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CHAPTER

UNIT II (Geography): CONTEMPORARY WORLD - II

Resource and Development

Level - 1 CORE SUBJECTIVE QUESTIONS

MULTIPLE CHOICE QUESTIONS (MCQs)

1. Option (A) is correct

   Explanation: Plains provide a better scope for agriculture and industries in comparison to mountains and plateaus.

2. Option (C) is correct

   Explanation: Laterite soil develops in regions with high temperatures and heavy rainfall. Due to heavy rains, essential nutrients are washed away, leading to leaching. The rapid decomposition of organic matter due to high temperatures results in low humus content. Laterite soil is commonly found in tropical and subtropical regions and is often used for plantation crops like tea, coffee, and cashew.

3. Option (D) is correct

   Explanation: Alluvial soil is one of the most widespread and agriculturally important soils in India. It is found in Northern Plains, formed by the deposition of sediments by rivers like the Ganga, Brahmaputra, and Indus, are primarily composed of alluvial soil. It consists of sand, silt, and clay, making it highly fertile and suitable for agriculture. Alluvial soil is ideal for growing crops like wheat, rice, sugarcane, and cotton due to its high fertility.

4. Option (D) is correct

   Explanation: Laterite soil forms in hot and humid tropical regions with heavy rainfall. Due to excessive rain, nutrients are washed away, making the soil less fertile. The rapid decomposition of organic matter under high temperatures results in low humus. Laterite soil is commonly found in hilly and tropical areas, especially in states like Kerala, Karnataka, Tamil Nadu, and Odisha, and is suitable for crops like tea, coffee, and cashew.

5. Option (B) is correct

   Explanation: Jharkhand, Chhattisgarh, and Odisha are rich in minerals and have extensive mining activities. Mining leads to land degradation by stripping away topsoil, making the land barren and unfit for agriculture. It also causes deforestation, soil erosion, and pollution, further degrading the land quality. Thus, mining is the main reason for land degradation in these states.

6. Option (D) is correct

   Explanation: A community-owned resource is one that is shared by all members of a community, such as grazing grounds, forests, lakes, and common land. In this scenario, the grazing ground was used by multiple villagers, making it a shared or community resource.

   Overuse of the resource (bringing 50 cows instead of the sustainable limit of 10) led to its depletion.

7. Option (D) is correct

   Explanation: Overgrazing is a major cause of land degradation as it leads to soil erosion and loss of vegetation. Creating separate grazing zones helps in controlled grazing, allowing land to regenerate and preventing soil degradation. The other options (A), (B), and (C) contribute to land degradation by increasing mining, industrial activities, and deforestation. Thus, the best action to reduce land degradation is (D) creating separate grazing zones for livestock.

8. Option (A) is correct

   Explanation: Alluvial soil is formed by the sediments brought down by the rivers making it very fertile and rich in content in terms of potash, lime and organic matter.

MATCH THE FOLLOWING QUESTIONS

1. Option (A) is correct

   Explanation: Alluvial soil is correctly matched with the Gangetic plain because it is deposited by rivers like the Ganga, Brahmaputra, and Indus and is highly fertile.

   Black soil is found in the Deccan Plateau (Maharashtra, Gujarat, Madhya Pradesh, etc.), not in the Himalayan region.

   Arid soil is found in desert areas like Rajasthan, not in the Western Ghats.

Laterite soil is found in high rainfall areas like Western Ghats, Eastern Ghats, and parts of Northeast India, not in desert areas.

2. Option (A) is correct

Explanation: Alluvial soil is composed of sand, silt, and clay, making it highly fertile. It is deposited by rivers in the Indo-Gangetic plains.

Black soil is rich in clay and moisture-retaining capacity, but its salt content is not necessarily high.

Arid soil is found in dry regions and has high salt content, but the statement about "diffusion of iron in crystalline form" is not true.

Laterite soil is formed due to intense leaching in hot and humid regions, but it is not made up of lava flows.

