

TEACHER'S HANDBOOK



STELLAR LEARNING

Geography

10

On
Board!

BOOKS

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Resources and Development

Milestone

Multiple-Choice Questions

1. Which of the following is a renewable natural resource?

- (a) Water (b) Iron ore
(c) Fossil fuel (d) Technology

Ans. (a) Water

2. Which of the following is a biotic resource?

- (a) Minerals (b) Sunlight
(c) Grasses (d) Land

Ans. (c) Grasses

3. Prevention of land degradation can be done by

- (a) afforestation (b) cutting of trees
(c) overgrazing (d) removing the top soil

Ans. (a) afforestation

Very Short Answer Type Questions

4. Classify resources on the basis of origin.

(CBSE 2018)

Ans. Resources can be classified on the basis of origin as biotic and abiotic resources.

5. Why resources are called gifts of nature?

Ans. Resources are called gifts of nature because they are necessary for human survival.

6. Name the type of soil found in Kerala.

Ans. Laterite soil is found in Kerala.

7. Write two main characteristics of laterite soil.

Ans. The two main characteristics of laterite soil are:

- (i) Laterite soils are mostly deep to very deep, acidic (pH < 6.0).
(ii) They are generally deficient in plant nutrients.

8. Identify the soil which is saline in nature and sandy in texture.

Ans. Arid soil is saline in nature and sandy in texture.

Short Answer Type Questions

9. Mention the factors responsible for soil erosion.

Ans. The factors responsible for soil erosion are:

- (a) Human activities such as deforestation, over-grazing, construction and mining are responsible for soil erosion.
(b) Natural forces such as wind, glacier and water lead to soil erosion.
(c) Other factors such as ploughing in a wrong way and defective methods of farming results in soil erosion.

10. How is the issue of sustainability important for development? Explain with examples. **(CBSE 2018)**

Ans.

- The issue of sustainable development is important because of the depletion of resources due to their over-use. This may result in the exhaustion of resources.
- Sustainable is the capability to use the resources and maintain the ecological balance. It lays emphasis on environmental protection and environmental degradation such as over-use of resources.
- We know that development should take place without damaging the environment. It should not compromise with the needs of the future generation.

11. Identify the measures taken to protect land from degradation.

Ans. There are many ways to solve the problems of land degradation:

- Afforestation and proper management of grazing.
- Planting of shelter belts of plants, control on over-grazing, stabilisation of sand dunes by growing thorny bushes.
- Proper management of waste lands, control of mining activities.

- Proper discharge of industrial effluents and wastes after treatment can reduce land and water degradation in industrial areas.

12. Why is alluvial soil known as the most important soil in India?

- Ans.**
- Alluvial soils are the most fertile of all other soils.
 - Regions of alluvial soils are intensively cultivated and densely populated.
 - Alluvial soils are widely spread over the northern plain which makes it the most productive region of the country.
 - Alluvial soil contains adequate proportions of potash, phosphoric acid and lime which are ideal for the growth of sugarcane, paddy, wheat, pulses and other cereals.

Long Answer Type Questions

13. Explain 'Resources'. Classify the different types of resources.

Ans. Resources are everything that are available in our environment to satisfy human needs.

Resources can be classified in the following ways:

On the Basis of Origin:

- Biotic resources can be obtained from the biosphere such as humans, flora and fauna, livestock, etc.
- Abiotic resources are non-living things such as rocks and metals.

On the Basis of Exhaustibility:

- Renewable resources can be renewed by physical, chemical or mechanical processes such as solar and wind energy, forests and wildlife, water, etc.
- Non-renewable resources occur over very long geological time such as minerals and fossil fuels.

On the Basis of Ownership:

- Individual resources are owned privately by individuals such as land owned by farmers, people owned plots, houses and other properties in urban areas.
- Community owned resources are accessible to all the members of the community such as public parks, picnic spots, etc.
- National resources belong to the nation such as roads, canals, water resources, etc.
- International resources are resources regulated by international institutions.

On the Basis of Status of Development:

- Potential resources are those found in a region but which have not been utilised yet.
- Developed resources are those which have been surveyed and their quantity and quality

have been determined for utilisation.

- Stocks are materials in the environment with the potential to satisfy human needs but there is no appropriate technology to access these.
- Reserves are the stocks which can be used in the future such as water in the dams, forests, etc.

14. Give a brief account of the soils found in India.

Ans. Alluvial Soils:

- Alluvial soil is widely spread over the northern plains.
- Alluvial soils are very fertile and are ideal for cultivation of paddy, sugarcane, wheat, pulses and other cereals.

Black Soils:

- Black soil is black in colour and is made up of extremely fine clayey material.
- Cotton crop thrives in this soil hence it is called the Black cotton soil.

Red and Yellow Soils:

- Red soil is found in the less rainfall areas of the eastern and southern parts of Deccan Plateau.
- The red colour of the soil is due to the high percentage of the iron oxide.

Laterite Soil:

- Laterite soil is formed in the tropical and subtropical climate with alternate wet and dry seasons.
- This soil is useful for growing tea, coffee and cashew nuts.

Arid Soils:

- Arid soil is sandy in texture and saline in nature.
- These soils are red to brown in colour.

Forest Soils:

- This soil is mostly found in hilly and mountainous regions.

15. Write a short note on land degradation and conservation of resources.

Ans. Human beings have brought about lot of degradation to land and have caused lot of damage. Abandoned mining sites, over irrigation, mineral processing like grinding of limestone for cement industry, etc. lead to degradation of land. The cause of land degradation varies from one state to another. For example, in Punjab, Haryana and western Uttar Pradesh, over irrigation is responsible for land degradation; in Odisha, Chhattisgarh, Jharkhand and Madhya Pradesh deforestation due to mining resulted in land degradation; in states like Rajasthan, Gujarat, Maharashtra and Madhya Pradesh, overgrazing is responsible for land degradation.

There are various methods to solve the problems of land degradation such as afforestation, control of mining activities, disposal of industrial effluents, etc.

Self-Assessment

Multiple-Choice Questions

1. We can conserve resources by
 (a) recycling (b) reusing
 (c) reducing consumption (d) all of these

Ans. (d) all of these

2. Which of the following is not a biotic resource?
 (a) Human beings (b) Livestock
 (c) Rock (d) Fish

Ans. (c) Rock

3. On the basis of exhaustibility, resources can be classified into
 (a) biotic and abiotic.
 (b) individual and community owned.
 (c) potential and developed.
 (d) renewable and non-renewable.

Ans. (d) renewable and non-renewable.

Assertion-Reason Type Questions

For question numbers 4 to 7, two statements are given as Assertion (A) and Reason (R). Read the statements and choose the correct option from (a), (b), (c) and (d) as given below.

- (a) Both A and R are true and R is the correct explanation of A.
 (b) Both A and R are true but R is not the correct explanation of A.
 (c) A is true but R is false.
 (d) A is false but R is true.

4. **Assertion (A):** Abiotic resources are composed of rocks and metals.

Reason (R): Biotic resources are obtained from the biosphere and have life such as human beings, flora and fauna, fisheries, livestock, etc.

Ans. (b) Both A and R are true but R is not the correct explanation of A because abiotic resources are non living, whereas abiotic resources have life.

5. **Assertion (A):** Public parks, picnic spots, playgrounds are known as community owned resources.

Reason (R): These resources are accessible to all the members of the community.

Ans. (a) Both A and R are true and R is the correct explanation of A because Public parks, picnic spots, playgrounds are accessible to all the members of the community.

6. **Assertion (A):** The Rio Convention endorsed the global Forest Principles and adopted Agenda

21 for achieving Sustainable Development in the 21st century.

Reason (R): In July 1996, more than 127 heads of states met in Rio de Janeiro in Brazil, for the first International Earth Summit.

Ans. (c) A is correct but R is wrong because the International Earth Summit was held in June 1992, there were 100 heads of states.

7. **Assertion (A):** Irrational consumption and over-utilisation of resources lead to socio-economic and environmental development.

Reason (R): India has made concerted efforts for achieving the goals of resource planning since the First Five Year Plan was launched after Independence.

Ans. (d) A is wrong but R is correct because irrational consumption and over-utilisation of resources leads to socio-economic and environmental problems.

Match the Following

8. Match the items given in Column A with those in Column B. Choose the correct answer from the options given below:

Column A (Soils)	Column B (Areas)
A Alluvial soil	1 Semi-arid areas
B Black soil	2 Eastern coastal plains
C Red and yellow soil	3 Deccan Plateau
D Laterite Soil	4 Western Ghats

Codes:

A	B	C	D
(a) 1	2	3	4
(b) 2	4	1	3
(c) 4	1	3	2
(d) 2	3	4	1

Ans. (d)

Find the Incorrect Option

9. (a) Total geographical area of India is 3.31 million sq km.
 (b) Land use data, however, is available only for 93 per cent of the total geographical area.
 (c) Forest area in the country is far lower than the desired 33 per cent of geographical area, as it was outlined in the National Forest Policy (1952).
 (d) The pattern of net sown area varies greatly from one state to another. It is over 80 per cent of the total area in Punjab and Haryana and less than 10 per cent in Arunachal Pradesh, Mizoram, Manipur and Andaman Nicobar Islands.

Ans. (a)

Find the Correct Option

10. Which of the following statements defines sustainable development?
- (a) Sustainable use of natural resources without considering the need of the future generation.
 - (b) Present generation fulfills its needs while considering the needs of the future generation as well.
 - (c) Utilization of natural resources by the past, present and forthcoming future generation.
 - (d) Meeting the needs of the future generations even if the needs of the present generation.

Ans. (b)

Correct the Following Statement and Rewrite

11. About 52 per cent of the land area is plain. Mountains account for 25 per cent of the total surface area of the country. About 23 per cent of the area of the country is the plateau region.

Ans. About 43 per cent of the land area is plain. Mountains account for 30 per cent of the total surface area of the country. About 27 per cent of the area of the country is the plateau region.

Fill in the Blanks

12. **Alluvial** soil consists of various proportions of sand, silt and clay.
13. **Resources** are vital for human survival as well as maintaining the quality of life.
14. Human activities such as deforestation, overgrazing and mining too have contributed in **land degradation**.

Very Short Answer Type Questions

15. When and where was the first International Earth Summit held?

Ans. The first international Earth Summit was held in June 1992 in Rio de Janeiro, Brazil.

16. Mention the factors on which the land-use pattern of India depends. **(CBSE 2012)**

Ans. The use of land is determined by physical factors such as topography, climate, soil types and human factors such as population density, culture, tradition and technology.

17. According to Gandhiji, which are the two main root causes of resource depletion?

Ans. According to Gandhiji, selfish and greedy individuals and exploitative nature of modern technology are the main root causes of resource depletion.

Short Answer Type Questions

18. Write a short note on resource planning.

Ans. Resource planning involves:

- (i) Identification and inventory of resources across the regions of the country.
- (ii) Evolving a planning structure endowed with appropriate technology, skill and institutional set-up.
- (iii) Matching the resource development plans with overall national development plans.

19. Which soil is called 'regur soil'? Mention any four characteristics of this type of soil. **(CBSE 2012, 2014)**

Ans. Regur soil is popularly known as black soil.

Four main characteristics of regur soil are:

- (i) It is made up of extremely fine clayey material.
- (ii) It has a great moisture retention capacity.
- (iii) Regur soil is rich in soil nutrients like calcium carbonate, magnesium, potash and lime.
- (iv) These soils are generally poor in phosphoric contents.

20. Write any four human activities which are mainly responsible for land degradation in India.

Ans. Following are the four human activities which are mainly responsible for land degradation:

- Over irrigation is responsible for land degradation.
- Deforestation due to mining resulted in land degradation.
- Overgrazing is responsible for land degradation.
- The mineral processing like grinding of limestone for cement industries has also contributed to land degradation.

21. Explain any five methods of soil conservation suitable to Indian conditions. **(CBSE 2013)**

Ans. Five methods of soil conservation are:

- (i) Contour ploughing slow down the speed of water flowing down the slopes.
- (ii) Terrace cultivation controls soil erosion.
- (iii) Strip cropping in which strips of grass are left to grow between the crops which breaks up the force of the wind.
- (iv) By creating shelter belts. Trees are planted to create shelter.
- (v) Afforestation is the best way to conserve soil to increase area under the forests.

Paragraph Based Questions

22. Read the sources given below and answer the questions that follow:

Source A - Development of Resources

An equitable distribution of resources has become essential for a sustained quality of life and global peace. If the present trend of resource depletion by a few individuals and countries continues, the future of our planet is in danger.

- (a) Why there is a need to sustain natural resources?

Source B – Soil as a Resource

Soil is the most important renewable natural resource. It is the medium of plant growth and supports different types of living organisms on the earth. The soil is a living system.

- (b) Why is soil called a living system?

Source C – Alluvial Soil

Alluvial soils as a whole are very fertile. Mostly these soils contain adequate proportion of potash, phosphoric acid and lime which are ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops.

- (c) In which part of India alluvial soil is found?

Ans. (a) Resources are important for human survival and we need to sustain them for future generations.

- (b) Soil is called a living system because it takes many years to form. Relief, parent rock, climate, vegetation and time are some factors that are important for the formation of soil.

- (c) Alluvial soil is found in the northern part of India.

Case Based Questions

23. Resources are vital for human survival as well as for maintaining the quality of life. It was believed that resources are free gifts of nature. As a result, human beings used them indiscriminately and this has led to major problems like depletion of resources for satisfying the greed of a few individuals, accumulation of resources in few hands, which, in turn, divided the society into two segments i.e. haves and have nots or rich and poor. Indiscriminate exploitation of resources has led to global ecological crises such as, global warming, ozone layer depletion, environmental pollution and land degradation. An equitable distribution of resources has become essential for a sustained quality of life and global peace. If the present trend of resource depletion by a few individuals and countries continues, the future of our planet is in danger. Therefore, resource planning is essential for sustainable existence of all forms of life. Sustainable existence is a component of sustainable development. Sustainable economic 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.' In June 1992, more than 100 heads of states met in Rio de Janeiro in Brazil, for the first International Earth Summit. The Summit was convened for addressing urgent

problems of environmental protection and socio-economic development at the global level. The assembled leaders signed the Declaration on Global Climatic Change and Biological Diversity. The Rio Convention endorsed the global Forest Principles and adopted Agenda 21 for achieving Sustainable Development in the 21st century.

23.1 What does sustainable economic development mean?

- (a) Development should take place without any damage to the environment.
- (b) Development in the present should not compromise the need for natural resources of the future generation.
- (c) Development should be sustainable and no harm and damage should be done to the environment.
- (d) All of these.

Ans. (c) Development should be sustainable and no harm and damage should be done to the environment.

23.2 Identify the problems caused by over-exploitation of natural resources.

- (a) Depletion of resources to satisfy the greed of human beings.
- (b) Sustainable use of resources by maintaining the environment.
- (c) Preservation of resources for future generation.
- (d) None of these.

Ans. (a) Depletion of resources to satisfy the greed of human beings.

23.3 is essential for sustainable existence of all forms of life.

- (a) Sustainable development
- (b) Resource planning
- (c) Stock resources
- (d) Planned development

Ans. (b) Resource planning

23.4 In which year was the first International Earth Summit held and where?

- (a) 1992, Rio de Janeiro
- (b) 1991, Rio de Janeiro
- (c) 1992, New York
- (d) 1995, Geneva

Ans. (a) 1992, Rio de Janeiro

24. Human activities have not only brought about degradation of land but have also aggravated the pace of natural forces to cause damage to land. Some human activities such as deforestation, over grazing, mining and quarrying too have contributed significantly in land degradation.

Mining sites are abandoned after excavation work is complete leaving deep scars and traces of over-burdening. In states like Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha deforestation due to mining have caused severe land degradation. In states like Gujarat, Rajasthan, Madhya Pradesh and Maharashtra overgrazing is one of the main reasons for land degradation. In the states of Punjab, Haryana, western Uttar Pradesh, over irrigation is responsible for land degradation due to water logging leading to increase in salinity and alkalinity in the soil. The mineral processing like grinding of limestone for cement industry and calcite and soapstone for ceramic industry generate huge quantity of dust in the atmosphere. It retards the process of infiltration of water into the soil after it settles down on the land.

