tailored to the specific needs and contexts of the communities.

4. Focus on Human Development Indicators

Measurable Outcomes: The approach uses specific indicators to measure progress, such as rates of child malnutrition, literacy rates, and access to clean water. These indicators help track improvements in living standards and overall well being.
ShortTerm and LongTerm Goals: While addressing immediate needs is crucial, the approach also aims to create conditions for long term sustainability and development. This might involve building infrastructure that supports long term health and education outcomes.

5. Policy and Implementation

Government and International Support: Governments and international organizations often play a key role in funding and implementing basic needs programs. This might include providing subsidies for essential goods, investing in public health campaigns, or developing infrastructure projects.
Adaptability: Policies and programs under this approach need to be adaptable to changing conditions and emerging needs. Continuous assessment and adjustment ensure that the approach remains effective and relevant.

Examples of Basic Needs Interventions

Food Security Programs: Initiatives like food distribution or nutrition programs aimed at combating hunger and malnutrition.
Healthcare Access: Efforts to provide vaccines, maternal and child health services, and basic medical care to underserved populations.

Educational Opportunities: Programs designed to improve literacy and access to education for children and adults in disadvantaged areas.
Safe Water and Sanitation: Projects to provide clean drinking water and improve sanitation facilities to prevent disease and improve health.

OR

(b) Explain the main aspects of the 'Welfare Approach' of human development.

Solution. The 'Welfare Approach' to human development focuses on improving the wellbeing of individuals through targeted support and assistance from the government or other organizations. It is centered around providing safety nets and services to those in need, especially the vulnerable and disadvantaged groups. Here are the main aspects of this approach:

1. Government Driven Support

State Responsibility: The Welfare Approach emphasizes that the government has a key role in ensuring the wellbeing of its citizens. It involves the state taking responsibility for providing social services and support to improve quality of life.
Social Safety Nets: It includes establishing programs and policies that provide financial assistance and other forms of support to individuals and families facing economic hardships or social disadvantages.

2. Focus on Vulnerable Groups

Targeted Assistance: The approach specifically aims to assist vulnerable groups such as the elderly, disabled, unemployed, and low income families. This targeted assistance helps address their specific needs and challenges.
Equitable Support: By focusing on those who are most in need, the Welfare Approach seeks to promote social equity and reduce disparities in living standards.

3. Social Services and Benefits

Income Support: Includes direct financial assistance such as unemployment benefits, pensions, and social security payments to help individuals meet their basic needs.
Healthcare and Education: Provides subsidized or free access to healthcare services and education, ensuring that essential services are available to all, regardless of their economic status.
Housing and Food Security: Involves programs that provide affordable housing and food assistance to prevent homelessness and hunger.

4. Palliative and Preventive Measures

Palliative Support: The approach offers immediate relief and support to individuals facing urgent needs or crises, such as emergency financial aid, medical care, or temporary housing.
Preventive Measures: It also aims to address the root causes of poverty and social issues through preventive measures like social programs designed to improve overall living conditions and prevent future hardships.

5. Dependency and Criticisms

Dependency Concerns: One critique of the Welfare Approach is that it can create dependency on government support, where individuals may rely on assistance without seeking selfsufficiency or employment.
Sustainability: There are concerns about the longterm sustainability of welfare programs, especially regarding funding and resource allocation. Critics argue that reliance on state support can be financially burdensome and may not always effectively address underlying issues.

6. Implementation and Policy

Program Design: Welfare programs are designed to be accessible and userfriendly, with a focus on reaching those who need help the most. This

involves setting up efficient systems for application and distribution of benefits.
Evaluation and Adjustment: Regular evaluation of welfare programs is essential to ensure they meet their goals and address any emerging needs or inefficiencies. Adjustments may be made based on feedback and changing circumstances.

Examples of Welfare Programs

Social Security: Provides financial support to retirees, disabled individuals, and survivors of deceased workers.
Public Health Initiatives: Includes programs such as free or subsidized medical care, vaccinations, and health education campaigns.
Food Assistance Programs: Initiatives like food stamps or free school meals aimed at ensuring that everyone has access to adequate nutrition.
Affordable Housing Projects: Government programs that provide subsidized housing or financial assistance to help individuals and families secure stable living conditions.