3. Option (C) is correct

Explanation: (a) Biological–(ii) Wildlife. Biological resources include living organisms like plants, animals, and micro-organisms. Wildlife is a part of biological resources.

(b) Renewable–(iii) Solar energy. Renewable resources replenish naturally. Solar energy is an inexhaustible and renewable resource.

(c) Non-renewable–(i) Coal. Non-renewable resources do not regenerate quickly. Coal is a fossil fuel that takes millions of years to form and is non-renewable.

4. Option (C) is correct

Explanation: Gully erosion refers to the form of soil erosion caused by running water, wind erosion refers to the erosion of soil as a result of wind blowing off the loose soils, sheet erosion refers to the removal of soil in the form of sheet due to running water downslope and defective methods of farming, like ploughing, or following the direction of the slope of the land, lead to soil erosion.

ASSERTION-REASON QUESTIONS

1. Option (A) is correct

Explanation: Soil formation and erosion are natural processes that usually maintain a balance. However, human activities like deforestation, overgrazing, mining, and improper agricultural practices disrupt this balance, leading to excessive soil erosion.

Soil formation is a slow process, taking millions of years as rocks break down due to weathering. In contrast, soil erosion occurs much faster, especially due to wind, water, and human activities.

Both A and R are true, and R is the correct explanation of A as. The reason correctly explains why human activities can disrupt the natural balance between soil formation and erosion.

2. Option (B) is correct

Explanation: Resource planning is a complex process because it involves identifying resources, mapping them, assessing their availability, and ensuring their sustainable use. It requires technological, economic, and institutional planning.

Resource planning is essential for the effective and judicious use of resources to prevent overuse, wastage, and depletion. It ensures sustainable development.

However, Reason does not directly explain why resource planning is complex. The complexity arises from multiple factors like geographic diversity, uneven distribution, and socio-economic conditions, not just from the need for judicious use.

3. Option (B) is correct

Explanation: Resources are essential for human survival and maintaining the quality of life. They provide food, water, energy, shelter, and raw materials for industries, making them vital for economic and social development.

In the past, it was believed that resources were free gifts of nature, meaning they were abundant and available for unlimited use. However, over time, people realised that resources are limited and need careful management.

However, reason does not directly explain assertion as while resources are necessary for survival, their perception as "free gifts of nature" does not explain their importance for maintaining the quality of life.

VERY SHORT ANSWER TYPE QUESTIONS

1. (1) **Afforestation and Reforestation:** Planting trees and restoring degraded lands through reforestation and afforestation initiatives can help mitigate soil erosion, improve soil quality, and restore ecosystem balance. Trees play a crucial role in stabilising soil, preventing erosion, and enhancing biodiversity. Reforestation efforts can also help sequester carbon dioxide from the atmosphere, contributing to climate change mitigation.

(2) **Sustainable Land Management Practices:** Implementing sustainable land management practices such as conservation tillage, crop rotation, contour ploughing, agro-forestry, and terracing can help prevent soil erosion, improve soil fertility, and promote sustainable land use. These practices aim to maintain or enhance productivity while minimising negative impacts on the environment.

2. (1) **Avoiding over Utilisation of Resources:** Over-utilisation occurs when resources such as water, soil, forests, and minerals are used at a rate faster than they can be replenished or regenerated. This can lead to resource exhaustion, environmental degradation, and loss of biodiversity. By avoiding over-utilisation, we ensure that resources are available for future generations.

(2) **Reduce Wastage, Reuse and Recycle of Resources:** One of the most effectise ways to conserve resources is to minimise waste by reducing consumption, reusing items whenever possible, and recycling materials like paper, plastic, and metal. This helps to preserve raw materials, reduce energy consumption, and decrease environmental pollution.