24.1 Activities like has contributed to land degradation.

- (a) afforestation (b) mining
(c) strip cropping (d) terrace farming

Ans. (b) mining

24.2 Which of the following slows down the process of infiltration of water into the soil?

- (a) Grinding of limestone
(b) Calcite and soapstone grinding
(c) Cement and ceramic industries
(d) All of these

Ans. (c) Cement and ceramic industries

24.3 In which of the following states, deforestation due to mining has caused severe land degradation? Choose the most appropriate option.

- (a) Jharkhand (b) Karnataka
(c) Bihar (d) Uttar Pradesh

Ans. (a) Jharkhand

24.4 In which of the following states overgrazing is one of the main reasons for land degradation? Choose the most appropriate option.

- (a) Punjab (b) Maharashtra
(c) Chhattisgarh (d) Bihar

Ans. (b) Maharashtra

Long Answer Type Questions

25. Describe in detail about the land use pattern in India.

- Ans.**
- Physical factors such as topography, climate, type of soils and human factors such as a population, culture and tradition, etc. determine the use of land.
 - In India, the net sown area varies from one state to another. About 80 per cent of the total area in Punjab and Haryana accounts the

net sown area, whereas in Arunachal Pradesh, Mizoram, Manipur and Andaman and Nicobar Islands net sown area comprise less than 10 per cent of the total area.

- The National Forest Policy(1952), recommended that 33 per cent of the area of the country be brought under forest cover which is considered essential for maintenance of the ecological balance.
- Waste land is mostly rocky, arid and non-agricultural. This land is used for buildings, roads, railways and industries.

26. Explain the role of terrace cultivation in hilly region.

Ans. Terrace cultivation plays a very important role in hilly regions. Terrace cultivation along the mountain slopes is one of the oldest methods of soil conservation. The slope of the hill is cut into series of terraces. There is enough level land on terrace for cultivation. It checks the flow of water by soil and thus reduces erosion.

Western and central Himalayas have well developed terrace farming.

27. What are the methods of utilisation of land resources?

Ans. Land is a natural resource of utmost importance. It supports human beings, animals and plants. In our country land is divided under variety of relief features such as mountains, plains, plateaus and islands. There are various methods of land utilization such as land used for buildings and factories, agriculture, water bodies and developmental projects.

In India, the land is used under a variety of relief features:

- Forest covered area which provides habitat for animals and livelihood for humans.
- Plain area is suitable for agriculture and industry.
- Mountainous area which ensure perennial flow of some rivers and also provide facilities for tourism and ecological aspects.
- Plateau region has rich reserves of minerals, fossil fuels and forests.
- Land use for non agricultural uses like buildings, roads and factories.

28. Read the extract and answer the questions that follow:

The processes of soil formation and erosion, go on simultaneously and generally there is a balance between the two. Sometimes, this balance is disturbed due to human activities like deforestation, over-grazing, construction and

mining, etc., while natural forces like wind, glacier and water lead to soil erosion. The running water cuts through the clayey soils and makes deep channels as gullies. The land becomes unfit for cultivation and is known as bad land. In the Chambal basin such lands are called ravines. Sometimes water flows as a sheet over large areas down a slope. This is known as sheet erosion.

- (a) What are the causes of soil erosion?
- (b) What do you understand by the term ravines?
- (c) Define sheet erosion.

- Ans.** (a) Soil erosion is caused by the wrong methods of farming, excessive use of fertilizers, deforestation, over-grazing, mining, etc. Some of the natural factors that are responsible for soil erosion are wind, glaciers and water.
- (b) When the running water cuts through the clayey soils and makes deep channel which makes land unfit for cultivation. These bad lands are called ravines. These are mostly found in Chambal.
- (c) Sheet erosion occurs due to the removal of soil particles by water flowing over land instead of proper channels. In this case top soil is washed away.

———— Let's Compete ————

Multiple-Choice Questions

1. Renewable resources are also called
 - (a) replenishable resources.
 - (b) biotic resources.
 - (c) non-renewable resources.
 - (d) none of these.

Ans. (a) replenishable resources.

2. Which of the following is an example of abiotic resources?
 - (a) Rocks
 - (b) Flora and fauna
 - (c) Fisheries
 - (d) None of these

Ans. (a) Rocks

3. Individual resources are those resources which are owned by
 - (a) a nation
 - (b) members of the community
 - (c) privately by individuals
 - (d) international organisations

Ans. (c) privately by individuals

4. Which one of the following states have the potential for wind and solar energy?

- (a) Madhya Pradesh
- (b) Maharashtra
- (c) Rajasthan
- (d) Punjab

Ans. (c) Rajasthan

5. Who said these lines "There is enough for everyone's needs but not for anybody's greed?"

- (a) Jawaharlal Nehru
- (b) Subhash Chandra Bose
- (c) Mahatma Gandhi
- (d) Motilal Nehru

Ans. (c) Mahatma Gandhi

6. The main reason for land degradation in Punjab is

- (a) overgrazing
- (b) deforestation
- (c) over-irrigation
- (d) over-cultivation

Ans. (c) over-irrigation

7. Bangar soils have high concentration of

- (a) sand
- (b) water
- (c) salt
- (d) kanker

Ans. (d) kanker

8. Black soil is found in which of the following states?

- (a) Gujarat
- (b) Chhattisgarh
- (c) Jharkhand
- (d) West Bengal

Ans. (a) Gujarat

9. The colour of arid soil is

- (a) red to brown
- (b) yellow
- (c) black
- (d) brown

Ans. (d) brown

10. The land with deep channels and unfit for cultivation is called

- (a) waste land
- (b) bad land
- (c) arable land
- (d) fallow land

Ans. (d) fallow land

———— Value-based Questions ————

(Optional)

1. Mention the values that make human beings an essential component of resources.

Ans. We know that resources are functions of human activities because they transform the material available in our environment into resources and use them.

2. Justify the statement "There is enough for everyone's need but not for anybody's greed".

Ans. This statement is about resource conservation as Gandhiji was against mass production and wanted to replace it with the production of masses. In this statement he mentioned that there are enough resources which can be used by everyone, but if we overuse them, they will deplete.

2

Forest and Wildlife Resources

Milestone

Multiple-Choice Questions

1. The forest conservation strategy related to community afforestation in the Himalayan region.
 - (a) Joint Forest Management
 - (b) Chipko Movement
 - (c) Beej Bachao Andolan
 - (d) Navdanya

Ans. (b) Chipko Movement

2. Species found in some specific areas that are isolated by natural or geographical barriers are called
 - (a) rare species
 - (b) extinct species
 - (c) endemic species
 - (d) normal species

Ans. (c) endemic species

3. The Indian Wildlife Protection Act was implemented in the year
 - (a) 1956
 - (b) 1963
 - (c) 1972
 - (d) 1988

Ans. (a) 1972

Very Short Answer Type Questions

4. What is the estimated area of forest and tree cover in India?

Ans. The forest and tree cover in the country is estimated at 79.42 million hectare, which is 24.16 per cent of the total geographical area.

5. What is Himalayan yew?

Ans. The Himalayan Yew (*Taxus wallachiana*) is a medicinal plant found in various parts of Himachal Pradesh and Arunachal Pradesh.

6. Define unclassified forests.

Ans. These are other forests and wastelands belonging to both government and private individuals and communities.

7. Which type of agricultural practice has degraded forests in the North-eastern states?

Ans. Forests in North-eastern states have been deforested or degraded by shifting cultivation (jhum), a type of 'slash and burn' agriculture.

Short Answer Type Questions

8. Distinguish between rare species and endemic species.

Ans. Rare species: Species with small population may move into the endangered or vulnerable category if the negative factors affecting them continue to operate. The examples of such species are the Himalayan brown bear, wild Asiatic buffalo, desert fox and hornbill, etc.

Endemic species: These are species which are only found in some particular areas usually isolated by natural or geographical barriers. Examples of such species are the Andaman teal, Nicobar pigeon, Andaman wild pig, mithun in Arunachal Pradesh.

9. Write a short note on 'Project Tiger'.

Ans. In 1973, the wildlife authorities realised that the population of tigers has come down to 1,827 from an estimated 55,000 in the beginning of 20th century. With an aim to stop illegal hunting of tigers, 'Project Tiger' was launched in the year 1973. Some of the important tiger reserves in India are Corbett National Park in Uttarakhand, Sunderbans National Park in West Bengal, Bandhavgarh National Park in Madhya Pradesh, Sariska Wildlife Sanctuary in Rajasthan, Manas Tiger Reserve in Assam and Periyar Tiger Reserve in Kerala are some of the tiger reserves of India.

10. State reasons that have led to the decline of Indian biodiversity in India.

Ans. Some of the important reasons for the decline

of Indian biodiversity are, habitat destruction, hunting, poaching, over-exploitation, environmental pollution, poisoning and forest fires. Other important causes of environmental destruction are unequal access, inequitable consumption of resources and differential sharing of responsibility for environmental well-being. Over-population in third world countries in comparison to the available resources is also one of the causes of environmental degradation.

11. What is the main focus of the Wildlife Conservation Projects implemented by the government?

Ans. The primary focus of the different projects implemented by the government was the conservation of wildlife and forests. 'Project Tiger' was launched by the government with an aim to stop illegal hunting of tigers in India. The central government also announced several projects for the protection of specific animals like the one-horned rhinoceros, the Kashmir stag or hangul, three types of crocodiles – fresh water crocodile, saltwater crocodile and the Gharial, the Asiatic lion, and others. Most recently, the Indian elephant, black buck (chinkara), the great Indian bustard (godawan) and the snow leopard, etc. have been given full or partial legal protection against hunting and trade throughout India.

Long Answer Type Questions

12. What is the role of local communities in the conservation of natural resources?

Ans. The strategy to conserve the forests is not a new concept in India. In some areas of India, local communities have launched a struggle for the conservation of natural habitats along with government officials. For example in Sariska Tiger Reserve, Rajasthan, villagers have fought against mining mafia by citing the Wildlife Protection Act. Villagers are also involved in the protection of habitats and rejecting any kind of government involvement. The inhabitants of five villages in the Alwar district of Rajasthan have declared 1,200 hectares of forest as the Bhairodev Dakav 'Sonchuri', and declared their own set of rules and regulations which do not allow hunting, and are protecting the wildlife against any outside encroachments.

13. Write a brief note on the conservation of forests and wildlife in India.

Ans. In the 1960s and 1970s, various national wildlife protection programmes were launched by the government when demanded by the conservationists. The Indian Wildlife (Protection) Act was implemented in 1972, which had provisions for protecting the wildlife habitats.

An all India list of protected species was also published. The principal aim of the programme was to protect the remaining population of endangered species by imposing a ban on hunting, giving legal protection to their habitats, and also imposing restriction on trade in wildlife. Later the central and many state governments established national parks and wildlife sanctuaries. Several projects for the protection of specific animals were also launched by the central government, which were gravely threatened, including the tiger, the one-horned rhinoceros, the Kashmir stag or hangul, three types of crocodiles – fresh water crocodile, saltwater crocodile and the Gharial, the Asiatic lion, and others.

Self-Assessment

Multiple-Choice Questions

1. Which one of the following plants is not on the verge of extinction?

- (a) *Madhuca insignis* (b) *Hubbardia heptaneuron*
(c) *Taxus wallachiana* (d) *Ocimum Sanctum*

Ans. (d) *Ocimum Sanctum*

2. Joint Forest Management came into existence in

- (a) 1976 (b) 1980
(c) 1988 (d) 1990

Ans. (c) 1988

3. Which of the forests are also known as permanent forests?

- (a) Reserved and Protected forests
(b) Reserved and Unclassed forests
(c) Protected and Unclassed forests
(d) None of the above

Ans. (a) Reserved and Protected forests

4. Identify the correct reason for the establishment of national parks from the options given below.

- (a) For the conservation of plants.
(b) For the conservation of plants and animals.
(c) For hunting and poaching animals.
(d) For hiking and sporting.

Ans. (b) For the conservation of plants and animals.

Assertion-Reason Type Questions

For question numbers 5 to 8, two statements are given as Assertion (A) and Reason (R). Read the statements and choose the correct option from (a), (b), (c) and (d) as given below.

- (a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

5. **Assertion (A):** Some estimates suggest that at least 20 per cent of India's recorded wild flora and 22 per cent of its mammals are on the threatened list.

Reason (R): Many of these would now be categorised as 'critical', that is on the verge of extinction like the cheetah, pink-headed duck, mountain quail, forest spotted owlet, and plants like *madhuca insignis*.

Ans. (d) Assertion (A) is wrong because, Some estimates suggest that at least 10 per cent of India's recorded wild flora and 20 per cent of its mammals are on the threatened list.

6. **Assertion (A):** The dense forest cover in India has increased by 3,775 sq km since 2013.

Reason (R): The forest and tree cover in the country is estimated at 89.42 million hectare, which is 30 per cent of the total geographical area.

Ans. (c) Reason (R) is wrong because, the forest and tree cover in the country is estimated at 79.42 million hectare, which is 24.16 per cent of the total geographical area.

7. **Assertion (A):** Large-scale development projects have also contributed significantly to the loss of forests.

Reason (R): Since 1951, over 5,000 sq km of forest was cleared for river valley projects.

Ans. (a) Reason (R) is the correct explanation of Assertion (A) because due to large scale developments projects like the river valley projects there was a significant loss of the forest cover. According to one estimate since 1951, over 5000 sq km of forests were cleared.

8. **Assertion (A):** Reserved and protected forests are also referred to as permanent forest estates maintained for the purpose of producing timber and other forest produce, and for protective reasons.

Reason (R): Assam has the largest area under permanent forests, constituting 75 per cent of its total forest area.

Ans. (c) Reason (R) is wrong because, Madhya Pradesh has the largest area under permanent forests, constituting 75 per cent of its total forest area.

Match the Following

9. Match the following items given in Column A with those in Column B. Choose the correct answer

from the options given below:

Column A (Category of existence)	Column B (Species)
A Vulnerable	1 Gangetic dolphin
B Endemic	2 Hornbill
C Extinct	3 Nicobar pigeon
D Rare	4 Asiatic cheetah

Codes:

A	B	C	D
(a) 1	2	3	4
(b) 2	4	1	3
(c) 4	1	3	2
(d) 1	3	4	2

Ans. (d)

Find the Incorrect Option

10. (a) In the notification under Wildlife Act of 1972, several hundred butterflies, moths, beetles, and one dragonfly have been added to the list of protected species.
- (b) 'Project Tiger', one of the well-publicised wildlife campaigns in the world, was launched in 1973.
- (c) Unclassed forests are managed by local communities in the North-eastern states and Gujarat.
- (d) Over-population in the third world countries is often cited as a cause of environmental degradation.

Ans. (a)

Correct the Following Statement and Rewrite

11. The world's fastest land mammal, the panther (*Acinonyx jubantus*), is a unique and specialised member of the cat family and can move at the speed of 88 km/hr.

Ans. The world's fastest land mammal, the cheetah (*Acinonyx jubantus*), is a unique and specialised member of the cat family and can move at the speed of 112km/hr.

Fill in the Blanks

12. Fisheries are dependent on the maintenance of **primary producers** biodiversity.
13. **grazing and fuel-wood collection** are the degrading factors behind the depletion of forest resources.
14. **Himalayan yew** is used as an anti-cancer drug.

Very Short Answer Type Questions

15. What are sacred groves?

Ans. Sacred groves are the forests of god and

goddesses. Worship of trees is an age old tribal belief based on the premise that all creations of nature have to be protected. Such beliefs have preserved several virgin forests. For example peepal and banyan.