Q.23. Explain the chief characteristics of bioenergy in India.

Solution. Bioenergy in India is a crucial component of the country's energy strategy, aimed at promoting sustainable energy sources and reducing dependence on fossil fuels. Here are the chief characteristics of bioenergy in India:

1. Diverse Sources

Agricultural Residues: India generates significant amounts of agricultural waste, such as crop residues (straw, husks) and animal manure, which are used for bioenergy production.
Biomass: This includes plant and animal materials, including wood, forest residues, and municipal waste, which can be converted into energy through various processes.

Biofuels: Bioenergy also involves the production of biofuels like ethanol and biodiesel from crops like sugarcane, maize, and jatropha.

2. Technological Development

Biogas Plants: Smallscale biogas plants are common in rural areas, where they convert organic waste into methane gas, which can be used for cooking and lighting.
Bioenergy Conversion Technologies: India is advancing in technologies for converting biomass into energy, including anaerobic digestion, gasification, and pyrolysis.

3. Renewable and Sustainable

Environmental Benefits: Bioenergy is considered renewable and sustainable as it uses organic materials that can be replenished. It helps reduce greenhouse gas emissions compared to fossil fuels.
Waste Management: Utilizing agricultural and municipal waste for bioenergy not only produces energy but also aids in waste management and reduces environmental pollution.

4. Government Policies and Initiatives

National Policy: The Indian government has formulated policies to promote bioenergy, including the National Biofuel Policy and various schemes to support the development of bioenergy technologies.
Incentives and Support: Financial incentives, subsidies, and support for research and development in bioenergy technologies are provided to encourage investment and innovation.

5. Economic and Rural Development

Employment Generation: Bioenergy projects create job opportunities in rural areas, including those related to biomass collection, processing, and plant operations.

Energy Security: By reducing dependence on imported fossil fuels, bioenergy contributes to national energy security and stability.

6. Challenges and Limitations

Feedstock Availability: The supply of biomass can be irregular and inconsistent, affecting the reliability of bioenergy production.
Infrastructure: Developing the infrastructure for efficient collection, processing, and distribution of bioenergy is still a work in progress.
Economic Viability: The economic viability of bioenergy projects can be impacted by fluctuating prices of feedstocks and competition with other energy sources.

7. Integration with Other Energy Sources

Hybrid Systems: In some regions, bioenergy is integrated with other renewable energy sources, such as solar or wind power, to create hybrid energy systems that enhance reliability and efficiency.

8. Regional and Local Impact

Regional Adaptation: The use of bioenergy varies across different regions of India, depending on local resources and needs. For example, in sugarcane producing areas, ethanol production is more prevalent.
Local Benefits: In rural communities, bioenergy provides a decentralized source of power, improving access to energy and supporting local livelihoods.

SECTION D

Questions number 24 to 28 are Long Answer Type Questions.

Q.24. How does the highly uneven spatial distribution of the population in India suggest its close relationship with physical, social, economic and historical factors? Analyze with examples.

Solution. The highly uneven spatial distribution of the population in India is a result of various physical, social, economic, and historical factors. This unevenness is evident in the concentration of people in certain regions while others remain sparsely populated. Here's an analysis of how these factors contribute to the uneven distribution:

1. Physical Factors

Climate: Regions with favorable climatic conditions, such as the IndoGangetic Plain, have higher population densities due to better agricultural prospects. For instance, the fertile alluvial soils and favorable climate of Uttar Pradesh, Punjab, and Haryana support large populations.
Water Resources: Availability of water is crucial for both drinking and agriculture. Areas near rivers and lakes, like those along the Ganges and Brahmaputra rivers, are densely populated due to their ability to support irrigation and agriculture. In contrast, arid regions like parts of Rajasthan see lower population densities due to scarce water resources.
Topography: Plains and river valleys are more hospitable and support higher population densities compared to mountainous or rugged terrain. The Himalayan region, with its rugged and challenging terrain, is sparsely populated compared to the plains of the Ganges and Yamuna.