3. The Rio de Janeiro Earth Summit (1992), officially known as the United Nations Conference on Environment and Development (UNCED), aimed to address global environmental and sustainable development issues. The main objective of the Rio Earth Summit was to address urgent problems of environmental protection and socio-economic development at the global level.

4.

	Khadar Soils	Bangar Soils
(i)	It is new alluvial soil.	It is an old alluvial soil.
(ii)	It comprises silt, sand, mud and clay.	It comprises nodules of calcium carbonate known as 'kamkars'.
(iii)	It has more fine particles.	It has less fine particles.

5. (i) Alluvial soil is widely spread over the northern plains by the three Himalayan River systems – The Indus, The Ganga and The Brahmaputra.

(ii) It is the most fertile soil among soil types.

(iii) Alluvial soil is classified as Bangar and Khadar.

(iv) It contains potash, phosphoric acid and lime.

(v) It is ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops. (Any two)

6. Soil is considered as a resource because it is used to satisfy our needs. It is the most important renewable natural resource. It is the medium of plant growth and home to innumerable forms of living organisms on earth.

SHORT ANSWER TYPE QUESTIONS

1. (i) Planning helps in identifying the available resources and allocating them efficiently across various sectors.

(ii) It ensures maximising their utility and minimising wastage during activities.

(iii) Planning allows for a balanced development of different regions and sectors within the country.

(iv) By prioritising areas that need development the most, planning ensures that resources are distributed equitably. For instance, the planned development during the Green Revolution focused on enhancing agricultural productivity in regions that were lagging behind.

(v) Planning involves setting long-term goals and creating strategies to achieve them.

(vi) Planning facilitates the development of infrastructure such as roads, railways, ports, and communication networks. This infrastructure supports economic activities and enhances connectivity, leading to overall development. (Any three)

2. (i) **Environmental Degradation:** Conservation of environment is necessary for development. Rapid industrialisation and urbanisation have led to deforestation, pollution, and climate change. Example: In many developing countries, industries contribute to economic growth but also cause air and water pollution, affecting people's health and biodiversity.

(ii) **Over Exploitation of Natural Resources:** Development can be sustained in any economy by using renewable resources such as groundwater, wind energy and solar energy. We have a fixed stock of resources on earth which cannot be replenished so we need to conserve it for sustainable development. Excessive use of non-renewable resources like coal, petroleum, and groundwater leads to depletion. Example: Over-extraction of groundwater in states like Punjab and Haryana for agriculture is causing water scarcity.

(iii) **Climate Change and Its Impact on Development:** Rising global temperatures and extreme weather conditions affect agriculture, infrastructure, and livelihoods. Example: Rising sea levels threaten coastal cities like Mumbai, posing risks to millions of people.

3. (i) **Identification and Survey of Resources:** Conduct a detailed survey of the river valley to assess water availability, flow rate, and topography. Analyse environmental impact,

geological conditions, and land use patterns. Example: The Tehri Dam project involved extensive hydrological and geological studies before construction.

(ii) **Planning for Resource Utilisation:** Design the hydroelectric infrastructure, including dam construction, turbine placement, and water reservoir management. Develop a strategy to minimise displacement of local communities and ecological impact. Example: The Bhakra Nangal Dam project included detailed planning to optimise power generation while ensuring irrigation benefits.

(iii) **Implementation and Management:** Construct the hydroelectric plant with sustainable engineering practices. Establish maintenance systems, safety measures, and disaster management plans. Monitor environmental impacts and ensure sustainable water usage. Example: The Sardar Sarovar Dam project involved continuous monitoring to balance energy production and environmental conservation. By following these steps, the hydroelectric project can be successfully implemented while ensuring sustainable resource management.

4. Yes, there are regions which are rich in certain types of resources, but are deficient in some other resources.

(i) Jharkhand, Chattisgarh and Madhya Pradesh are rich in minerals and coal deposits but lachs in other recources.

(ii) Arunachal Pradesh has an abundance of water resources, but lacks in infrastructural development.