16. What is the Chipko Movement?

Ans. The Chipko movement was started in 1970's in the Himalayan region. Its primary aim was to prevent the illegal deforestation and destruction of forest and trees. Villagers, primarily the women participated in this movement.

17. Define biological diversity.

Ans. Biodiversity or Biological Diversity is immensely rich in wildlife and cultivated species, diverse in form and function but closely integrated in a system through multiple network of interdependencies.

18. Name the insects that are listed under protected species.

Ans. In the notification under Wildlife Act of 1980 and 1986, several hundred butterflies, moths, beetles, and one dragonfly have been added to the list of protected species.

Short Answer Type Questions

19. What do you understand by the term 'endangered species'? Give examples.

Ans. Endangered species are species which are in danger of extinction. The examples of such species are blackbuck, crocodile, Indian wild ass, Indian rhino, lion tailed macaque, sangai (brow antler deer in Manipur), etc.

20. Write in brief about the strategies made for forest conservation.

Ans. The conservationists in the 1960s and 1970s demanded a national wildlife protection programme, as a result of which the Indian Wildlife (Protection) Act was implemented in 1972, in order to protect the habitats. An all India list of protected species was also published. The importance was given to protect the remaining population of certain endangered species by imposing a ban on hunting, giving legal protection to their habitats, and restricting trade in wildlife. Later the central government and many state governments established national parks and wildlife sanctuaries. Several projects for protecting specific animals were also announced by the central government which were gravely threatened.

21. Define vulnerable species and extinct species with examples.

Ans. Vulnerable Species: These are species whose population has declined to the levels from where it is likely to move into the endangered

category in the near future if negative factors continue to operate. The examples of such species are blue sheep, Asiatic elephant, Gangetic dolphin, etc.

Extinct Species: These are species which are not found after searches of known or likely areas where they may occur. A species may be extinct from a local area, region, country, continent or the entire earth. The examples of such species are the Asiatic cheetah, pink-headed duck, etc.

Paragraph Based Questions

22. Read the sources given below and answer the questions that follow:

Source A – Negative Factors That Cause Depletion of Flora and Fauna

Even after Independence, agricultural expansion continues to be one of the major causes of depletion of forest resources. Between 1951 and 1980, according to the Forest Survey of India, over 26,200 sq km of forest area was converted into agricultural land all over India.

(a) What were the reasons of forest depletion after independence?

Source B – Conservation of Forest and Wildlife in India

Conservation preserves the ecological diversity and our life support systems – water, air and soil. It also preserves the genetic diversity of plants and animals for better growth of species and breeding. For example, in agriculture, we are still dependent on traditional crop varieties.

(b) What is the importance of conservation?

Source C – Community and Conservation

In India joint forest management (JFM) programme furnishes a good example for involving local communities in the management and restoration of degraded forests. The programme has been in formal existence since 1988 when the state of Odisha passed the first resolution for joint forest management.

(c) What is Joint Forest Management?

Ans. (a) Agricultural expansion is one of the major causes of forest depletion after independence.

(b) Conservation means the protection of plants and animals, it also preserves their genetic diversity. The main concern is to preserve the habitats so that the future generations of wildlife and even humans can enjoy it.

(c) Joint Forest Management is a concept based on the jointly defined roles and responsibilities of local communities and the forest department for the protection and development of degraded forests.

Case Based Questions

23. Conservation preserves the ecological diversity and our life support systems – water, air and soil. It also preserves the genetic diversity of plants and animals for better growth of species and breeding. For example, in agriculture, we are still dependent on traditional crop varieties. Fisheries too are heavily dependent on the maintenance of aquatic biodiversity. In the 1960s and 1970s, conservationists demanded a national wildlife protection programme. The Indian Wildlife (Protection) Act was implemented in 1972, with various provisions for protecting habitats. An all India list of protected species was also published. The thrust of the programme was towards protecting the remaining population of certain endangered species by banning hunting, giving legal protection to their habitats, and restricting trade in wildlife. Subsequently, central and many state governments established national parks and wildlife sanctuaries. The central government also announced several projects for protecting specific animals, which were gravely threatened, including the tiger, the one-horned rhinoceros, the Kashmir stag or hangul, three types of crocodiles – fresh water crocodile, salt-water crocodile and the Gharial, the Asiatic lion, and others. Most recently, the Indian elephant, black buck (chinkara), the great Indian bustard (godawan) and the snow leopard, etc. have been given full or partial legal protection against hunting and trade throughout India. The conservation projects are now focusing on biodiversity rather than on a few of its components. Increasingly, even insects are beginning to find a place in conservation planning. In the notification under Wildlife Act of 1980 and 1986, several hundred butterflies, moths, beetles, and one dragonfly have been added to the list of protected species.

23.1 Which of the following animal has been given full or partial legal protection against hunting and trade throughout India?

- (a) Gharial
- (b) Great Indian Bustard
- (c) Tiger
- (d) One-horned rhinoceros

Ans. (b) Great Indian Bustard

23.2 Which of the following has/have been added under the Wildlife Act of 1980 and 1986?

- (a) Moths
- (b) Beetles
- (c) Butterflies
- (d) All of these

Ans. (d) All of these

23.3 In which year was the Indian Wildlife (Protection) Act implemented?

- (a) 1972
- (b) 1991
- (c) 1986
- (d) 1982

Ans. (a) 1972

23.4 What were the various steps taken by the Indian Wildlife (Protection) Act to protect the endangered species?

- (a) It banned hunting.
- (b) It gave legal protection to their habitats.
- (c) It put restrictions on trade in wildlife.
- (d) All of these.

Ans. (d) All of these.

24. In India, much of the forest and wildlife resources are either owned or managed by the government through the Forest Department or other government departments and are classified under the following categories.

- (i) **Reserved Forests:** More than half of the total forest land has been declared reserved forests. Reserved forests are regarded as the most valuable as far as the conservation of forest and wildlife resources are concerned.
- (ii) **Protected Forests:** Almost one-third of the total forest area is protected forest, as declared by the Forest Department. This forest land are protected from any further depletion.
- (iii) **Unclassed Forests:** These are other forests and wastelands belonging to both government and private individuals and communities.

Reserved and protected forests are also referred to as permanent forest estates maintained for the purpose of producing timber and other forest produce, and for protective reasons. Madhya Pradesh has the largest area under permanent forests. Jammu and Kashmir, Andhra Pradesh, Uttarakhand, Kerala, Tamil Nadu, West Bengal, and Maharashtra have large percentages of reserved forests of its total forest area whereas Bihar, Haryana, Punjab, Himachal Pradesh, Odisha and Rajasthan have a bulk of it under protected forests. All North-eastern states and parts of Gujarat have a very high percentage of their forests as unclassified forests managed by local communities.

24.1 Which of the following is/are maintained for growing timber?

- (a) Reserved forests
- (b) Protected forests
- (c) Unclassed forests
- (d) Both (a) and (b)

Ans. (d) Both (a) and (b)

24.2 Which state/UT has large percentage of reserved forests? Choose the most appropriate option.

- (a) Madhya Pradesh (b) Gujarat
(c) Jammu & Kashmir (d) Meghalaya

Ans. (c) Jammu & Kashmir

24.3 are wastelands belonging to both government and private individuals and communities.

- (a) Unclassed forests
(b) Reserved forests
(c) Protected forests
(d) None of these

Ans. (a) Unclassed forests

24.4 Which state/s has/have the largest area under permanent forests? Choose the most appropriate option.

- (a) Andhra Pradesh (b) Madhya Pradesh
(c) Gujarat (d) Nagaland

Ans. (b) Madhya Pradesh

Long Answer Type Questions

25. Write a note on the different categories of forests managed by government departments.

Ans. Forests are classified under the following categories:

- (i) **Reserved Forests:** More than half of the total forest land has been declared reserved forests. Reserved forests are regarded as the most valuable as far as the conservation of forest and wildlife resources are concerned.
- (ii) **Protected Forests:** Almost one-third of the total forest area is protected forest, as declared by the Forest Department. These forest lands are protected from any further depletion.
- (iii) **Unclassed Forests:** These are other forests and wastelands belonging to both government and private individuals and communities.

26. Why do you think that the destruction of forests and wildlife is not just a biological issue? Give reasons.

Ans. The destruction of forests and wildlife is not just a biological issue because biological loss is strongly correlated with the loss of cultural diversity. Destruction of forests and wildlife have marginalised and impoverished many original and forest-dependent communities, who are directly dependent on the various components of the forest and wildlife for food, drink, medicine, culture, spirituality, etc. Among the poor, women are affected more in comparison to men. In many societies, it is the responsibility of women to fulfill the major responsibilities like collection of

fuel, fodder, water and other basic subsistence needs. Due to depletion of these resources, the hard work of women increases and sometimes they have to walk for more than 10 km to collect these resources which results in the serious health issues for women and negligence of home and children because of the increased working hours. The indirect impact of environmental degradation also results in severe drought or deforestation-induced floods, etc. also hits the poor the hardest.

27. Read the extract and answer the questions that follow:

Clearing of forests is still continuing with projects like the Narmada Sagar Project in Madhya Pradesh, which would inundate 40,000 hectares of forest. Mining is another important factor behind deforestation. The Buxa Tiger Reserve in West Bengal is seriously threatened by the ongoing dolomite mining. It has disturbed the natural habitat of many species and blocked the migration route of several others, including the great Indian elephant.

Many foresters and environmentalists hold the view that the greatest degrading factors behind the depletion of forest resources are grazing and fuel-wood collection. Though, there may be some substance in their argument, yet, the fact remains that a substantial part of the fuel-fodder demand is met by lopping rather than by felling entire trees. The forest ecosystems are repositories of some of the country's most valuable forest products, minerals and other resources that meet the demands of the rapidly expanding industrial-urban economy. These protected areas, thus mean different things to different people, and therein lies the fertile ground for conflicts.

- (a) What type of projects have led to the degradation of natural habitats?
- (b) Do you think that grazing and fuel-wood collection are responsible for forest depletion? Give your views.
- (c) Explain how mining has affected the Buxa Tiger Reserve in West Bengal.

Ans. (a) Development projects like Narmada Sagar Project, mining, construction, deforestation are some of the human activities which have led to the degradation of natural habitat.
(b) Yes, grazing and fuel-wood collection are responsible for forest depletion. It is still very common in villages.
(c) The Buxa Tiger Reserve is facing a serious threat due to ongoing dolomite mining. It has disturbed the natural habitat of many species

and blocked the migration route of many other species which also includes the great Indian elephant.

Let's Compete

Multiple-Choice Questions

1. are the primary producers on which all other living beings depend.

- (a) Forests (b) Wildlife
(c) Air (d) Water

Ans. (a) Forests

2. IUCN stands for

- (a) International Union for Conservation of Nature and Natural Resources.
(b) International University for Conservation of Nature.
(c) International Union for Conservation of Natural Resources.
(d) International United Conservation of Nature.

Ans. (a) International Union for Conservation of Nature and Natural Resources.

3. was declared extinct in the year 1952.

- (a) Pink-headed duck (b) Asiatic cheetah
(c) Blue sheep (d) Indian rhino

Ans. (b) Asiatic cheetah

4. *Taxus wallachiana* is the scientific name of

- (a) Rhododendron (b) Himalayan Oak
(c) Himalayan Yew (d) Chir Pine

Ans. (c) Himalayan Yew

5. Which forests and wastelands belongs to both government and private individuals and communities?

- (a) Permanent forests (b) Unclassed forests
(c) Reserved forests (d) Protested forests

Ans. (b) Unclassed forests

6. Conservation strategies that directly involve community participation.

- (a) Chipko Management (b) Beej Bachao Andolan
(c) Navdanya (d) All of these

Ans. (d) All of these

7. Which of the following is considered as rare species?

- (a) Wild Asiatic buffalo (b) Nicobar pigeon
(c) Blue sheep (d) Sangai

Ans. (a) Wild Asiatic buffalo

8. Which of the following species is not vulnerable?

- (a) Asiatic elephant (b) Blue sheep
(c) Indian rhinoceros (d) Gangetic dolphin

Ans. (c) Indian rhinoceros

9. What is the scientific name of mango?

- (a) *Mangnifera indica* (b) *Bassia latifolia*
(c) *Tamarindus indica* (d) *Anthocaphalus cadamba*

Ans. (a) *Mangnifera indica*

10. What is the scientific name of Himalayan Yew?

- (a) *Pinus roxburghii* (b) *Quercius spp.*
(c) *Taxus wallachiana* (d) *Acinonyx jubantus*

Ans. (c) *Taxus wallachiana*

Value-based Questions (Optional)

1. 'Overpopulation is one of the reasons for environmental destruction.' Give your views.

Ans. Yes, it is true to say because with the increase in population the natural resources are being consumed indiscriminately without any control. With the increase in population there is an increase in demand for finished goods which results in the increase in industrial production and in turn the industrial production results in the depletion of environment as the industrial waste is poured into fresh water sources and soil.

2. Do you agree with the statement 'Conservation helped in increasing the dense forest cover in India?' Give your views.

Ans. Yes the above given statement is true because, according to the State of Forest Report (2015), the dense forest cover has increased by 3,775 sq km since 2013. However, this apparent increase in the forest cover is due to conservation measures, management interventions and plantation, etc. by different agencies.

3

Water Resources

Milestone

Multiple-Choice Questions

1. In Rajasthan rooftop rainwater harvesting system is called

- (a) *kuls* (b) *guls*
(c) *tankas* (d) *baolis*

Ans. (c) *tankas*

2. Bamboo drip irrigation is prevalent in which state?

- (a) Madhya Pradesh (b) Meghalaya
(c) Rajasthan (d) Karnataka

Ans. (b) Meghalaya

3. How much percentage of earth is covered with water?

- (a) 61% (b) 81%
(c) 71% (d) 51%

Ans. (c) 71%

Very Short Answer Type Questions

4. Name the state which has the largest area under permanent forests.

Ans. Madhya Pradesh has the largest area under permanent forests.

5. What is the need of rainwater harvesting?

(CBSE 2009)

Ans. Rainwater harvesting is needed to solve the shortage of surface water and to fulfil the domestic needs of water.

6. Explain rainwater harvesting.

Ans. The storage of rainwater for further domestic and other water needs is called rainwater harvesting. People having knowledge of rainfall regimes and soil types developed different techniques to harvest rainwater.

7. Name the two social movements against the construction of dams.

Ans. Narmada Bachao Andolan and Tehri Dam Andolan were two social movements against the construction of dams.

Short Answer Type Questions

8. How has irrigation changed the cropping pattern in many regions of India? **(CBSE 2012)**

Ans. The cropping pattern has also changed in many regions of India. Farmers are now shifting to commercial crops and water intensive crops.

9. What are the different water harvesting systems adopted in ancient India?

Ans. In ancient India, hydraulic structures were constructed to store water for irrigation and domestic use. During the time of Chandragupta Maurya, dams, lakes and irrigation system were extensively built. In the 11th century, Bhopal lake, one of the largest artificial lakes of its time was built. In 14th century, the tank in Hauz Khas, Delhi was constructed by Iltutmish for supplying water to Siri Fort area.

10. What are the advantages of multi-purpose river projects? **(CBSE 2015)**

Ans. Advantages of multi-purpose projects are as follows:

- To provide water to areas which suffer from water scarcity
- Controlling the flood by regulating the flow of water
- Supplying water for industrial and domestic purpose
- Generation of hydel power
- Irrigation facility.

Long Answer Type Questions

11. Highlight the advantages and disadvantages of rooftop rainwater harvesting system.

Ans. Advantages of rainwater harvesting:

- It reduces soil erosion and occurrence of floods.
- It can be used for drinking and several non-drinking purposes.
- It reduces drought impact.
- No displacement of people is involved in roof top harvesting.
- It reduces demand on ground water.

Disadvantages of rainwater harvesting:

- Not all the places receive same amount of rainfall.
- It requires regular maintenance as it is prone to rodents, algae growth, insects which contaminate rain harvested water.
- Limited storage facility.