2. Social Factors

Cultural and Historical Significance: Areas with historical and cultural significance often attract more people. Cities like Varanasi, which hold religious importance, or Delhi, with its historical and political significance, have high population densities.
Urbanization: The process of urbanization has led to higher population densities in metropolitan areas. Cities such as Mumbai, Bangalore, and Chennai have grown rapidly due to migration from rural areas seeking better employment opportunities and amenities.

3. Economic Factors

Industrialization and Employment Opportunities: Economic opportunities drive population density. Industrial hubs like Mumbai, Pune, and Kolkata attract people from various parts of the country due to job opportunities. The presence of industries and commercial activities leads to higher population concentrations in these areas.

Agricultural Productivity: Regions with high agricultural productivity, supported by fertile lands and advanced farming techniques, tend to have larger populations. For instance, the Punjab and Haryana regions, known for their Green Revolution success, have dense populations due to high agricultural productivity.

4. Historical Factors

Colonial Legacy: British colonial policies shaped the distribution of infrastructure and economic activities, leading to uneven population distribution. For instance, colonial cities like Mumbai and Kolkata grew as major trade centers, while many rural areas remained underdeveloped.

Migration and Settlement Patterns: Historical migration patterns, such as the movement of people during and after partition, have influenced population distribution. For example, the migration of people to the northern and western parts of India after the partition created significant demographic changes in those regions.

Examples of Uneven Distribution

The IndoGangetic Plain: This region has some of the highest population densities in India due to its fertile land, abundant water resources, and favorable climate for agriculture.

Himalayan Region: The mountainous terrain and harsh climatic conditions contribute to lower population densities in states like Himachal Pradesh and Uttarakhand.

Desert Areas: The Thar Desert in Rajasthan has a sparse population due to its arid conditions and limited water resources.

Q.25. Analyze any five factors influencing the location of industries in the world.

Solution. The location of industries around the world is influenced by a variety of factors. Understanding these factors helps explain why industries are concentrated in certain areas and how they develop. Here's an analysis of five key factors influencing industrial location:

1. Raw Material Availability

Proximity to Resources: Industries often locate near sources of raw materials to reduce transportation costs and ensure a steady supply. For example, steel industries are typically situated close to iron ore deposits and coal mines. The presence of these resources reduces logistical challenges and costs associated with raw material procurement.
Example: The iron and steel industry in the Ruhr Valley in Germany is located near abundant coal and iron ore deposits.

2. Access to Markets

Consumer Demand: Industries tend to be located near major markets or urban centers where there is high demand for their products. Being close to markets helps in reducing transportation costs and allows industries to respond more quickly to market needs.
Example: The textile industry in Mumbai benefits from its proximity to major consumer markets in India and abroad, facilitating efficient distribution and trade.

3. Infrastructure and Transport

Transportation Networks: Efficient transportation infrastructure, such as roads, railways, ports, and airports, is crucial for industrial operations. Good transport links help in the easy movement of raw materials to factories and finished products to markets.

Example: The automobile industry in Detroit, USA, benefited from its location near major railroads and highways, which facilitated the distribution of cars across the country.

4. Labor Availability

Skilled Workforce: The availability of a skilled and affordable workforce can influence industrial location. Industries that require specialized skills may locate near educational institutions or regions with a trained labor pool.
Example: The information technology (IT) industry in Bangalore, India, has grown due to the city's large pool of skilled engineers and IT professionals.

5. Energy Supply

Energy Requirements: Industries with high energy demands, such as aluminum smelting or chemical production, need access to reliable and affordable energy sources. The availability of electricity or other forms of energy can be a decisive factor in the location of such industries.
Example: The aluminum industry in the Pacific Northwest of the United States is located near abundant hydroelectric power sources, which provide the necessary energy for aluminum production.

Summary

In summary, the location of industries is influenced by a combination of factors including:

1. Raw Material Availability: Industries often locate near sources of raw materials to minimize costs and ensure a steady supply.
2. Access to Markets: Proximity to major consumer markets facilitates distribution and reduces transportation costs.
3. Infrastructure and Transport: Efficient transportation networks are essential for moving raw materials and products.
4. Labor Availability: The presence of a skilled and affordable workforce influences where industries are set up.