(iii) Rajasthan is endowed with solar and wind energy but lacks in water resources.

(iv) The cold desert of Ladakh is relatively isolated from the rest of the country. It has a very rich cultural heritage, but it is deficient in water, infrastructure and some vital minerals.

(Any three)

5. (i) If the present trend of resource depletion by few individual continues, the future of the planet is in danger.

(ii) Planning is essential for sustainable existence of all forms of life. Resource planning becomes important in country like India, which has enormous diversity in the availability of resources.

(iii) Indiscriminate exploitation of resources has led to ecological crises.

LONG ANSWER TYPE QUESTIONS

1. There are various measures which can be adopted to prevent soil erosion caused due to natural forces:

(i) Ploughing along the contour lines can decelerate the flow of water down the slopes. This is called contour ploughing.

(ii) Steps can be cut out on the slopes making terraces. Terrace cultivation restricts erosion. Western and central Himalayas have well developed terrace farming.

(iii) Large fields can be divided into strips. Strips of grass are left to grow between the crops. This breaks up the force of the wind. This method is known as strip cropping.

(iv) Planting lines of trees to create shelter also works in a similar way. Rows of such trees are called shelter belts. These shelter belts have contributed significantly to the stabilisation of sand dunes and in stabilising the desert in western India.

(v) Natural forces like wind, glacier and water lead to soil erosion.

2. Black soil is ideal for growing cotton, jowar and sugarcane.

(i) This type of soil is typical of the Deccan trap (Basalt) region spread over northwest Deccan plateau and is made up of lava flows.

(ii) They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south east direction along the Godavari and the Krishna valleys.

(iii) The black soils are made up of extremely fine i.e. clayey material. They are well-known for their capacity to hold moisture.

(iv) In addition, they are rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime.

(v) These soils are generally poor in phosphoric contents.

(vi) They develop deep cracks during hot weather, which helps in the proper aeration of the soil.

(vii) These soils are sticky when wet and difficult to work on unless tilled immediately after the first shower or during the pre-monsoon period. (Any five)

3. There are many ways to solve the problem of land degradation.

(i) Afforestation and Reforestation: Afforestation and proper management of grazing can help to some extent. Planting trees and restoring forests help prevent soil erosion, improve soil fertility, and maintain ecological balance.

(ii) **Soil Conservation Techniques:** Methods like contour ploughing, terracing, crop rotation, and mulching reduce soil erosion and maintain soil health. Example: In hilly regions like the Western Ghats in India, terracing is used to prevent soil erosion caused by heavy rainfall.

(iii) **Sustainable Agricultural Practices:** Planting of shelter belts of plants, control on overgrazing, stabilisation of sand dunes

by growing thorny bushes are some of the methods to check land degradation in arid areas. Using organic fertilisers, reducing excessive use of chemical pesticides, and practicing mixed cropping help maintain soil fertility.

(iv) **Control of Overgrazing:** Managing livestock grazing by rotational grazing and setting up protected pastures prevents soil erosion and maintains vegetation cover. Example: In Rajasthan, India, controlled grazing programs have helped restore grasslands and prevent desertification.

(v) **Proper Waste Management and Industrial Regulations:** Proper management of waste lands, control of mining activities, proper discharge and disposal of industrial effluents and wastes after treatment can reduce land and water degradation in industrial and sub-urban areas. Preventing industrial pollution, treating chemical waste before disposal, and promoting eco-friendly industries help in land conservation.Example: The Ganga Action Plan in India includes measures to reduce industrial waste dumping, protecting riverbanks from degradation.

4. (i) (1) Using clean fuel like CNG
(2) Rainwater harvesting

(ii) (1) Accumulation of resources in the hands of few.
(2) Division of society into haves and have-nots.

(iii) Rio de Janeiro Earth Summit (1992) focused on global environmental and sustainable development issues, leading to important agreements like Agenda 21 and UNFCCC.