12. Describe in detail the four important rainwater harvesting methods.

Ans. The four important rainwater harvesting methods are as follows:

- (i) Rooftop Rainwater Harvesting:** According to this system, rainwater is collected on rooftops and then stored in tanks. Generally this water is utilised for gardening. In Tamil Nadu, this has been made compulsory for all households. All building plans must have in-built rainwater harvesting system.
- (ii) Check Dams:** In dry and arid areas like Rajasthan, Western UP, Haryana and Punjab, check dams are used. Check dams are natural catchment dams. In natural depressions the rainwater gets collected and then later used for irrigation and promoting vegetal cover on ground. To prevent water run-off artificial bunds and streams called kuls are erected.
- (iii) Recharge of Water through Abandoned Wells:** These wells are ideal for rainwater harvesting as they replenish groundwater resources to meet the requirement of summer.
- (iv) Recharge through Hand Pumps:** The rainwater first gets collected in a pond, tank or reservoir. Planning can be done to allow the rainwater flow directly into the deep wells especially the ones which have dried up. This technique of artificial recharge of water meets the household needs.

- (c) it is available abundantly
- (d) it is an important source of freshwater

Ans. (b) water is renewed and recharged by the hydrological cycle

2. Which of the following areas suffer from water scarcity?

- (a) Areas with low annual rainfall
- (b) Areas with high annual rainfall and large population
- (c) Areas with heavy rainfall and highly polluted water
- (d) Areas of low rainfall and low population

Ans. (a) Areas with low annual rainfall

3. The following statement is not an argument in favour of multi-purpose river valley projects.

- (a) Multi-purpose projects help to control floods by regulating water flow
- (b) Multi-purpose projects lead to loss of livelihood and large scale displacements
- (c) Multi-purpose projects bring water to those areas suffering from water scarcity
- (d) Multi-purpose projects generate electricity for our homes and industries

Ans. (b) Multi-purpose projects lead to loss of livelihood and large scale displacements

Assertion-Reason Type Questions

For question numbers 4 to 7, two statements are given as Assertion (A) and Reason (R). Read the statements and choose the correct option from (a), (b), (c) and (d) as given below.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

4. Assertion (A): Water scarcity may be an outcome of large and growing population and consequent greater demands for water, and unequal access to it.

Reason (R): A large population requires more water not only for domestic use but also to produce more food.

Ans. (a) Both Assertion (A) and Reason (R) are true and R is the correct explanation of A because water scarcity is an outcome of large population which requires more water for domestic use as well as for agricultural production.

5. Assertion (A): Today, in India hydroelectric power contributes approximately 43 per cent of the total electricity produced.

Self-Assessment

Multiple-Choice Questions

1. Water is a renewable resource because
 - (a) the process of precipitation renews it
 - (b) water is renewed and recharged by the hydrological cycle

Reason (R): During the time of Chandragupta Maurya, dams, lakes and irrigation systems were extensively built.

Ans. (d) Assertion (A) is wrong because in India hydroelectric power contributes approximately 22 per cent of the total electricity produced.

6. Assertion (A): In the 11th century, Bhopal Lake, one of the largest artificial lakes of its time was built.

Reason (R): In the 14th century, the tank in Hauz Khas, Delhi was constructed by Akbar for supplying water to the Siri Fort area.

Ans. (c) Reason (R) is wrong because, in the 14th Century, the tank in Hauz Khas, Delhi was constructed by Iltutmish for supplying water to Siri Fort area.

7. Assertion (A): Sardar Sarovar Dam has been built over the Narmada River in Gujarat.

Reason (R): This is one of the largest water resource projects of India covering four states—Maharashtra, Madhya Pradesh, Gujarat and Rajasthan.

Ans. (d) Both Assertion (A) and Reason (R) are true but R is not the correct explanation of A.

Match the Following

8. Match the following items given in Column A with those in Column B. Choose the correct answer from the options given below:

Column A (Hydroelectric Project)	Column B (Rivers)
A Salal Project	1 Chenab
B Hirakud Project	2 Mahanadi
C Mettur Project	3 Kaveri
D Sardar Sarovar Project	4 Narmada

Codes:

A	B	C	D
(a) 1	2	3	4
(b) 2	4	1	3
(c) 4	1	3	2
(d) 3	1	4	2

Ans. (a)

Find the Incorrect Option

9. (a) Rooftop rainwater harvesting is the most common practice in Shillong, Meghalaya.
 (b) Kerala is the first state in India which has made rooftop rainwater harvesting structure compulsory for all the houses across the state.
 (c) In Meghalaya, a 200-year-old system of tapping

stream and spring water by using bamboo pipes is prevalent.

(d) Today, in western Rajasthan, sadly the practice of rooftop rainwater harvesting is on the decline as plenty of water is available due to the perennial Indira Gandhi Canal.

Ans. (b)

10. (a) Cherapunjee and Mawsynram situated at a distance of 55 km from Shillong receive the highest rainfall in the world.

(b) Gendathur receives an annual precipitation of 1,000 mm, and with 80 per cent of collection efficiency and of about 10 fillings, every house can collect and use about 50,000 litres of water annually.

(c) In hill and mountainous regions, people built diversion channels like the 'guls' or 'kuls' of the Eastern Himalayas for agriculture.

(d) The Krishna-Godavari dispute is due to the objections raised by Kerala and Tamil Nadu governments.

Ans. (b)

Correct the Following Statement and Rewrite

11. In the semi-arid and arid regions of Gujarat, particularly in Surat and Vadodara, almost all the houses traditionally had underground tanks or tankas for storing drinking water.

Ans. In the semi-arid and arid regions of Rajasthan, particularly in Bikaner, Phalodi and Barmer, almost all the houses traditionally had underground tanks or tankas for storing drinking water.

Fill in the Blanks

12. The technique of storing rainwater in pits or on the rooftops is called **rooftop rainwater harvesting**.

13. The rainwater that flows or gets collected on the land surface in the form of rivers, lakes, streams, etc. is called **surface runoff**.

14. A **dam** is a barrier across flowing rivers to make a reservoir.

Very Short Answer Type Questions

15. Define multi-purpose project.

Ans. Dams are referred to multi-purpose projects where the many uses of the impounded water are integrated with one another.

16. Which Indian leader said – "Dams are the temples of modern India?"

Ans. Pandit Jawaharlal Nehru.

Short Answer Type Questions

17. With the help of examples highlight the ill-effects of irrigation.

Ans. Ill-effects of irrigation:

- Excess of water leads to water logging.
- Seeds do not grow properly in water logged fields.
- Excess irrigation destroys standing crops.
- It may reduce the quantity and quality of crops.
- It may cause damages to the fertility of soil.

18. Explain the problems the poor people face due to construction of dams.

Ans. The poor often had to give up their land, livelihood and their meagre access and control over resources for the greater good of the nation.

Paragraph Based Questions

19. Read the sources given below and answer the questions that follow:

Source A – Rainwater Harvesting

In ancient India, along with the sophisticated hydraulic structures, there existed an extraordinary tradition of water-harvesting system. People had in-depth knowledge of rainfall regimes and soil types and developed wide ranging techniques to harvest rainwater, groundwater, river water and flood water in keeping with the local ecological conditions and their water needs. In hill and mountainous regions, people built diversion channels like the 'guls' or 'kuls' of the Western Himalayas for agriculture.

(a) What are the techniques of rainwater harvesting in India?

Source B – Multi-Purpose River Projects and Integrated Water Resources Management

Irrigation has also changed the cropping pattern of many regions with farmers shifting to water intensive and commercial crops. This has great ecological consequences like salinisation of the soil.

(b) What do you understand by salinisation of the soil?

Source C – Water Scarcity and the Need For Water Conservation and Management

Lately, there has been a growing concern that even if there is ample water to meet the needs of the people, much of it may be polluted by domestic and industrial wastes, chemicals, pesticides and fertilisers used in agriculture, thus, making it hazardous for human use.

(c) Why should we conserve water resources? Give one reason.

Ans. (a) Following are the rainwater harvesting techniques used in different areas:

- Rooftop rainwater harvesting is practised in Rajasthan.
- Diversion channels are made to irrigate the fields in West Bengal.

- Guls and kuls are diversion channels built in the mountainous regions of Western Himalayas.

(b) Salinisation of soil is the reduction of soil fertility due to the accumulation of soluble salts. Change in the cropping pattern is one of the major factor responsible for the salinisation of soil.

(c) We should conserve water resources to safeguard ourselves from health hazards and to ensure our food security.

Case Based Questions

20. Post-independent India witnessed intensive industrialisation and urbanisation, creating vast opportunities for us. Today, large industrial houses are as common place as the industrial units of many MNCs (Multinational Corporations). The ever increasing number of industries has made matters worse by exerting pressure on existing freshwater resources. Industries, apart from being heavy users of water, also require power to run them. Much of this energy comes from hydroelectric power. Today, in India hydroelectric power contributes approximately 22 per cent of the total electricity produced. Moreover, multiplying urban centres with large and dense populations and urban lifestyles have not only added to water and energy requirements but have further aggravated the problem. If you look into the housing societies or colonies in the cities, you would find that most of these have their own groundwater pumping devices to meet their water needs. Not surprisingly, we find that fragile water resources are being overexploited and have caused their depletion in several of these cities. Another problem is that water is sufficiently available to meet the needs of the people, but, the area still suffers from water scarcity. This scarcity may be due to bad quality of water. Lately, there has been a growing concern that even if there is ample water to meet the needs of the people, much of it may be polluted by domestic and industrial wastes, chemicals, pesticides and fertilisers used in agriculture, thus, making it hazardous for human use. A large population requires more water not only for domestic use but also to produce more food. Hence, to facilitate higher food-grain production, water resources are being over-exploited to expand irrigated areas for dry-season agriculture. Irrigated agriculture is the largest consumer of water. Now it is needed to revolutionise the agriculture through developing drought resistant crops and dry farming techniques.

20.1 Which of the following is not the cause of water scarcity?

- (a) Overpopulation
- (b) Rain-water harvesting
- (c) Expansion of irrigation facilities
- (d) Individual tube-wells in farms

Ans. (b) Rain-water harvesting

20.2 What causes depletion or scarcity of water quality?

- (a) Over-irrigation
- (b) Disposing of industrial and domestic waste
- (c) Over-exploitation of water
- (d) All of these

Ans. (d) All of these

20.3 Which of the following is the largest consumer of water? Choose the most appropriate option.

- (a) Irrigated agriculture
- (b) Manufacturing units
- (c) Growing population
- (d) Cattle feeding

Ans. (a) Irrigated agriculture

20.4 Post-independence India witnessed intensive

-
- (a) agriculture
 - (b) economic problems
 - (c) deforestation
 - (d) industrialisation and urbanisation

Ans. (d) industrialisation and urbanisation

21. Multi-purpose projects, launched after independence with their integrated water resources management approach, were thought of as the vehicle that would lead the nation to development and progress, overcoming the handicap of its colonial past. Jawaharlal Nehru proudly proclaimed the dams as the 'temples of modern India'; the reason being that it would integrate development of agriculture and the village economy with rapid industrialisation and growth of the urban economy. In recent years, multi-purpose projects and large dams have come under great scrutiny and opposition for a variety of reasons. Regulating and damming of rivers affect their natural flow causing poor sediment flow and excessive sedimentation at the bottom of the reservoir, resulting in rockier stream beds and poorer habitats for the rivers' aquatic life. Multi-purpose projects and large dams have also been the cause of many new environmental movements like the 'Narmada Bachao Andolan' and the 'Tehri Dam Andolan' etc. Resistance to these projects has primarily been due to the large-scale displacement of local communities. Narmada Bachao Andolan or

Save Narmada Movement is a Non Governmental Organisation (NGO) that mobilised tribal people, farmers, environmentalists and human rights activists against the Sardar Sarovar Dam being built across the Narmada river in Gujarat. It originally focused on the environmental issues related to trees that would be submerged under the dam water. Recently it has re-focused the aim to enable poor citizens, especially the oustees (displaced people) to get full rehabilitation facilities from the government.

21.1 Why were dams proclaimed as 'temples of modern India'?

- (a) They integrated development of agriculture and village economy.
- (b) They boosted rapid industrialisation and growth of urban economy.
- (c) Both (a) and (b).
- (d) None of these.

Ans. (c) Both (a) and (b).

21.2 Sardar Sarovar Dam is being built across

- (a) Narmada
- (b) Tapi
- (c) Krishna
- (d) Godavari

Ans. (a) Narmada

21.3 Complete the statement: Many dams were constructed to control flood but they triggered flood due to

- (a) jamming of water supplies
- (b) sedimentation in the reservoir
- (c) excessive rains
- (d) none of these

Ans. (b) sedimentation in the reservoir

21.4 Which of the following social movements is not a resistance to multi-purpose projects?

- (a) Narmada Bachao Andolan
- (b) Tehri Dam Andolan
- (c) Navdanya
- (d) Chipko Movement

Ans. (d) Chipko Movement

Long Answer Type Questions

22. Do a comparative study about the advantages and disadvantages of the multi-purpose river valley projects.

Ans. **Advantages of multi-purpose projects are as follows:**

- Supply of water is maintained due to water storage capacity.
- Help to generate electricity.
- Strong irrigation system.

- Sufficient water supply for domestic and industrial use.
- They integrate conservation of water with flood control.

Disadvantages of multi-purpose projects are as follows:

- Regulating and damming of rivers affect their natural flow causing poor sediment flow and excessive sedimentation at the bottom of the reservoir.
- Dams fragment rivers making it difficult for the aquatic fauna to migrate, especially for spawning.
- The reservoirs created on the floodplains submerge the existing vegetation and soil leading to its decomposition over a period of time.

23. Discuss in detail how the rainwater harvesting is carried out in the semi-arid regions of Rajasthan.

Ans. • In arid and semi-arid regions, agricultural fields were converted into rain fed storage structures which allowed water to stand and moisten the soil like 'khadins' in Jaisalmer and 'Johads' in other parts of Rajasthan.

- In the semi-arid and arid regions of Rajasthan, particularly in Bikaner, Phalodi and Barmer, almost all the houses had well-developed rooftop rainwater harvesting system. The sloping roofs of the houses were connected to underground tanks or tankas through a pipe. The rain falling on the roofs would flow through the pipe and get stored in the underground tanks.

24. Explain the working of underground tanks as a part of rooftop rainwater harvesting system practised in Rajasthan. **(CBSE 2015)**

Ans. The underground tanks or tankas were part of the well-developed rainwater harvesting system. They were built inside the main house or the courtyard. The tanks could be as large as one big room. The tanks were connected to the sloping roofs of the houses through a pipe. The rain falling on the rooftops would travel down the pipe and was stored in the underground tanks. The first spell of the rain was not collected and rainwater from the subsequent showers were collected.

25. Read the extract and answer the questions that follow:

Post-independent India witnessed intensive industrialisation and urbanisation, creating vast opportunities for us. Today, large industrial houses are as commonplace as the industrial units of many MNCs (Multinational Corporations).

The ever increasing number of industries has made matters worse by exerting pressure on existing freshwater resources. Industries, apart from being heavy users of water, also require power to run them. Much of this energy comes from hydroelectric power. Today, in India hydroelectric power contributes approximately 22 per cent of the total electricity produced.

- 'Industries exert pressure on freshwater resources.' Justify this statement.
- What are the changes India has witnessed post Independence?

Ans. (a) Industries are exerting pressure on freshwater resources because of the high water consumption for industrial purpose.

- These industries are using groundwater which led to its depletion.
- Ground water may become toxic due to the contamination of chemicals and industrial waste.

(b) India has seen many changes such as industrialisation, urbanisation, and created various opportunities for its people.