5. Energy Supply: Access to reliable and affordable energy sources is crucial for energyintensive industries.

Each factor plays a critical role in determining the optimal location for industrial activities, affecting cost, efficiency, and overall success.

Q.26. Analyze the basic functions of the World Trade Organization'. Why has it been criticized by less developed countries? Explain any two reasons.

Solution. Basic Functions of the World Trade Organization (WTO)

The World Trade Organization (WTO) plays a crucial role in the global trading system. Its primary functions include:

1. Regulating Trade Agreements
   The WTO oversees the implementation, administration, and operation of multilateral trade agreements. It ensures that trade agreements are followed by member countries and provides a framework for negotiating and formalizing new agreements.
   Example: The WTO administers agreements such as the General Agreement on Tariffs and Trade (GATT) and the Agreement on TradeRelated Aspects of Intellectual Property Rights (TRIPS).

2. Dispute Resolution
   One of the key roles of the WTO is to provide a mechanism for resolving trade disputes between member countries. If a country believes another member is violating trade agreements, it can bring the issue to the WTO's Dispute Settlement Body (DSB).
   Example: A common dispute might involve allegations of unfair trade practices, such as dumping or subsidies that distort competition.

3. Monitoring Trade Policies
   The WTO monitors and reviews the trade policies and practices of its member countries. This function ensures transparency and compliance

with WTO agreements, and helps identify any issues that could affect the global trading system.

Example: Regular Trade Policy Reviews (TPRs) assess the trade policies of member countries to ensure they adhere to WTO rules.

4. Promoting Trade Liberalization

The WTO aims to reduce trade barriers and encourage free trade by negotiating and implementing agreements that promote the liberalization of international trade. This includes reducing tariffs and other trade restrictions.

Example: The Doha Development Round seeks to lower trade barriers and increase market access, particularly for developing countries.

5. Capacity Building and Technical Assistance

The WTO provides technical assistance and training for developing countries to help them build capacity to participate effectively in the global trading system.

Example: The WTO conducts workshops and provides resources to help countries understand and implement WTO agreements.

Criticisms by Less Developed Countries (LDCs)

The WTO has faced criticism, particularly from less developed countries, for several reasons:

1. Unequal Benefits and Market Access

Issue: LDCs argue that the WTO's rules and agreements often favor developed countries, which have more resources and better negotiating power. This imbalance can result in LDCs having less access to global markets and fewer benefits from trade liberalization.

Example: LDCs may struggle to compete with subsidized agricultural products from developed countries, which can undermine local agricultural industries in poorer nations.

2. High Compliance Costs

Issue: The implementation of WTO agreements can be costly and complex, particularly for LDCs that lack the necessary infrastructure and administrative capacity. The financial and technical resources required to comply with these rules can be a significant burden.

Example: Compliance with intellectual property regulations under the TRIPS agreement can be challenging for LDCs, which may lack the infrastructure to enforce intellectual property rights effectively.

Q.27. Analyze the basic functions of 'World Trade Organization'. Why has it been criticized by less developed countries? Explain any two reasons.

Solution. Basic Functions of the World Trade Organization (WTO)

The World Trade Organization (WTO) is central to global trade governance. Its primary functions include:

1. Administering Trade Agreements

The WTO manages and oversees the implementation of various international trade agreements among its members. It ensures that trade agreements are applied consistently and fairly across member countries.

Example: Agreements such as the General Agreement on Tariffs and Trade (GATT) and the Agreement on TradeRelated Aspects of Intellectual Property Rights (TRIPS) are monitored and enforced by the WTO.

2. Dispute Resolution

The WTO provides a structured mechanism for resolving trade disputes between member countries. When disagreements arise over trade practices or violations of agreements, the WTO's Dispute Settlement Body (DSB) steps in to mediate and provide judgments.

Example: If one country believes another is violating trade rules by imposing unfair tariffs, it can bring the issue to the WTO for resolution.

3. Monitoring Trade Policies

The WTO conducts regular reviews of national trade policies to ensure transparency and adherence to its rules. This process helps maintain a predictable and stable trading environment.