Level - 2 ADVANCED COMPETENCY FOCUSED QUESTIONS

MULTIPLE CHOICE QUESTIONS (MCQs)

1. Option (C) is correct

Explanation: This statement highlights that merely having natural resources doesn't ensure economic growth. Without careful planning, equitable distribution, and sustainable usage, even resource-rich nations can face poverty and environmental degradation. Therefore, resource management plays a crucial role in ensuring development that benefits both present and future generations.

2. Option (B) is correct

Explanation: The statement clearly points to over-irrigation and deforestation, both of which are human-induced activities that contribute to land degradation in India. These practices can lead to problems like waterlogging, salinisation, and soil erosion, showing that unsustainable human actions are key drivers of environmental damage.

3. Option (C) is correct

Explanation: The statement emphasises how India's diverse landforms (mountains, plains, plateaus, islands) influence the type, distribution, and use of natural resources in each region. For example:

Plains support agriculture due to fertile soil.

Mountains provide forest resources and water from rivers.

Plateaus are rich in minerals and suitable for mining.

Islands may support tourism and fishing.

So, physical geography plays a direct role in determining how resources are used and where they are found.

4. Option (C) is correct

Explanation: This is the core idea of sustainable development — using resources wisely today while ensuring they remain available for future generations. It emphasizes a balance between economic growth, environmental conservation, and social well-being. Sustainable resource management includes practices like afforestation, soil conservation, renewable energy use, and reducing pollution.

5. Option (C) is correct

Explanation: India's resource distribution is uneven — some areas are rich in minerals, others have fertile land, while some lack essential resources. This makes resource planning essential to bridge regional imbalances, ensure equitable resource use, support sustainable development, and improve living standards across all regions. Hence, strategic and systematic planning is necessary to promote balanced growth across the country.

6. Option (B) is correct

Explanation: While irrigation is necessary for agriculture, over-irrigation can lead to waterlogging, which restricts air flow to plant roots., and salinisation, where salts build up in the soil and make it infertile.

This is a major issue in Punjab and Haryana, where intensive irrigation has harmed the land. Hence, excessive irrigation actually reduces soil fertility and productivity.

7. Option (C) is correct

Explanation: The implementation of schemes like watershed development, afforestation, and soil conservation reflects the government's proactive approach toward restoring degraded land, preventing further degradation, and promoting sustainable development practices. These policy-driven measures aim to balance environmental protection with developmental needs, showing that planned interventions can effectively address ecological problems.

ASSERTION-REASON QUESTIONS

1. Option (C) is correct

   Explanation: Assertion is true because resource planning is essential for sustainable development because it ensures the judicious, efficient, and equitable use of resources to meet current needs without compromising future generations.

   Reason is false because resources are not evenly distributed across all regions. Some areas are rich in certain resources while others may lack them, which is why planning is crucial for balanced regional development.

2. Option (D) is correct

   Explanation: Assertion is false because not all renewable resources are exhaustible. In fact, renewable resources (like solar energy, wind energy, etc.) are generally considered inexhaustible in the long term. However, some like forest resources or groundwater can become depleted if overused, but they can be replenished naturally over time.

   Reason is true because renewable resources do regenerate naturally, but unsustainable use or overexploitation can indeed lead to temporary or even permanent depletion (e.g., overfishing, deforestation).

3. Option (A) is correct

   Explanation: Assertion is true because Black soil, also called Regur soil, is indeed ideal for cotton cultivation, which is why it is often referred to as "black cotton soil."

   Reason is also true because Black soil has high moisture retention capacity and is rich in calcium carbonate, magnesium, potash, and lime, all of which are essential for cotton growth.

   Both assertion and reason are true and the reason correctly explains why black soil is suitable for growing cotton.