————— Let's Compete —————

Multiple-Choice Questions

1. The first state to make rooftop rainwater harvesting compulsory is

- Kerala
- Rajasthan
- Tamil Nadu
- Uttar Pradesh

Ans. (c) Tamil Nadu

2. On which one of the following rivers is the Sardar Sarovar dam built?

- Kaveri River
- Satluj River
- Krishna River
- Narmada River

Ans. (d) Narmada River

3. Which of the following is not the adverse effect of dam construction?

- Population displacement
- Flood control
- Excessive sedimentation of the resources
- Interstate water disputes

Ans. (d) Flood control

4. Which of the following methods of rainwater harvesting is not used in Rajasthan?

- Guls*
- Tankas*
- Khadins*
- Johads*

Ans. (a) *Guls*

5. Who proclaimed the dams as 'the temples of

modern India?

- (a) Mahatma Gandhi
- (b) Dr Rajendra Prasad
- (c) Mrs Indira Gandhi
- (d) Pandit Jawaharlal Nehru

Ans. (d) Pandit Jawaharlal Nehru

6. The diversion channels of the Himalayas are called

- (a) reservoirs
- (b) *kuls*
- (c) *tankas*
- (d) *khadins*

Ans. (b) *kuls*

7. The largest artificial lake built in the 11th century is

- (a) Chilika Lake
- (b) Bhopal Lake
- (c) Sambhar Lake
- (d) Dal Lake

Ans. (b) Bhopal Lake

8. Power plants need water for

- (a) irrigation purpose
- (b) cooling the machines
- (c) drinking purpose
- (d) agriculture

Ans. (b) cooling the machines

9. 'Narmada Bachao Andolan' is a

- (a) multi-purpose project
- (b) social movement against construction of dams
- (c) rainwater harvesting method
- (d) irrigational method

Ans. (b) social movement against construction of dams

10. Which of the following village in Mysuru installed household rooftop rainwater harvesting?

- (a) Vanasthalipuram
- (b) Tirumakudal
- (c) Narsipur
- (d) Gendathur

Ans. (d) Gendathur

———— Value-based Questions ———— (Optional)

1. Water is a very important asset. How can we contribute to save water?

Ans. We can contribute to save water by following the given measures:

- Make proper arrangements for recycling and reuse of water.
- Stop the reckless use of water resources and reduce the wastage of water.
- Adopt measures and make people aware about increasing the level of underground water.
- Storing rainwater for use during the dry season, i.e. rainwater harvesting.
- Develop and construct the water storage reservoirs in different parts of the country.

2. Why is water scarcity increasing day by day? What factors are responsible for it?

Ans. Factors responsible for increase water scarcity in India:

- (i) Water shortage is a common and regular problem in the areas which are drought prone and have desert like topography.
- (ii) Certain metropolitan cities like Mumbai and Kolkata are facing acute water shortage because of dense population and urban lifestyles requiring more water and power consumption.
- (iii) Massive depletion of water takes place because multi-storeyed buildings and housing complexes or colonies have their own ground water pumping devices which lead to over-exploitation of water resources.

4

Agriculture

Milestone

Multiple-Choice Questions

1. Which one of the following is not a cropping season?

- (a) Kharif (b) Rabi
(c) Zaid (d) None of these

Ans. (d) None of these

2. Shifting agriculture in the North eastern region is known as

- (a) *bringa* (b) *kuruwa*
(c) *jhumming* (d) *penda*

Ans. (c) *jhumming*

3. The following is an example of leguminous crop.

- (a) Millet (b) Wheat
(c) Pulses (d) Rice

Ans. (c) Pulses

Very Short Answer Type Questions

4. Which are the two fibre crops of India? Name two major producing states of each.

Ans. (i) Cotton: Maharashtra and Gujarat.
(ii) Jute: West Bengal and Bihar.

5. What is plantation agriculture? Which crops are grown under it?

Ans. Plantation agriculture is also a type of commercial farming. In this type of farming, a single crop is grown on a large area. Tea, coffee, rubber, sugarcane and banana are some of the important plantation crops.

6. Name the three crops of rice grown in Assam.

Ans. *Aus*, *Aman* and *Boro* are three paddy crops grown in Assam.

7. What are rabi crops? Give two examples of rabi crops.

Ans. Rabi crops are sown in winter from October to December and harvested in summer from April to

June. Wheat, barley, peas, gram and mustard are some important rabi crops.

8. Name the three millet crops grown in India.

Ans. Jowar, Bajra and Ragi

9. In which season are cotton and wheat grown?

Ans. Cotton is grown in kharif season whereas wheat is grown in rabi season.

10. Name the three cropping seasons of India. Mention their months.

Ans. Rabi, kharif and zaid are the three cropping seasons of India. Rabi crops are sown from October to December, kharif crops are sown in June and July, zaid is a short season between the rabi and kharif season.

11. Name the state which has the highest percentage of cultivated area.

Ans. Uttar Pradesh has the highest percentage of cultivated area.

Short Answer Type Questions

12. Explain why Indian agriculture is subsistence type.

Ans. Most of the farmers in India practise subsistence agriculture because the land holdings are small and scattered. In subsistence farming, the total production is just enough to meet the requirements of the farmer's family and there is no surplus production for sale. Traditional tools are used for farming.

13. Give reasons why the area under food crops is decreasing.

Ans. The main reason for decreasing the area under food crop is as follows:

- Due to the excessive use of pesticides, the fertility of soil is decreasing.
- Drying up of wells and tube wells because of water shortage.
- Farmers are shifting towards commercial farming.

- Reduction of agricultural land for non-agricultural purposes.

14. Identify the two main food crops of India. Mention their producing areas.

Ans. Wheat and rice are the two main crops of India.

The major wheat producing states are Punjab, Haryana, Rajasthan, Uttar Pradesh and parts of Madhya Pradesh.

The major rice producing areas are Bihar, West Bengal, Odisha, Chhattisgarh and Assam.

15. Write a short note on the Green Revolution.

Ans. Green Revolution was based on the use of package technology to improve the lot of Indian agriculture. The green revolution was successful in Punjab, Haryana and western Uttar Pradesh. There are certain components of green revolution like large scale use of high yielding variety of seeds, chemical fertilizers, pesticides, herbicides and insecticides. With this India not only became self-sufficient in food production but also exported some food grains for the first time in 1977.

Long Answer Type Questions

16. Compare 'intensive subsistence farming' with that of 'commercial farming' practiced in India.

(CBSE 2018)

Ans.

Intensive subsistence farming	Commercial farming
i. Pressure of population on land is high.	i. Pressure of population on land is low.
ii. Low capital investment.	ii. High capital investment.
iii. Farmers produce for their own consumption.	iii. Production is mainly for the market.
iv. Land holdings are small.	iv. Land holdings are large.
v. Labour intensive farming is used.	v. Mechanized form of farming is used.

17. What initiatives have been taken by the government to ensure an increase in agriculture production?

Ans. The steps taken by the government to ensure the increase in agriculture production are as follows:

- A comprehensive programme has been initiated which included both institutional and technical reforms.
- Provision for crop insurance against drought,

flood, cyclone, fire and diseases, establishment of Grameen banks, cooperative societies and banks for providing loan facilities to the farmers at lower rates of interest.

- Some other schemes like Kissan Credit Card and Personal Accident Insurance Scheme are introduced by Government of India.
- Special weather bulletins and agricultural programmes for farmers were introduced on the radio and television.
- The government also announces minimum support price for important crops to check the exploitation of farmers by speculators and middlemen.

18. Describe the climate conditions required for the growth of sugarcane and tea crops. Mention two important sugarcane and tea producing states.

Ans. Climatic condition required for the growth of sugarcane:

- Sugarcane is a tropical plant and grows well in hot and humid climate.
- The average temperature during the growing period should range between 21 °C to 27 °C.
- The average rainfall should range between 75 cm and 100 cm.
- Sugarcane need frost-free growing season.

The two major sugarcane producing states are Uttar Pradesh, Maharashtra.

Climatic conditions required for the growth of tea:

- It grows well in tropical and sub-tropical climates.
- The soil should be deep, fertile and well-drained. It should be rich in humus and organic matter.
- Tea bushes require warm and moist frost-free climate all through the year.
- Frequent showers evenly distributed over the year ensure continuous growth of tender leaves.

The two major tea producing states are Assam and West Bengal.

19. Which fibre is known as the golden fibre? Where is it grown in India? Describe its various uses.

Ans. Jute is known as the golden fibre.

It grows well in the well drained soil, in the flood plains where the soil renews every year. High temperature is required during the time of growth. West Bengal, Bihar, Assam, Odisha and Meghalaya are the major jute producing states. It is used for making gunny bags, mats, ropes, yarn, carpets and other artefacts.

Self-Assessment

Multiple-Choice Questions

1. When a single crop is grown on a large area it is called
- (a) intensive agriculture (b) plantation agriculture
(c) shifting agriculture (d) mixed farming

Ans. (b) plantation agriculture

2. Green Revolution was also called
- (a) mixed farming (b) operation flood
(c) package technology (d) slash and burn

Ans. (c) package technology

3. Rearing silk worms for the production of silk fibre is called
- (a) horticulture (b) sericulture
(c) monoculture (d) silviculture

Ans. (b) sericulture

Assertion-Reason Type Questions

For question numbers 4 to 7, two statements are given as Assertion (A) and Reason (R). Read the statements and choose the correct option from (a), (b), (c) and (d) as given below.

- (a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.

4. **Assertion (A):** In India, tea, coffee, rubber, sugarcane, banana, etc., are important plantation crops.

Reason (R): Since the production is mainly for market, a well-developed network of transport and communication connecting the plantation areas, processing industries and markets plays an important role in the development of plantations.

Ans. (b) Both Assertion (A) and Reason (R) are true but R is not the correct explanation of A.

5. **Assertion (A):** The degree of commercialization of agriculture varies from one region to another.

Reason (R): Rice is a commercial crop in Haryana and Punjab, but in Odisha, it is a subsistence crop.

Ans. (a) Both A and R are true and R is the correct explanation of A, because Reason (R) clearly explains the Assertion that rice is a commercial crop in Haryana and Punjab but a subsistence crop in Odisha. Hence, it proves the Assertion (A) that the degree of commercialization of agriculture varies from one region to another.

6. **Assertion (A):** Rabi crops are sown in winter from October to December and harvested in summer

from April to June.

Reason (R): Important crops grown during this season are paddy, maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean.

Ans. (c) Reason (R) is wrong because, some of the important rabi crops are wheat, barley, peas, gram and mustard.

7. **Assertion (A):** India is the largest producer of rice in the world.

Reason (R): Rice is a kharif crop which requires high temperature, (above 25°C) and high humidity with annual rainfall above 100 cm.

Ans. (d) Assertion (A) is wrong because, India is the second largest producer of rice in the world after China.

Match the Following

8. Match the following items given in Column A with those in Column B. Choose the correct answer from the options given below:

Column A (Types of Cultivations)	Column B (Countries)
A Milpa	1 Mexico
B Conuco	2 Venezuela
C Roca	3 Brazil
D Ladang	4 Indonesia

Codes:

	A	B	C	D
(a)	1	2	3	4
(b)	2	4	1	3
(c)	4	1	3	2
(d)	2	3	4	1

Ans. (a)

Find the Correct Option

9. (a) Bajra grows well on red soil.
(b) Wheat requires 50 to 75 cm of annual rainfall evenly distributed over the growing season.
(c) Maize is a rabi crop which requires temperature between 21°C to 27°C.
(d) Major maize-producing states are West Bengal and Tripura.

Ans. (b)

Correct the Following Statement and Rewrite

10. Kharif crops are grown with the onset of winter in different parts of the country and these are harvested in March-April.

Ans. Kharif crops are grown with the onset of monsoon in different parts of the country and these are harvested in September-October.

Fill in the Blanks

- 11.** Wheat and rice are the two staple food crops of India.
- 12.** India ranks second in the production of rice in the world after China.
- 13.** Pulses is a leguminous crop.

Very Short Answer Type Questions

- 14.** Name the different types of agricultural practices in India.

Ans. Primitive subsistence farming, intensive subsistence farming and commercial farming are the three different types of agricultural practices in India.

- 15.** Which variety of coffee is grown extensively in India? Where was it initially introduced?

Ans. The Arabica variety is grown extensively in India and its cultivation was initially introduced on the Baba Budan Hills.

- 16.** State two uses of oil seeds.

Ans. (i) Oilseeds are edible and used as cooking mediums.
(ii) These are used as raw material in the production of soaps, cosmetics and ointments.

Short Answer Type Questions

- 17.** Name the crop which is used both as food as well as fodder. Mention the geographical conditions required for the growth of such crop.

Ans. Maize is a crop which is used both as food and fodder. It is a kharif crop which requires temperature between 21 °C to 27 °C. It grows well in old alluvial soil.

- 18.** Mention the geographical conditions required for cultivation of rubber. Name two areas where it is grown.

Ans. Rubber is an equatorial crop but under special conditions it is grown in tropical and sub-tropical regions. It requires humid and moist climate. It grows well in those areas where rainfall is more than 200 cm and temperature is above 25 °C. Rubber is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands.

- 19.** Mention the challenges the jute crop faces in India.

Ans. Jute is the second most important fibre crop in India after cotton. It is widely used in making of gunny bags, ropes, strings, carpets, cloth and various decoration material. At present, jute is facing tough competition from synthetic fibres and plastics. Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly the nylon.

Paragraph Based Questions

- 20.** Read the sources given below and answer the questions that follow:

Source A – Commercial Farming

Plantation is also a type of commercial farming. In this type of farming, a single crop is grown on a large area. The plantation has an interface of agriculture and industry. Plantations cover large tracts of land, using capital intensive inputs, with the help of migrant labourers.

- (a) Write two characteristics of this commercial farming.

Source B – Cropping Pattern

Some of the most important rice growing regions are Assam, West Bengal, coastal regions of Odisha, Andhra Pradesh, Telangana, Tamil Nadu, Kerala and Maharashtra, particularly the (Konkan coast) along with Uttar Pradesh and Bihar. Recently, paddy has also become an important crop of Punjab and Haryana.

- (b) Name the cropping seasons in India. Which one is the best sowing season for rice?

Source C – Food Crops Other Than Grains

It is a tropical as well as a subtropical crop. It grows well in hot and humid climate with a temperature of 21 °C to 27 °C and an annual rainfall between 75cm. and 100cm. Irrigation is required in the regions of low rainfall.

- (c) Name the crop that has been discussed in the above given paragraph.

Ans. (a) The two characteristics are:

- Use of high yielding variety of seeds.
- A single crop is grown on a large area.

- (b) There are three cropping seasons in India – Rabi, Kharif and Zaid.

Rice is a kharif crop. Kharif crops are grown with the onset of monsoon in India.

- (c) Sugarcane has been discussed in the above given paragraph.

Case Based Questions

- 21.** India has three cropping seasons – rabi, kharif and zaid. Rabi crops are sown in winter from October to December and harvested in summer from April to June. Some of the important rabi crops are wheat, barley, peas, gram and mustard. Though, these crops are grown in large parts of India, states from the north and north-western parts such as Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh are important for the production of wheat and other rabi crops. Availability of precipitation during winter months due to the

western temperate cyclones helps in the success of these crops. Kharif crops are grown with the onset of monsoon in different parts of the country and these are harvested in September–October. Important crops grown during this season are paddy, maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean. Some of the most important rice growing regions are Assam, West Bengal, coastal regions of Odisha, etc. In states like Assam, West Bengal and Odisha, three crops of paddy are grown in a year. These are *Aus*, *Aman* and *Boro*. In between the rabi and the kharif seasons, there is a short season during the summer months known as the zaid season. Some of the crops produced during 'zaid' are watermelon, muskmelon, cucumber, vegetables and fodder crops. Sugarcane takes almost a year to grow.

21.1 Which of the following crop/s is/are harvested in September–October?

- (a) Paddy
- (b) Bajra
- (c) Tur
- (d) All of these

Ans. (d) All of these

21.2 The three major paddy crop in India are

..... and

- (a) Aus; Aman; Boro.
- (b) Rabi; Kharif; Zaid.
- (c) Baisakh; Paus; Chait.
- (d) None of these.

Ans. (a) Aus; Aman; Boro.