Example: The Trade Policy Review Mechanism (TPRM) examines the trade policies of member countries and assesses their impact on the global trading system.

4. Promoting Trade Liberalization

The WTO aims to reduce trade barriers and promote free trade through negotiations and agreements. By lowering tariffs and other trade restrictions, it seeks to create a more open and competitive international market.

Example: The Doha Development Round aimed to lower trade barriers and improve market access, particularly for developing countries.

5. Technical Assistance and Capacity Building

The WTO provides support and training to help developing and least developed countries (LDCs) build their trade capacities and effectively participate in the global trading system.

Example: The WTO offers workshops and resources to help countries understand and implement trade agreements.

Criticisms by Less Developed Countries (LDCs)

Less developed countries have raised several concerns about the WTO, focusing on the following issues:

1. Unequal Benefits and Market Access

Issue: LDCs argue that the WTO's rules and agreements often favor developed countries, which have greater negotiating power and economic resources. This imbalance can limit LDCs' access to global markets and prevent them from benefiting equally from trade liberalization.

Example: Subsidies provided by developed countries to their agricultural sectors can undermine the competitiveness of agricultural products from

LDCs, making it difficult for these countries to compete in international markets.

2. High Compliance Costs

Issue: The requirements and regulations set by the WTO can be challenging and costly for LDCs to implement. The complexity and expense of complying with WTO agreements can strain the limited resources of these countries.

Example: The Agreement on TradeRelated Aspects of Intellectual Property Rights (TRIPS) requires countries to enforce stringent intellectual property laws, which can be particularly burdensome for LDCs with limited administrative infrastructure and financial resources.

Q.28 (a) Explain the main features of 'Primitive Subsistence Agriculture' in the world.

Solution. Main Features of Primitive Subsistence Agriculture

Primitive subsistence agriculture is a traditional form of farming practiced primarily in developing regions. It is characterized by the following features:

1. Low Technological Input

Primitive subsistence agriculture relies on simple tools and techniques. Farmers use basic implements like hoes, sticks, and manual plows rather than advanced machinery.

Example: In many parts of Africa and Southeast Asia, farmers still use hand tools for planting and harvesting, which limits the scale and efficiency of production.

2. SmallScale Farming

This type of agriculture is typically practiced on small plots of land. The scale of farming is limited, often due to the small size of land holdings and traditional methods.

Example: In the highlands of Nepal or parts of rural India, small fields are cultivated using traditional methods, supporting just enough food for the farmer's family.

3. Shifting Cultivation

Also known as slashandburn agriculture, shifting cultivation involves clearing a patch of forest, cultivating it for a few years, and then moving to a new area once soil fertility declines. The cleared land is allowed to regenerate naturally while the farmer moves on.

Example: Indigenous communities in the Amazon rainforest practice shifting cultivation, moving their farms periodically to maintain soil fertility.

4. Dependence on Natural Conditions

Primitive subsistence agriculture is highly dependent on local environmental conditions such as soil fertility, rainfall, and temperature. Farmers have little control over these factors and rely heavily on natural cycles.

Example: In many tropical regions, the timing of planting and harvesting is closely aligned with seasonal rainfall patterns, as irrigation systems are often rudimentary or absent.

5. Low Yields and SelfSufficiency

Yields from primitive subsistence agriculture are generally low. The production is mainly for subsistence, meaning that the food grown is primarily for the farmer's own consumption, with little surplus for sale or trade.

Example: A family farming in the rice paddies of rural Asia might produce just enough rice to feed themselves, with little excess for sale in local markets.

6. Limited Use of Fertilizers and Pesticides

There is minimal use of chemical fertilizers and pesticides. Instead, traditional methods like composting and natural pest control are employed.

Example: Farmers in traditional farming communities might use animal manure and plant residues to enrich the soil rather than commercial fertilizers.

7. Cultural and Social Aspects

Primitive subsistence farming is often intertwined with cultural practices and social structures. Agricultural practices are passed down through generations and are closely linked to the community's way of life.

Example: In many indigenous communities, farming techniques and crop varieties are integral to cultural traditions and community rituals.

OR (b) Explain the main features of 'Commercial Livestock Rearing' in the world.