VERY SHORT ANSWER TYPE QUESTIONS

1. India has diverse natural resources due to its varied geography. For example, Jharkhand and Odisha are rich in minerals like coal and iron ore, while the Northern Plains have fertile alluvial soil for agriculture. In contrast, Rajasthan has arid land but is rich in solar and wind energy. This shows regional variation in resource availability.
2. **(i) Resource Identification and Survey:** This involves mapping and surveying resources across the country to assess their quantity and quality using technologies like GIS and remote sensing.

   (ii) Planning and Allocation: After assessment, a proper planning framework is created to match resources with development needs, ensuring sustainable and balanced regional development.
3. **(i) Foundation for All Human Activities:** Land supports agriculture, construction, industries, and transportation, making it essential for economic development and human settlement.

   (ii) Source of Natural Resources: It provides natural resources like soil, minerals, forests, and water bodies that are vital for human survival and ecological balance.
4. **(i) Moisture Retention Capacity:** Black soil has high moisture retention, which supports the water needs of cotton crops even during dry periods.

   (ii) Rich in Nutrients: It is rich in essential minerals like calcium carbonate, magnesium, potash, and lime, which are beneficial for the growth of cotton plants.
5. Human beings transform natural substances into valuable resources through their knowledge, skills, and technology. Human resource development—through education, health care, and skill enhancement—enables people to utilise, conserve, and manage resources efficiently, making them a vital component in the process of sustainable development.

SHORT ANSWER TYPE QUESTIONS

1. Three human activities contributing to land degradation in India are:

   (i) Deforestation: Cutting down forests for agriculture, urbanisation, or industries exposes soil to erosion.

   (ii) Over-irrigation: Excessive use of water in states like Punjab and Haryana leads to waterlogging and salinity.

   (iii) Overgrazing: Uncontrolled grazing by animals in states like Gujarat and Rajasthan destroys vegetation cover, leading to soil erosion.

   Preventive Measure:

   Afforestation (planting trees) can help bind the soil, prevent erosion, and restore degraded land.
2. Resource planning in India ensures judicious use of resources, preventing over-exploitation and promoting sustainability. It helps balance ecological concerns and economic growth by:

(i) **Assessing resource availability:** Identifying resources and their distribution helps avoid overuse in resource-rich areas and ensures equitable development.

(ii) **Promoting sustainable practices:** Encourages conservation methods like afforestation, water harvesting, and soil conservation to reduce environmental damage.

(iii) **Integrated development planning:** Combines economic goals with environmental protection, ensuring long-term growth without exhausting natural resources.

Thus, effective resource planning supports both environmental sustainability and economic progress.

3. (i) **Rapid depletion due to population growth and industrialisation:** With rising demands, natural resources are being consumed at a faster rate than they can regenerate, threatening their availability for future generations.

(ii) **Environmental degradation and climate change:** Overexploitation of resources leads to issues like deforestation, pollution, and global warming, which endanger ecosystems and biodiversity.

(iii) **Need for sustainable development:** Conservation ensures that resources are used wisely and responsibly, maintaining a balance between economic growth and environmental protection to secure long-term human welfare.

4. (i) **Physical Factors:** Topography, climate, and soil types influence land use. For example, hilly areas like the Himalayas are used for forests or grazing, while fertile plains like the Ganga-Brahmaputra region are intensively cultivated.

(ii) **Human Factors:** Population density and urbanisation play a major role. Heavily populated states like Uttar Pradesh have more land under agriculture, while industrial and urban centres use more land for infrastructure.

(iii) **Technological and Institutional Factors:** Level of agricultural technology, land ownership patterns, and government policies also affect land use. For instance, regions with irrigation facilities and mechanisation see more intensive farming.

5. Soil is considered a renewable resource because it can regenerate naturally over time. However, the process of soil formation is extremely slow, often taking hundreds to thousands of years, making its conservation crucial.

The following natural factors influence soil formation in India:

(i) **Parent Rock (Bedrock):** The type of rock from which soil is formed determines its texture, mineral content, and fertility. For example, black soil is derived from basalt rock in the Deccan plateau.