21.3 A short season between the rabi and kharif seasons is known as

- (a) Aus
- (b) Boro
- (c) Zaid
- (d) None of these

Ans. (c) Zaid

21.4 In which of the following months are the rabi crops sown?

- (a) October to December
- (b) April to June
- (c) January and February
- (d) July and August

Ans. (a) October to December

22. Globalisation is not a new phenomenon. It was there at the time of colonisation. In the nineteenth century when European traders came to India, at that time too, Indian spices were exported to different countries of the world and farmers of south India were encouraged to grow these crops. Till today it is one of the important items of export from India. During the British period cotton belts of India attracted the British and

ultimately cotton was exported to Britain as a raw material for their textile industries. Cotton textile industry in Manchester and Liverpool flourished due to the availability of good quality cotton from India. Under globalisation, particularly after 1990, the farmers in India have been exposed to new challenges. Despite being an important producer of rice, cotton, rubber, tea, coffee, jute and spices our agricultural products are not able to compete with the developed countries because of the highly subsidised agriculture in those countries. To make agriculture successful and profitable, proper thrust should be given to the improvement of the condition of marginal and small farmers. The green revolution promised much. But today it's under controversies. It is being alleged that it has caused land degradation due to overuse of chemicals, drying aquifers and vanishing biodiversity. The keyword today is "gene revolution", which includes genetic engineering. Genetic engineering is recognised as a powerful supplement in inventing new hybrid varieties of seeds.

22.1 In which of the following places did the cotton textile industry flourish?

- (a) Liverpool
- (b) Birmingham
- (c) Sussex
- (d) London

Ans. (a) Liverpool

22.2 Which of the following statements is/are correct about 'gene revolution'?

- (a) It led to the invention of new advanced fertilisers.
- (b) It is a powerful supplement of natural irrigation.
- (c) It is recognised as a powerful supplement in inventing new hybrid variety of seeds.
- (d) All of these.

Ans. (c) It is recognised as a powerful supplement in inventing new hybrid variety of seeds.

22.3 Why are Indian agricultural products not able to compete with those of developed countries? Choose the most appropriate option.

- (a) Because of highly subsidised agriculture in those countries.
- (b) Because of cheaper transport facilities in those countries.
- (c) Because of cheap quality of seeds used in those countries.
- (d) None of these.

Ans. (a) Because of highly subsidised agriculture in those countries.

22.4 The nineteenth century European travellers came to India mainly for procuring which of the following?

- (a) Indigo (b) Indian paintings
(c) Indian spices (d) Gold

Ans. (c) Indian spices

Long Answer Type Questions

23. Describe the contribution of agriculture to the national economy.

- Ans.**
- Agriculture has been backbone of the Indian economy.
 - In 2010-11 about 52 per cent of the total work force was employed by the farm sector which makes more than half of the Indian Population dependant on agriculture for sustenance.
 - The share of agriculture in GDP is declining.
 - Though the GDP growth rate is increasing over the years but the growth rate in agriculture has been decelerating.
 - The employment in agriculture sector is declining.

24. Discuss in detail the steps taken by the government to increase farm yields.

Ans. The steps taken by the government to increase farm yields are as follows:

- A comprehensive programme has been initiated which included both institutional and technical reforms.
- Provision for crop insurance against drought, flood, cyclone, fire and diseases, establishment of grameen banks, cooperative societies and banks for providing loan facilities to the farmers at lower rates of interest.
- Some other schemes like Kissan Credit Card and Personal Accident Insurance Scheme are introduced by Government of India.
- Special weather bulletins and agricultural programmes for farmers were introduced on the radio and television.
- Government announces minimum support price for important crops to check the exploitation of farmers by speculators and middlemen.

25. Explain the conditions of growth and areas of production of cotton in India.

Ans. Cotton grows well in drier parts of the black cotton soil of the Deccan plateau.

It requires

- high temperature
- light rainfall or irrigation
- 210 frost-free days, and
- bright sun-shine for its growth.

26. Read the extract and answer the questions that follow:

During the British period cotton belts of India attracted the British and ultimately cotton was exported to Britain as a raw material for their textile industries. Cotton textile industry in Manchester and Liverpool flourished due to the availability of good quality cotton from India. You have read about the Champaran movement which started in 1917 in Bihar. This was started because farmers of that region were forced to grow indigo on their land because it was necessary for the textile industries which were located in Britain. They were unable to grow food grains to sustain their families. Under globalisation, particularly after 1990, the farmers in India have been exposed to new challenges.

- (a) What is the impact of globalisation on agriculture?
(b) Which popular movement took place in 1917 and why?
(c) What are the challenges faced by the farmers in India?

Ans. (a) The impacts of globalisation on agriculture are as follows:

- Use of modern agricultural techniques
 - Use of High Yielding Variety of Seeds
 - Increase in production
- (b) Champaran movement was started in 1917 in Bihar because in that region farmers were forced to grow indigo on their fields for textile industries that were located in Britain.
- (c) Indian farmers are facing challenges from international competition.
- Reduction in the public investment in agriculture sector.
 - Farmers are still dependent on monsoon to carry on their agriculture.
 - Decreased subsidy on fertilizers lead to increase in the cost of production.

Let's Compete

Multiple-Choice Questions

1. is an equatorial crop.

- (a) Tea (b) Rice
(c) Rubber (d) Wheat

Ans. (c) Rubber

2. After Brazil, India is the second largest producer of

- (a) jute (b) oilseeds
(c) sugarcane (d) coffee

Ans. (c) sugarcane

3. The total cropped area under oilseeds is

- (a) 20 per cent (b) 10 per cent
(c) 12 per cent (d) 15 per cent

Ans. (c) 12 per cent

4. The main focus of the first five year plan was

.....

- (a) minimum support price
(b) land reform
(c) public distribution system
(d) providing subsidies

Ans. (b) land reform

5. The crop which is used for packing material is

- (a) cotton (b) jute
(c) silk (d) rubber

Ans. (b) jute

6. India is the largest producer and consumer of which crop?

- (a) Maize (b) Wheat
(c) Pulses (d) Rice

Ans. (c) Pulses

7. Raising of crops in association with each other at the same time to conserve soil fertility is called

- (a) mixed farming (b) inter-cropping
(c) subsistence farming (d) plantation farming

Ans. (b) inter-cropping

8. In Bihar, the Champaran Movement started in

- (a) 1947 (b) 1960
(c) 1917 (d) 1929

Ans. (c) 1917

9. The name given to 'slash and burn' agriculture in Madhya Pradesh is

(a) *Milpa*

(b) *Bewar*

(c) *Roca*

(d) *Podu*

Ans. (b) *Bewar*

10. In which months are the rabi crops harvested?

- (a) April to June (b) October to December
(c) June to July (d) January to March

Ans. (a) April to June

———— Value-based Questions ———— (Optional)

1. Keeping the interest of farmers in mind, what valuable steps have been taken up by the government?

Ans. Some of the valuable steps are taken by the government are:

- (i) Land Ceiling
- (ii) Consolidation of Land Holding
- (iii) Abolition of Zamindari System
- (iv) Farmers Right
- (v) Credit Reforms

2. Give reasons why it has been imperative to provide educational facilities to our farmers and make them literate.

Ans. Some of the important reasons for providing education facilities to farmers are as follows:

- Farmers will be able to avail the loan facilities provided by the cooperative banks and nationalised banks.
- Village moneylenders will not be able to exploit them anymore.
- They will know about the importance of modern equipment used for cultivation.
- They will use better quality of fertilizers and hybrid seeds which leads to increased productivity.

5

Minerals and Energy Resources

Milestone

Multiple-Choice Questions

1. In which one of the following states of India are the Khetri copper mines located?

- (a) Jharkhand (b) Punjab
(c) Madhya Pradesh (d) Rajasthan

Ans. (d) Rajasthan

2. Which of the following minerals is obtained from bauxite?

- (a) Mica (b) Copper
(c) Iron (d) Aluminium

Ans. (d) Aluminium

3. Which of the following types of coal is best for commercial use?

- (a) Anthracite (b) Lignite
(c) Bituminous (d) None of these

Ans. (c) Bituminous

Fill in the Blanks

4. A mixture of minerals is called **rock**.
5. **Mineral** is formed by decomposition of rocks, leaving a residual mass of weathered material.
6. Jharia is famous for **coal mines**.

Very Short Answer Type Questions

7. Give an example of rock which consists of a single mineral.

Ans. Limestone

8. Mention any two uses of manganese.

Ans. Two uses of manganese are as follows:

- (i) It is mainly used in the manufacturing of steel and ferro-manganese alloy.
(ii) It is also used in manufacturing bleaching powder, insecticides and paints.

9. What are the smaller occurrences like crevices, faults or joints in the rock called?

Ans. These smaller occurrences like crevices, faults or

joints in the rock called veins.

10. What is geothermal energy?

Ans. Geothermal energy refers to the heat and electricity produced by using the heat from the interior of the earth.

11. Where is geothermal energy generated in India?

Ans. The experimental projects set-up in India are located at:

- (i) Manikaran in Himachal Pradesh.
(ii) Pugga Valley in Ladakh.

Short Answer Type Questions

12. 'India has varied mineral resources'. Explain with examples.

Ans. India is rich in mineral resources. The peninsular rocks has rich deposits of coal, metallic minerals, mica and many other non-metallic minerals. The sedimentary rocks of the western and eastern regions of the peninsular region in Gujarat and Assam have most of the petroleum deposits. The northern part of the India is devoid of economic minerals. Rajasthan has reserves of many non-ferrous minerals.

13. Differentiate between thermal power and hydel power.

Ans.

Thermal Power	Hydel Power
<ul style="list-style-type: none">Thermal energy is generated by using coal, natural gas and petroleum.	<ul style="list-style-type: none">Hydel power is generated by fast flowing water.
<ul style="list-style-type: none">Thermal energy use non-renewable resources for generating electricity.	<ul style="list-style-type: none">Hydel power stations use renewable resources for generating electricity.

14. Give reasons why it is necessary to conserve mineral resources.

Ans. The geological process of mineral formation is very slow and the rate of replenishment is very small as mineral resources are non-renewable. A concerted effort has to be made in order to use our mineral resources in a planned and sustainable manner. Recycling of metals using scrap metals and other substitutes is done to conserve our mineral resources for future.

15. Identify and explain three conventional sources of energy.

Ans. Coal, petroleum and natural gas are three conventional sources of energy.

Coal:

The most abundantly occurring fossil fuel in India is coal. The compression of plant material over millions of years produces coal. Depending on the degrees of compression and the depth and time of burial, coal is of different types: Peat, Lignite, Bituminous and Anthracite.

Petroleum:

Petroleum is the second major energy source in India after coal. The oil is trapped in the crest of the upfold in the regions of folding, anticlines or domes. It is also found in the fault traps between the porous and non-porous rocks. Petroleum refineries are considered as a 'nodal industry' for synthetic textile, fertiliser and various chemical industries.

Natural gas:

It is an important clean energy source and it is used as an industrial raw material in the petrochemical industry. It is the fuel of the century because it is environment-friendly owing to its low carbon dioxide emission capacity.

Long Answer Type Questions

16. Identify the most abundantly found fossil fuel in India. Name the three major varieties of it. Explain one feature of each variety.

Ans. Coal is the most abundantly found fossil fuel in India.

The three major varieties of coal are:

- (i) Lignite: It is a low grade brown coal, which is soft with high moisture content. Carbon contents vary from 40 to 60 per cent. Its value has increased due to its use in thermal power plants.
- (ii) Bituminous: It is high grade coal. It is hard and compact variety of coal. Coal is formed at great depths when subjected to increased temperature. The moisture content is less.
- (iii) Anthracite: It is the highest grade hard coal. It

has the highest heating capacity. It burns for a long time and leaves little or no ash.

17. Highlight the importance of petroleum. Explain the occurrence of petroleum in India.

Ans. Petroleum is the second major energy source in India after coal. The oil is trapped in the crest of the upfold in region of folding, anticlines or domes. It is also found in the fault traps between the porous and non-porous rocks. The oil bearing layer is a porous limestone or sandstone, while the rising or sinking of the oil is prevented by the intervening non-porous layer.

Petroleum acts as a fuel for heat and lighting, lubricants for machinery and raw materials for a number of manufacturing industries. Petroleum refineries are considered as a 'nodal industry' for synthetic textile, fertiliser and various chemical industries.

About 63 per cent of India's petroleum production comes from Mumbai High, 18 per cent from Gujarat and 16 per cent from Assam.

18. Why it is important to conserve minerals? Highlight any three measures to conserve them.

Ans. We know that minerals are non-renewable resources. Rich mineral deposits are extremely valuable but short lived. Continued extraction of ores leads to increasing cost and decrease the quality. We need to make some effort to save our resources for future generation.

Measures to conserve mineral resources:

- Recycling of the metals, using scrap metals for the conservation of resources.
- Improved technologies need to be constantly evolved to allow use of low grade ores at low costs.
- We can do our bit by using public transport, switching off electricity when not in use.
- We can use power-saving devices and use non-conventional sources of energy.

————— **Self-Assessment** —————

Multiple-Choice Questions

1. The largest wind farm cluster in India is located in
- | | |
|----------------|-------------------|
| (a) Kerala | (b) West Bengal |
| (c) Tamil Nadu | (d) Uttar Pradesh |

Ans. (c) Tamil Nadu

2. Which of the following places is known for lignite deposits?

- | | |
|------------|---------------|
| (a) Bokaro | (b) Neyveli |
| (c) Khetri | (d) Bailadila |

Ans. (b) Neyveli

3. Which is the finest quality of iron ore?
- (a) Limonite (b) Siderite
(c) Magnetite (d) Haematite

Ans. (c) Magnetite

Assertion-Reason Type Questions

For question numbers 4 to 7, two statements are given as Assertion (A) and Reason (R). Read the statements and choose the correct option from (a), (b), (c) and (d) as given below.

- (a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.

4. **Assertion (A):** Minerals are usually found in ores.

Reason (R): The term ore is used to describe an accumulation of any mineral mixed with other elements.

Ans. (a) Both A and R are true and R is the correct explanation of A.

5. **Assertion (A):** Iron ore is the basic mineral and the backbone of industrial development.

Reason (R): It has excellent magnetic qualities, especially valuable in the electrical industry.

Ans. (b) Both A and R are true but R is not the correct explanation of A. Iron ore is the basic mineral and it is abundantly found in India, it is the backbone industrial development.

6. **Assertion (A):** A concerted effort has to be made in order to use our mineral resources in a planned and sustainable manner.

Reason (R): Improved technologies need to be constantly evolved to allow use of high grade ores at low costs.

Ans. (c) A is correct but R is wrong because improved technologies need to be constantly evolved to allow use of low grade ores at low costs.

7. **Assertion (A):** The largest wind farm cluster is located in West Bengal.

Reason (R): India has great potential of wind power.

Ans. (d) A is wrong but R is correct because the largest wind farm cluster is located in Tamil Nadu.

Match the Following

8. Match the following items given in Column A with those in Column B. Choose the correct answer

from the options given below:

Column A (Hydroelectric Projects)	Column B (Rivers)
A Solar Energy	1 Himachal Pradesh
B Wind Energy	2 Rajasthan
C Geothermal Energy	3 Gujarat
D Tidal Energy	4 Tamil Nadu

Codes:

	A	B	C	D
(a)	1	2	3	4
(b)	2	4	1	3
(c)	4	1	3	2
(d)	3	1	4	2

Ans. (d)

Find the Correct Sequence

9. Choose the correct sequence according to their quality of coal from high to low grade:

- (a) Peat – Bituminous – Lignite – Anthracite
(b) Anthracite – Peat – Lignite – Bituminous
(c) Anthracite – Bituminous – Lignite – Peat
(d) Bituminous – Lignite – Anthracite – Peat

Ans. (c)

Find the Incorrect Option

10. (a) Hydroelectricity is a non-renewable resource.
(b) Thermal electricity is generated by using coal, petroleum and natural gas.
(c) Nuclear energy is obtained by altering the structure of atoms.
(d) The steam in geothermal energy is used to drive turbines and generate electricity.