Solution. Main Features of Commercial Livestock Rearing

Commercial livestock rearing is a type of farming focused on producing meat, milk, wool, and other products for sale in the market, rather than primarily for personal consumption. Here are the key features:

1. LargeScale Production

Commercial livestock operations are typically largescale, involving significant numbers of animals. This scale of production is designed to meet market demands and maximize economic efficiency.

Example: In the United States, large beef cattle ranches in states like Texas or Nebraska may manage thousands of cattle on expansive properties to supply beef to both domestic and international markets.

2. Advanced Technology and Practices

These operations use modern technology and practices to enhance productivity. This includes automated feeding systems, advanced breeding techniques, and health management practices.

Example: Dairy farms in countries like the Netherlands or New Zealand might use automated milking systems and genetic engineering to increase milk yields and improve herd health.

3. Intensive Management

Livestock in commercial systems are often managed intensively, meaning they are kept in confined spaces or feedlots where their diets and health are closely monitored to optimize growth and production.

Example: Poultry farms, such as those in China or Brazil, may use controlled environments with precise temperature, lighting, and feeding regimes to maximize egg production or meat growth.

4. Focus on Efficiency and Productivity

The goal is to produce high quantities of meat, milk, or other products with maximum efficiency. This involves optimizing feed conversion rates, reducing animal mortality, and managing resources effectively.

Example: Commercial pig farming operations might use specially formulated feed to ensure pigs grow quickly and efficiently, reducing the time required to bring them to market weight.

5. Market Orientation

The primary focus is on producing goods for sale in the market. Livestock are bred and raised with the aim of meeting consumer demand and achieving economic profitability.

Example: In Australia, sheep farming is oriented towards wool production for the global textile market, with farms specializing in breeds that produce highquality wool.

6. Use of Specialized Breeds

Commercial operations often use specialized breeds that have been selectively bred for their superior production traits, such as higher milk yields, faster growth rates, or better meat quality.

Example: In beef production, breeds like Angus or Hereford are favored for their meat quality, while in dairy farming, breeds such as Holstein are known for their high milk production.

7. Environmental and Welfare Considerations

There are growing concerns about the environmental impact and animal welfare in commercial livestock rearing. Issues include the management of waste, greenhouse gas emissions, and the ethical treatment of animals.

Example: In response to concerns, some commercial farms are adopting more sustainable practices, such as improved waste management systems and better living conditions for animals.

8. Global Trade and Supply Chains

Commercial livestock products are often part of global supply chains, with products being exported to and imported from various countries. This global trade helps balance supply and demand across different markets.

Example: New Zealand exports a significant portion of its lamb and beef to markets in Europe and Asia, making it a key player in international livestock trade.

Q.29 (a) Analyze the role of the Indian Railways in the economic development of the country.

Solution. Role of the Indian Railways in Economic Development

The Indian Railways plays a crucial role in the economic development of India through various channels. Here's an analysis of its impact:

1. Transportation of Goods and Passengers

Freight Transport: The Indian Railways is one of the largest freight carriers in the world. It transports essential commodities such as coal, iron ore, cement, and agricultural products across vast distances. This efficient movement of goods supports industries and construction projects, which are vital for economic growth.

Passenger Transport: With one of the largest passenger networks globally, the railways provide affordable and widespread travel options. This connectivity facilitates labor mobility, tourism, and access to markets, contributing to regional development and economic integration.

2. Infrastructure Development

Connectivity: Railways enhance connectivity between urban and rural areas, reducing the isolation of remote regions. Improved infrastructure supports regional development by linking resourcerich areas with markets, fostering economic activities.

Industrial Growth: The establishment of railway lines often leads to the development of industrial zones and economic hubs along the routes. Areas around railway stations can become focal points for economic activities, boosting local economies.

3. Job Creation

Direct Employment: The Indian Railways is one of the largest employers in the country, providing millions of jobs. This includes positions in operations, maintenance, and administration.

Indirect Employment: Beyond direct employment, the railways generate numerous indirect jobs in related sectors such as manufacturing, logistics, and service industries. For example, the demand for goods and services at railway stations and for train maintenance supports local businesses.