(ii) **Climate:** Temperature and rainfall play a key role in weathering of rocks and the rate of organic matter decomposition. For instance, red soil forms in areas with high temperature and low rainfall.

(iii) **Relief (Topography):** Slope and elevation affect drainage and erosion. Steep slopes often have thinner soil layers due to faster runoff and erosion, while plains accumulate thicker soil.

CASE BASED QUESTIONS

1. (i) Resource planning is a complex process which involves identification and inventory of resources across the regions of the country.

(ii) Irrational consumption and over utilisation of resources may lead to socio economic and environmental problems.

(iii) (1) He placed the greedy and selfish individuals and exploitative nature of modern technology as the root cause for resource depletion.

(2) He was against mass production and wanted to replace it with the production by the masses.

2. (i) Sustainable development means that development should take place without damaging the environment and development in the present should not compromise with the needs of the future generations.

(ii) Rio de Janeiro Earth Summit, 1992.

(iii) (1) Global co-operation on common interests.
(2) Mutual needs
(3) Shared responsibilities.
(4) Creation of the commission on sustainable development. (Any two)

3. (i) Sustainable development means development should take place without damaging the environment and development in the present should not compromise with the needs of the future generations.

(ii) (1) Recent evidence suggests that the groundwater is under serious threat of overuse in many parts of the country.

(2) About 300 districts have reported a water level decline of over 4 meters during the past 20 years.

(iii) (1) Change in crop pattern.

(2) Use of newer techniques of irrigation like sprinkler, drip irrigation etc.

4. (i) Resource planning is essential in India because the distribution of natural resources is uneven—some regions are rich in resources while others lack them. Proper planning ensures their balanced, equitable, and sustainable use for overall development.

(ii) One consequence of misusing natural resources is land degradation, which reduces soil fertility and affects agricultural productivity.

(iii) **(1) Afforestation:** Planting trees helps prevent soil erosion, enhances groundwater recharge, and restores ecological balance.

(2) Watershed Development: It involves managing water resources efficiently in a specific area, promoting rainwater harvesting and preventing over-irrigation, thus ensuring long-term water availability.

5. (i) Black soil is most suitable for cotton cultivation due to its moisture-retaining capacity and rich mineral content.

(ii) Deforestation is one human activity that causes land degradation by exposing the soil to erosion.

(iii) **(1) Contour Ploughing:** This method involves ploughing along the contour lines of a slope, which helps in reducing water runoff and prevents soil erosion.

(2) Strip Cropping: Crops are grown in alternate strips to check the force of wind and water, reducing soil loss and improving land productivity.

LONG ANSWER TYPE QUESTIONS

1. Three Stages of Resource Planning:

(i) Identification and Inventory of Resources: This involves surveying, mapping, and creating a detailed record of the available natural resources such as land, water, forests, and minerals across different regions.

(ii) Evolving a Planning Structure with Appropriate Technology and Skills: After identifying resources, a proper plan is developed that matches resource availability with required technology, institutional support, and human skills to utilise them effectively.

(iii) Matching Resource Development Plans with National Development Goals: The plans are then integrated with the overall national development strategies to ensure that the resource use is in line with long-term economic goals and environmental sustainability.

It helps ensure environmental and economic balance:

(i) Prevents overuse and exploitation of resources by encouraging sustainable usage.

(ii) Promotes balanced regional development by addressing uneven distribution of resources.

(iii) Helps conserve ecological balance by integrating conservation methods into economic planning.

(iv) Encourages inter-generational equity, ensuring that future generations also benefit from natural resources.

Thus, resource planning is essential for achieving sustainable development by balancing growth with environmental protection.

2. The major causes of land degradation in different parts of India:

(i) Deforestation: Cutting down forests for agriculture, industries, or settlements removes protective cover, leading to soil erosion, especially in states like Madhya Pradesh and Chhattisgarh.