Ans. (a)

Correct the Statement and Rewrite

11. Lignite is a high grade brown coal which is the hardest with no moisture content. It is mainly found in Nayveli in Andhra Pradesh.

Ans. Lignite is a low grade brown coal which is soft with moisture content. It is mainly found in Nayveli in Tamil Nadu.

Fill in the Blanks

12. Monazite sands of Kerala is rich in thorium.
13. Limestone is a raw material used in cement industry.
14. Anthracite is the best variety of coal.
15. The largest manganese producing state of India is Odisha.
16. The Balaghat mines are located in Madhya Pradesh.

Very Short Answer Type Questions

17. Where are natural gases reserves found in India?
Ans. Natural gas reserves are found in Krishna – Godavari basin, Mumbai high, Andaman and Nicobar islands.
18. Name the industries for which petroleum refineries act as a nodal point.
Ans. Petroleum refineries act as a nodal industry for synthetic textile, fertilizer and numerous chemical industries.
19. What is an ore?
Ans. The term ore is used to describe an accumulation of any mineral mixed with other elements.

Short Answer Type Questions

20. Explain the use of petroleum as an energy resource and as a raw material.
Ans. Petroleum is the major energy resource after coal.
- It provides heat and light, lubrication for machinery and raw materials for industries.
 - Petroleum refineries act as the nodal industry for synthetic textiles, fertilisers and chemical industries.
21. Differentiate between ferrous and non-ferrous minerals with examples.

Ans.

Ferrous minerals	Non-Ferrous minerals
i. Ferrous minerals have iron content, such as iron ore and manganese.	i. Non-ferrous minerals do not contain iron content such as copper, bauxite, zinc, lead and gold.
ii. Ferrous minerals provide strong base for the development of metallurgical industries.	ii. Non-Ferrous minerals plays vital role in a metallurgical, engineering and electrical industries.

22. Why is there an absence of minerals in the northern plains?
Ans. India is rich in mineral resources, but these resources are unevenly distributed. The northern plains of India have thick layer of alluvium deposits by the rivers. This region is very poor in mineral resources. These variations exist largely because of the differences in the geological structure, processes and time involved in the formation of minerals.

Paragraph Based Questions

23. Read the sources given below and answer the questions that follow:

Source A – Conservation of Energy Resources

Promotion of energy conservation and increased use of renewable energy sources are the twin planks of sustainable energy. India is presently one of the least energy efficient countries in the world. We have to adopt a cautious approach for the judicious use of our limited energy resources.

- (a) What steps can we take to conserve energy in our daily lives?

Source B – Electricity

Electricity has such a wide range of applications in today's world that, its per capita consumption is considered as an index of development. Electricity is generated mainly in two ways.

- (b) What are the two ways of generating electricity?

Source C – Energy Resources

Energy can be generated from fuel minerals like coal, petroleum, natural gas, uranium and electricity. Energy resources can be classified as conventional and non-conventional sources.

- (c) What do you understand by the non-conventional energy resources?

Ans. (a) We can conserve energy by following steps:

- By using power-saving devices.
 - By using public transport systems.
- (b) The two ways of generating electricity are as follows:
- By running water which drives hydro turbines to generate hydro electricity.
 - By burn fuels to drive turbines to produce thermal power.
- (c) The non-conventional energy resources are those which are renewable which includes solar energy, wind energy, tidal energy, biogas, etc.

Case Based Questions

24. Iron ore is the basic mineral and the backbone of industrial development. India is endowed with fairly abundant resources of iron ore. India is rich in good quality iron ores. Magnetite is the finest iron ore with a very high content of iron up to 70 per cent. It has excellent magnetic qualities, especially valuable in the electrical industry. Hematite ore is the most important industrial iron ore in terms of the quantity used, but has a slightly lower iron content than magnetite (50–60 per cent). The major iron ore belts in India are:
- Odisha–Jharkhand belt: In Odisha high grade hematite ore is found in Badampahar mines in the Mayurbhanj and Kendujhar districts. In the adjoining Singbhum district of Jharkhand

haematite iron ore is mined in Gua and Noamundi.

Durg–Bastar–Chandrapur belt lies in Chhattisgarh and Maharashtra. Very high grade hematites are found in the famous Bailadila range of hills in the Bastar district of Chhattisgarh. Iron ore from these mines is exported to Japan and South Korea via Vishakhapatnam port.

Ballari–Chitradurga–Chikkamagaluru–Tumakuru belt in Karnataka has large reserves of iron ore. Kudremukh deposits are known to be one of the largest in the world.

Maharashtra–Goa belt includes the state of Goa and Ratnagiri district of Maharashtra. Though, the ores are not of very high quality, yet they are efficiently exploited. Iron ore is exported through Marmagao port.

24.1 In which of the following place is the high grade hematite ore found?

- (a) Bastar (b) Jharia
(c) Mangalore (d) Vishakhapatnam

Ans. (a) Bastar

24.2 Which of the following places has the largest reserves of iron ore in the world? Choose the most appropriate option.

- (a) Marmagao (b) Mayurbhanj
(c) Singbhum (d) Kudremukh

Ans. (d) Kudremukh

24.3 Which belt is well known and famous for very high grade hematite ore in India? Choose the most appropriate option.

- (a) Odisha–Jharkhand belt
(b) Maharashtra–Goa belt
(c) Durg–Bastar–Chandrapur belt
(d) Ballari–Chitradurga–Chikkamagaluru–Tumakuru belt

Ans. (c) Durg–Bastar–Chandrapur belt

24.4 In which of the following industries is magnetite highly used?

- (a) Electrical industry (b) Steel industry
(c) Software industry (d) None of these

Ans. (a) Electrical industry

25. Mica is a mineral made up of a series of plates or leaves. It splits easily into thin sheets. These sheets can be so thin that a thousand can be layered into a mica sheet of a few centimeters high. Mica can be clear, black, green, red, yellow or brown. Due to its excellent di-electric strength, low power loss factor, insulating properties and resistance to high voltage, mica is one of the most indispensable minerals used in electric and

electronic industries. Mica deposits are found in the northern edge of the Chota Nagpur plateau. Koderma Gaya–Hazaribagh belt of Jharkhand is the leading producer. In Rajasthan, the major mica producing area is around Ajmer. Nellore mica belt of Andhra Pradesh is also an important producer in the country. Limestone is found in association with rocks composed of calcium carbonates or calcium and magnesium carbonates. It is found in sedimentary rocks of most geological formations. Limestone is the basic raw material for the cement industry and essential for smelting iron ore in the blast furnace.

25.1 Which state among the following is the leading producer of mica? Choose the most appropriate option.

- (a) Rajasthan (b) Jharkhand
(c) Bihar (d) Karnataka

Ans. (b) Jharkhand

25.2 is essential as a basic raw material for cement industry and smelting iron ore in the blast furnace.

- (a) Mica (b) Iron
(c) Coal (d) Limestone

Ans. (d) Limestone

25.3 Why is mica one of the most indispensable minerals used in electric and electronic industries? Choose the correct option/s.

- (a) It has di-electric strength.
(b) It has low power loss factor.
(c) It has insulating properties and resistance to high voltage.
(d) All of these.

Ans. (d) All of these.

25.4 Which place in Andhra Pradesh is the largest producer of mica?

- (a) Nellore (b) Telangana
(c) Kudremukh (d) Mayurbhanj

Ans. (a) Nellore

Long Answer Type Questions

26. How is coal formed? Explain in detail the qualities of the four different types of coal in India.

Ans. Coal is formed due to the compression of plant material over millions of years. Coal is found in variety of forms depending on the degrees of compression and the depth and time of burial. Following are the four different types of coal in India.

- Peat: It is the first stage of coal formation. Decaying of plants in swamps produce peat. It has low carbon and high moisture contents

with low heating capacity.

- Lignite: It is low grade brown coal, soft but compact than peat. It has high moisture content. Its value has increased due to its use in thermal power plants.
- Bituminous: It is high grade, hard and compact variety of coal. It is most popular coal in commercial use. Moisture content is less in bituminous coal. It is widely used in iron and steel industries.
- Anthracite: It is the hardest and the best quality of coal with the highest heating capacity.

27. There is a pressing need to use renewable energy resources. Justify the statement with suitable arguments.

Ans. Since energy is the basic requirement, its conservation has become very important. At present, India is the least energy efficient country of the world.

We have to save energy by using non-conventional energy resources, using power saving devices and switching off electricity when not in use.

Increasing use of fossil fuels causes the environment problems.

Use of oil and gas by the large number of population has raised uncertainty about the security of resources for future generation.

The growing consumption of energy has resulted in the excessive of fossil fuels which are non-renewable.

28. Explain the differences between conventional and non-conventional sources of energy.

Ans. Energy can be generated from fuel minerals like coal, petroleum, natural gas, uranium and electricity. Energy resources can be classified into conventional and non-conventional sources.

Conventional sources include: coal, petroleum, natural gas and electricity. Conventional sources are non-renewable sources of energy.

Non-Conventional sources include: solar energy, wind energy, tidal energy, geothermal energy, nuclear energy, biogas, etc. The non-conventional sources of energy are abundant, renewable, pollution free and eco-friendly.

29. Read the extract and answer the questions that follow:

Minerals are usually found in "ores". The term ore is used to describe an accumulation of any mineral mixed with other elements. The mineral content of the ore must be in sufficient concentration to make its extraction commercially viable. The type of formation or structure in which they are found determines the relative ease with which mineral ores may be mined. This also

determines the cost of extraction. It is, therefore, important for us to understand the main types of formations in which minerals occur.

- (a) What are minerals?
- (b) What do you understand by the term 'ores'?
- (c) What are the different forms of minerals?

Ans. (a) Minerals are naturally occurring solid substances with a definable internal structure.
(b) Ores are the accumulation of minerals that are mixed with other elements. They help in the extraction of minerals. Minerals are found in ores.
(c) Minerals are form in different types in different areas. In igneous and metamorphic rocks minerals occur in cracks, faults and joints. In sedimentary rocks minerals occur in beds and layers. Some minerals occur as alluvial deposits, decomposition of surface rocks. They are also found in oceans.

Let's Compete

Multiple-Choice Questions

1. The oldest oil producing state of India is

- (a) Haryana
- (b) Assam
- (c) Maharashtra
- (d) None of these

Ans. (b) Assam

2. Limestone is found in which rocks?

- (a) Sedimentary
- (b) Metamorphic
- (c) Igneous
- (d) None of these

Ans. (a) Sedimentary

3. Which of the following is formed by decomposition of organic matter?

- (a) Nuclear Energy
- (b) Wind Energy
- (c) Solar Energy
- (d) Biogas

Ans. (d) Biogas

4. The major mica producing region in Rajasthan is

- (a) Ajmer
- (b) Jaipur
- (c) Kota
- (d) Jaisalmer

Ans. (a) Ajmer

5. Where are the Kudremukh mines located?

- (a) Maharashtra-Goa belt
- (b) Odisha-Jharkhand belt
- (c) Durg-Bastar-Chandrapur belt
- (d) Ballari-Chitradurga-Chikkamagaluru-Tumakuru belt

Ans. (d) Ballari-Chitradurga-Chikkamagaluru-Tumakuru belt

6. Which of the following minerals is non-ferrous?

- (a) Copper
- (b) Manganese
- (c) Cobalt
- (d) Iron ore

Ans. (c) Cobalt

7. What per cent of India's petroleum production is obtained from Mumbai High?

- (a) 61 (b) 62
(c) 63 (d) 60

Ans. (c) 63

8. Which state is the largest producer of manganese?

- (a) Karnataka (b) Odisha
(c) Goa (d) Maharashtra

Ans. (b) Odisha

9. Which type of energy is obtained by altering the structure of atoms?

- (a) Wind energy (b) Nuclear energy
(c) Tidal energy (d) Solar energy

Ans. (b) Nuclear energy

10. Low quality brown coal is called

- (a) anthracite (b) peat
(c) lignite (d) bituminous

Ans. (c) lignite

Value-based Questions

(Optional)

1. 'Our energy resources are limited.' How can we adopt a cautious approach for the judicious

use of our limited resources? Explain with examples.

Ans. We should start using renewable resources like wind energy, solar energy, hydroelectricity, etc. The present government of India has initiated a bold step in the use of solar energy by establishing ISA (international solar alliance) whose headquarters are located in Gurugram.

2. Explain how the economic development of a nation can be accelerated by the presence of valuable minerals.

Ans. The demand for energy in the domestic sector, agriculture sector, industrial sector, transport sector is increasing at a rapid rate.

The economic development of a nation can be accelerated by the presence of valuable minerals. For example, iron and steel industry will flourish which will lead to the growth of other sectors like construction and infrastructure, automobile industry, etc.

If minerals are available within the nation we will not have to import them from other countries at an exorbitant price which will save the valuable foreign exchange reserves.

6

Manufacturing Industries

Milestone

Multiple-Choice Questions

1. In which one of the following industries is limestone used?
- (a) Cement (b) Automobile
(c) Plastic (d) Aluminium

Ans. (a) Cement

2. Which of the following industries use bauxite as a raw material?
- (a) Steel (b) Paper
(c) Electronics (d) Aluminium smelting

Ans. (d) Aluminium smelting

3. Among the following industries which manufactures computers, telephones, etc.?
- (a) Information technology (b) Steel
(c) Aluminium smelting (d) Electronics

Ans. (d) Electronics

Fill in the Blanks

4. The first successful textile mill was established in **Mumbai in 1854**.
5. The number of primary integrated steel plants in India is **12**.
6. India exports yarn to **Japan**.

Very Short Answer Type Questions

7. What is Salem famous for? In which state is Salem located?
- Ans.** Salem is famous for textile industries. It is located in Tamil Nadu.
8. When and where was the first jute mill was set-up?
- Ans.** The first jute mill was set up near Kolkata in 1855 at Rishra.
9. Name two gases causing air pollution.
- Ans.** Carbon monoxide and sulphur dioxide are two gases causing air pollution.

10. In which state is Bhilai Steel Plant located?

Ans. Bhilai steel plant is located in Chhattisgarh.

11. Name the city which is called the 'electronic capital of India'.

Ans. Bengaluru is called as the 'electronic capital of India'.

12. From which mineral is aluminium obtained?

Ans. Aluminium is obtained from bauxite.

13. Which public sector iron and steel plant is located near a port?

Ans. Vishakhapatnam public sector iron and steel plant is located near a port.

14. Name the states where the majority of the sugar mills are located.

Ans. Uttar Pradesh and Bihar have the majority of sugar mills.

Short Answer Type Questions

15. Explain the role of agro-based industries in the Indian economy.

Ans. The industries which use the agricultural products as their basic raw material are called agro-based industries. Such industries include sugar, textiles, vegetable oil, food processing, etc. These are consumer goods industries. Agro-based industries play an important role in overall development of the economy. It helps in solving the problem of poverty, unemployment and inequality.

16. Mention three locational factors that have led to the setting up of the cotton textile industry of Mumbai and Ahmedabad.

Ans. Three locational factors that have led to the setting up of the cotton textile industry of Mumbai and Ahmedabad are:

- (i) Availability of raw cotton.
(ii) Availability of transport industry accessible port facilities.

(iii) The moist climate is well-suited to the cotton industry market.

17. Differentiate between an integrated steel plant and a mini steel plant.

Ans.

Integrated steel plant	Mini steel plant
<ul style="list-style-type: none"> Integrated steel plants are large. 	<ul style="list-style-type: none"> Mini steel plants are smaller.
<ul style="list-style-type: none"> Everything is handled in one complex – from putting together raw material to steel making, rolling and shaping. 	<ul style="list-style-type: none"> They have electric furnaces. They use steel scrap and sponge iron. They produce mild and alloy steel of given specifications.