4. Regional Development

Economic Integration: By connecting diverse regions, the Indian Railways promotes economic integration and helps balance economic disparities between different parts of the country. This integration fosters economic growth in less developed areas by providing them with access to larger markets.

Access to Markets: Farmers and small producers benefit from better access to larger markets, allowing them to sell their products beyond local areas. This can lead to better prices and increased income for rural populations.

5. Cost Efficiency

Bulk Transportation: Railways are more costeffective for transporting large quantities of goods over long distances compared to other modes of transport. This cost efficiency reduces the overall logistics costs for businesses and consumers, contributing to lower prices and higher economic efficiency.

6. Infrastructure Investment

Modernization: Investments in railway infrastructure, such as the development of highspeed corridors and the upgrading of existing lines, contribute to enhanced efficiency and economic competitiveness. Modernization projects also stimulate technological advancements and innovation in related sectors.

7. Environmental Impact

Sustainable Transport: Railways are considered a more environmentally friendly mode of transport compared to road and air travel. They contribute to reducing carbon emissions per ton of freight transported and per passenger kilometer, supporting sustainable economic development.

OR (b) Analyze the role of metalled roads in the economic development of India.

Solution. Role of Metalled Roads in Economic Development of India

Metalled roads, which are paved with asphalt or concrete, play a critical role in India's economic development. Here's a detailed analysis of their impact:

1. Enhanced Connectivity

Improved Access: Metalled roads provide reliable and allweather access to remote and rural areas, reducing isolation and connecting these areas to urban centers, markets, and services. This improved connectivity is essential for integrating different regions of the country.

Economic Integration: By linking different economic regions, metalled roads facilitate the movement of goods and people, fostering economic integration and helping balance regional development.

2. Boost to Trade and Commerce

Market Access: Farmers, producers, and businesses benefit from better access to markets, enabling them to sell their products more efficiently.

This leads to higher income for producers and more competitive prices for consumers.

Supply Chains: Metalled roads improve the efficiency of supply chains by ensuring timely and costeffective transportation of raw materials and finished goods. This is crucial for industries that depend on justintime delivery systems.

3. Economic Growth

Industrial Development: The development of metalled roads often stimulates industrial growth by making it easier for industries to transport goods and raw materials. It also attracts investment to areas with better infrastructure, leading to the establishment of new businesses and industries.

Urbanization: Improved road infrastructure supports urban expansion and the growth of new towns and cities. It enhances the overall infrastructure of urban areas, making them more attractive for businesses and residents.

4. Job Creation

Construction and Maintenance: The construction and maintenance of metalled roads create numerous job opportunities. These jobs include roles in road construction, engineering, project management, and road maintenance.

Indirect Employment: Better road connectivity stimulates local economies, leading to the creation of additional jobs in sectors such as retail, services, and transportation.

5. Regional Development

Reduction in Regional Disparities: Metalled roads help reduce economic disparities between regions by improving access to services, education, and healthcare. This leads to more balanced regional development and better quality of life in previously underserved areas.

Tourism Development: Improved road infrastructure can boost tourism by making it easier for tourists to reach destinations. This leads to increased revenue for local businesses and communities.

6. Cost Efficiency and Economic Impact

Reduced Transportation Costs: Metalled roads reduce transportation costs by providing smoother and faster routes for vehicles. This is beneficial for businesses that rely on efficient logistics and can lead to lower prices for consumers.

Increased Productivity: Faster and more reliable transportation contributes to increased productivity in various sectors, including agriculture, manufacturing, and services.

7. Safety and Convenience

Improved Safety: Metalled roads offer better safety features compared to unpaved roads, reducing the risk of accidents and improving overall travel safety.

Enhanced Comfort: Paved roads provide a more comfortable travel experience, which can lead to increased mobility and higher quality of life for residents.

8. Environmental and Social Benefits

Sustainable Development: Metalled roads contribute to sustainable development by reducing travel time and vehicle wear and tear. They can also be designed to incorporate features such as drainage systems to manage runoff and minimize environmental impact.

Social Inclusion: By connecting remote areas, metalled roads promote social inclusion and enable access to essential services like education and healthcare, improving overall community wellbeing.