(ii) Over-irrigation: Common in Punjab, Haryana, and western Uttar Pradesh, it leads to waterlogging and increases soil salinity, making land infertile.

(iii) Overgrazing: In states like Gujarat, Rajasthan, Madhya Pradesh, and Maharashtra, excessive grazing by cattle destroys vegetation and exposes soil to erosion.

(iv) Mining Activities: Mining in Jharkhand, Odisha, and Chhattisgarh causes deforestation, soil erosion, and pollution, leading to land degradation.

(v) Industrial Effluents and Waste Disposal: Discharge of toxic industrial waste and untreated sewage into land or water bodies, particularly near urban areas, causes chemical degradation of soil.

Two Effective Measures to Control Land Degradation:

(i) Afforestation and Reforestation: Planting trees helps bind soil, reduce erosion, and restore ecological balance.

(ii) Contour Ploughing and Strip Cropping: These agricultural practices reduce water runoff and soil erosion, especially in hilly areas.

3. **(i) Alluvial Soil**

Characteristics: Light to dark in colour, fertile, rich in potash and lime. Contains fine particles and has good moisture-retaining capacity.

Regions Found: Indo-Gangetic plains – Punjab, Haryana, Uttar Pradesh, Bihar, and West Bengal. Coastal strips of Gujarat and deltas of eastern coastal states.

Major Crops: Rice, wheat, sugarcane, and pulses.

(ii) Black Soil (Regur Soil):

Characteristics: Black in colour due to presence of iron; clayey and moisture-retentive.

Rich in calcium carbonate, magnesium, and potassium.

Regions Found: Deccan Plateau – Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh, and parts of Tamil Nadu.

Major Crops: Cotton (ideal), groundnut, soyabean, and millets.

(iii) Red and Yellow Soil:

Characteristics: Formed due to weathering of crystalline igneous rocks; reddish due to iron.

Poor in nitrogen, phosphorus, and humus.

Regions Found: Parts of Odisha, Chhattisgarh, southern Maharashtra, Karnataka, Andhra Pradesh, and Tamil Nadu.

Major Crops: Pulses, coarse grains, oilseeds, and cotton (with proper fertilisers).

4. (i) The Concept of Sustainable Development: Sustainable development means using resources in a way that meets the needs of the present without compromising the ability of future generations to meet their own needs. It promotes balance between economic growth, environmental care, and social well-being.

(ii) Gandhiji's Perspective on Resource Use: Mahatma Gandhi believed, "The Earth has enough for everyone's need but not for everyone's greed." He emphasised minimal and mindful consumption and advocated that resources should be used justly and not overexploited for short-term gain.

(iii) Two Modern Measures to Ensure Conservation:

(1) Afforestation and Reforestation: Planting trees helps conserve biodiversity, prevent soil erosion, and maintain the ecological balance.

(2) Water Harvesting and Efficient Irrigation (e.g., drip irrigation): These techniques reduce water wastage, recharge groundwater, and ensure sustainable use of water resources.

5. The problems associated with the misuse of land resources are:

(i) Land degradation: Caused by overuse, deforestation, and poor agricultural practices, reducing soil fertility.

(ii) Soil erosion: Due to deforestation, overgrazing, and unscientific farming methods, leading to loss of topsoil.

(iii) Waterlogging: Especially in areas with over-irrigation, affecting crop productivity and soil health.

(iv) Salinisation: Excessive irrigation, particularly in arid regions, leads to salt deposits on soil.

(v) Loss of biodiversity: Misuse of land for mining, urbanisation, and industrialisation reduces natural habitats.

Two sustainable land management steps:

(i) Afforestation and agroforestry: Planting trees and maintaining green cover helps prevent erosion, improves soil structure, and conserves moisture.

(ii) Contour ploughing and terrace farming: These practices on hilly slopes reduce runoff, prevent erosion, and retain nutrients in the soil.