18. Highlight any three characteristics of the chemical industry in India.

Ans. Three characteristics of the chemical industry in India are:

- These industries are diverse and fast growing, contributes 3 per cent of the GDP. It is the third largest in Asia. In terms of size, it occupies twelfth place in the world.
- It comprises both large and small scale manufacturing units.
- Rapid growth has been recorded in both inorganic and organic sectors.

Long Answer Type Questions

19. Highlight the role of IT industry in modern India. What are software technology parks and where in India are they located?

Ans. Information technology plays a very important role in modern India. From telephone to pagers to computers, this industry covers a wide range of products.

- IT industry has achieved a major breakthrough due to the rapid growth of technically competent manpower.
- This industry has given a boost to employment generation. Thirty per cent of the people employed in this sector are women.
- Information technology industry has been a major foreign exchange earner because of its fast growing Business Processes Outsourcing (BPO) sector.

Software technology parks are clusters of software export units in which IT companies develop and export software. By 2010–11, software Technology Parks have come up across 46 locations. Some major Software Parks are located in Bengaluru, Noida, Mumbai, Chennai, Hyderabad and Pune.

20. Why does the north-eastern part of the Peninsular Plateau region have the maximum concentration of iron and steel industries?

Ans. Mostly all the iron and steel industries are concentrated in the eastern part of Peninsular Plateau.

- Due to the low cost of iron ore.
- High grade raw materials in proximity.
- Cheap labour and immense potential in the domestic market.
- Water is abundantly available.
- Transport facility in this region is well connected which help in the movement of raw material and finished goods to the market area.
- Well developed port facilities are also there in this region which helps in export and import of the finished goods.

21. Give reasons why most of the jute mills of West Bengal are located along the banks of the river Hugli.

Ans. The most of the jute mills of West Bengal are located along the bank of the river Hugli because of following reasons:

- Closeness of the jute producing areas.
- Inexpensive water transport, good network of railways, roadways and waterways to facilitate movement of raw material.
- Abundant water for processing raw jute.
- Efficient and cheap labour is easily available from adjoining states like Bihar, Odisha and Uttar Pradesh.
- Banking, insurance and port facilities are there for export of jute goods.

22. Suggest any three steps to minimise the environmental degradation caused by industrial development in India.

Ans. To minimise the environmental degradation caused by industrial development we have to:

- Minimise the use of water, practice rainwater harvesting, treating hot water and effluents before releasing them in rivers and ponds.
- Particulate matters in air can be reduced by fitting smoke stacks in factories. Smoke can be reduced by using oil or gas instead of coal in factories.
- Industrial effluents can be treated in three phases:
 - (i) Primary treatment: This is done by mechanical means and involves screening, grinding, flocculation and sedimentation.
 - (ii) Secondary treatment: This is done by biological process.

- (iii) Tertiary treatment: This is done by biological, chemical and physical processes. Wastewater is recycled.

Self-Assessment

Multiple-Choice Questions

1. In which one of the following states is Bhilai steel plant located?

- (a) West Bengal (b) Chhattisgarh
(c) Jharkhand (d) Bihar

Ans. (b) Chhattisgarh

2. Name the country having the largest installed capacity of spindles in the world.

- (a) USA (b) China
(c) Britain (d) India

Ans. (b) China

3. Which of the following agencies market steel for public sector plants?

- (a) MNCC (b) HAIL
(c) SAIL (d) TATA Steel

Ans. (c) SAIL

Assertion-Reason Type Questions

For question numbers 4 to 7, two statements are given as Assertion (A) and Reason (R).

Read the statements and choose the correct option from (a), (b), (c) and (d) as given below.

- (a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.

4. **Assertion (A):** India's prosperity lies in increasing and diversifying its manufacturing industries as quickly as possible.

Reason (R): Countries that transform their raw materials into a wide variety of finished goods of higher value are prosperous.

Ans. (a) Both A and R are true and R is the correct explanation of A because the transformation of raw materials into a wide variety of goods of higher value are prosperous and India's prosperity lies in the same.

5. **Assertion (A):** India is the largest producer of raw jute and jute goods and stands at second place as an exporter after Bangladesh.

Reason (R): Most of the mills are located in Odisha.

Ans. (c) Assertion (A) is correct but R is wrong because, most of the mills are located in West Bengal.

6. **Assertion (A):** Iron and steel is a heavy industry.

Reason (R): It is considered a heavy industry because all the raw materials as well as finished goods are heavy and bulky entailing heavy transportation costs.

Ans. (a) Both A and R are true and R is the correct explanation of A, because R clearly explains the reason for Iron and steel industry is a heavy industry.

7. **Assertion (A):** The first cement plant was set up in Chennai in 1884.

Reason (R): Cement is essential for construction activity such as building houses, factories, bridges, roads, airports, dams and for other commercial establishments.

Ans. (d) Assertion is wrong but R is correct because, the first cement plant was set up in Chennai in 1904.

Match the Following

8. Match the following items given in Column A with those in Column B. Choose the correct answer from the options given below:

Column A (Steel Plants)	Column B (States)
A Tata Steel Plant	1 Chhattisgarh
B Bhilai Steel Plant	2 Tamil Nadu
C Salem Steel Plant	3 West Bengal
D Durgapur Steel Plant	4 Jharkhand

Codes:

- | | | | |
|-------|---|---|---|
| A | B | C | D |
| (a) 1 | 2 | 3 | 4 |
| (b) 2 | 3 | 4 | 1 |
| (c) 4 | 1 | 2 | 3 |
| (d) 3 | 1 | 4 | 2 |

Ans. (c) 4 1 2 3

Find the Correct Sequence

9. (1) Transport of raw material
(2) Iron ore is melted
(3) Rolling, pressing, casting and forging
(4) Purified by melting and oxidizing

Codes:

- | | | | |
|-------|---|---|---|
| (a) 1 | 2 | 3 | 4 |
| (b) 2 | 3 | 4 | 1 |
| (c) 3 | 4 | 1 | 2 |
| (d) 4 | 1 | 2 | 3 |

Ans. (a) 1 2 3 4

Correct the Statement and Rewrite

10. In the 1960s China and India produced almost the same quantity of steel. Today, China is the largest

producer of steel. India is the world's largest consumer of steel.

Ans. In the 1950s China and India produced almost the same quantity of steel. Today, China is the largest producer of steel. China is also the world's largest consumer of steel.

Fill in the Blanks

- 11.** **Aluminium** industry uses bauxite as a raw material.
- 12.** Air pollution is caused by high proportion of undesirable gases such as **sulphur dioxide** and carbon **monoxide**.
- 13.** **NTPC** is a major power providing corporation in India.
- 14.** Chemical industry in India contributes approximately **three** per cent of the GDP.
- 15.** The first cement plant was set up in Chennai in **1904**.

Very Short Answer Type Questions

- 16.** Which country gives stiff competition to India with regard to jute industry?

Ans. Bangladesh gives stiff competition to India with regard to jute industry.

- 17.** What is aluminium smelting?

Ans. Aluminium smelting is the process of extracting aluminium from its oxide.

- 18.** Name one industry belonging to the joint sector.

Ans. Iron and Steel industry.

Short Answer Type Questions

- 19.** What is a consumer industry? Explain with the help of examples.

Ans. Consumer industries are those industries which produce goods for direct use by consumers. For example, sugar, toothpaste, paper, sewing machines etc.

- 20.** Why are most of the iron and steel plants set up in the public sector?

Ans. Some of the important reasons for most of the iron and steel plants set up in the public sector are as follows:

- Setting up of an iron and steel plant requires huge capital and large investment which may not be possible for the private sector.
- This industry requires continuous upgradation in the field of research and development due to fast technical advancement.
- Basic infrastructural facilities like efficient and modern transportation and communication, abundant fuel and power supply, etc. are available in the public sector.

- 21.** How do industries pollute water?

Ans.

- Industries pollute water by discharging organic and inorganic wastes into the rivers.
- Contamination of groundwater due to the seepage of rainwater into the soil.
- Chemical industries, refineries, mills and electroplating industries are responsible for contamination of water with dyes, acids, etc.

Paragraph Based Questions

- 22.** Read the sources given below and answer the questions that follow:

Source A – Aluminium Smelting

Aluminium smelting is the second most important metallurgical industry in India. It is light, resistant to corrosion, a good conductor of heat, malleable and becomes strong when it is mixed with other metals. It is used to manufacture aircraft, utensils and wires.

- (a) Write two characteristics of Aluminium.

Source B – Iron and Steel Industry

In 2016 with 95.6 million tonnes of crude steel production, India ranked 3rd among the world crude steel producers. It is the largest producer of sponge iron. In 2016 per capita consumption of steel in the country was only around 63 kg per annum against the world average of 208 kg.

- (b) What do you understand by crude steel?

Source C – Cement Industry

Cement is essential for construction activity such as building houses, factories, bridges, roads, airports, dams and for other commercial establishments. This industry requires bulky and heavy raw materials like limestone, silica and gypsum.

- (c) Where was the first cement plant set up?

Ans. (a) The two characteristics of aluminium are as follows:

- It is a good conductor of heat.
- It is used as a substitute of steel, copper, zinc and lead in various industries.

- (b) The steel that is not yet processed and in its natural or raw state is called crude steel.

- (c) The first cement plant was set up in Chennai in 1904.

Case Based Questions

- 23.** In ancient India, cotton textiles were produced with hand spinning and handloom weaving techniques. After the 18th century, power-looms came into use. Our traditional industries suffered a setback during the colonial period because they

could not compete with the mill-made cloth from England. In the early years, the cotton textile industry was concentrated in the cotton growing belt of Maharashtra and Gujarat. Availability of raw cotton, market, transport including accessible port facilities, labour, moist climate, etc. contributed towards its localisation. This industry has close links with agriculture and provides a living to farmers, cotton boll pluckers and workers engaged in ginning, spinning, weaving, dyeing, designing, packaging, tailoring and sewing. The industry by creating demands supports many other industries, such as, chemicals and dyes, packaging materials and engineering works. While spinning continues to be centralised in Maharashtra, Gujarat and Tamil Nadu, weaving is highly decentralised to provide scope for incorporating traditional skills and designs of weaving in cotton, silk, zari, embroidery, etc. India has world class production in spinning, but weaving supplies low quality of fabric as it cannot use much of the high quality yarn produced in the country. Weaving is done by handloom, powerloom and in mills. The handspun khadi provides large scale employment to weavers in their homes as a cottage industry.

23.1 In which of the following belts was the cotton textile industry concentrated?

- (a) Gujarat–Rajasthan
- (b) Maharashtra–Gujarat
- (c) Maharashtra–Karnataka
- (d) Rajasthan–Maharashtra

Ans. (b) Maharashtra–Gujarat

23.2 The provides large scale employment to weavers in their homes as a cottage industry.

- (a) cotton
- (b) silk
- (c) handcraft
- (d) handspun khadi

Ans. (d) handspun khadi

23.3 Why was the cotton textile industry set in the Gujarat–Maharashtra belt?

- (a) Presence of black soil in the area
- (b) Availability of raw cotton
- (c) Moist and humid weather
- (d) All of these

Ans. (d) All of these

23.4 Weaving is done by and and in mills.

- (a) powerloom; handloom
- (b) spinning jenny; handloom
- (c) powerloom; spinning jenny
- (d) manpower; steam engine

Ans. (a) powerloom; handloom

24. India stands second as a world producer of sugar but occupies the first place in the production of *gur* and *khandsari*. The raw material used in this industry is bulky, and in haulage its sucrose content reduces. The mills are located in Uttar Pradesh, Bihar, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Gujarat, Punjab, Haryana and Madhya Pradesh. Sixty per cent mills are in Uttar Pradesh and Bihar. This industry is seasonal in nature so it is ideally suited to the cooperative sector. In recent years, there is a tendency for the mills to shift and concentrate in the southern and western states, especially in Maharashtra. This is because the cane produced here has a higher sucrose content. The cooler climate also ensures a longer crushing season. Moreover, the cooperatives are more successful in these states. Major challenges include the seasonal nature of the industry, old and inefficient methods of production, transport delay in reaching cane to factories and the need to maximise the use of baggase.

24.1 India stands first in the production of Choose the most appropriate option.

- (a) sugar.
- (b) *khandsari*.
- (c) jute.
- (d) cotton.

Ans. (b) *khandsari*.

24.2 Which of the following states have 60 per cent sugarcane mills?

- (a) Bihar, Uttar Pradesh
- (b) Karnataka, Kerala
- (c) Uttar Pradesh, Madhya Pradesh
- (d) Bihar, Chhatisgarh

Ans. (a) Bihar, Uttar Pradesh

24.3 What are the major challenges for sugarcane industry to survive and make profit?

- (a) Old and inefficient methods of production
- (b) Transport delay in providing cane to factories
- (c) Both (a) and (b)
- (d) None of these

Ans. (c) Both (a) and (b)

24.4 The cane produced in which state has higher sucrose content? Choose the most appropriate option.

- (a) Maharashtra
- (b) Gujarat
- (c) Kerala
- (d) Uttar Pradesh

Ans. (a) Maharashtra

Long Answer Type Questions

25. Mention the factors responsible for decentralisation of cotton textile industry in India.

Ans. Following are the factors responsible for decentralisation of cotton textile industry in India:

- Cotton is cultivated on the large area in India, which in turn ensures the easy availability of raw material.
- Cheap labour is available for working in this industry.
- Transportation is another factor behind this as the development of transportation source could be possible.
- For spreading the cotton weaving across the country.
- In order to widen the market in the country this would help the economy of the country to grow.

26. Explain how because of industries our environment gets polluted.

Ans. • Our environment is polluted by the smoke that is emitted by chemical factories, smelting plants, refineries, burning of fossil fuel. Leakage of toxic gases has long term effects on health.

- Pollution caused by organic and inorganic industrial wastes that is discharged into the rivers.
- Discharge of dyes, detergents, acids into the water bodies.
- Dumping of waste like harmful chemicals, industrial effluents, packaging, salts and garbage results in soil pollution.
- Ground water gets contaminated due to the seepage of rainwater into soil carrying pollutants.

27. Give reasons why the sugar mills are concentrated in sugarcane producing areas. Highlight any three problems faced by the sugar industry in India.

Ans. • Sugar mills are concentrated in sugarcane producing area because of the raw material. Sugarcane is the main raw material for sugar industry which is heavy, low value and perishable commodity.

- Sugarcane cannot be stored and transported for long time because the juice in the sugar cane dries up early.
- Sugar mills can only be set up about 15 km away from the site of existing sugar mills.

The three problems faced by the sugar industry are:

- (i) Seasonal nature of the industry.
- (ii) Old and inefficient methods of production.
- (iii) transport delay in reaching cane to factories and the need to maximise the use of baggasse are some major challenges before this industry.

28. Read the extract and answer the questions that follow:

Water pollution is caused by organic and inorganic industrial wastes and effluents discharged into rivers. The main culprits in this regard are paper, pulp, chemical, textile and dyeing, petroleum refineries, tanneries and electroplating industries that let out dyes, detergents, acids, salts and heavy metals like lead and mercury pesticides, fertilisers, synthetic chemicals with carbon, plastics and rubber, etc. into the water bodies. Fly ash, phospo-gypsum and iron and steel slags are the major solid wastes in India.

Thermal pollution of water occurs when hot water from factories and thermal plants is drained into rivers and ponds before cooling.

- (a) What would be the effect on aquatic life?
- (b) Write three causes of water pollution.
- (c) What is the difference between water pollution and thermal pollution?

Ans. (a) The chemical wastes from the industries drained into the rivers and ponds are harmful to humans, environment and the aquatic animals. When the hot water from thermal plants drained into rivers it may result in thermal shock to aquatic life. This may cause difficulties in reproduction, results in oxygen depletion and forced migration.

(b) Three causes of water pollution are as follows:

- Discharging of industrial waste into rivers.
- Contamination of ground water due to overuse of fertilizers and pesticides.
- Inadequate sewage treatment plants.

(c) Water pollution is caused due to the organic and inorganic industrial wastes discharged into the rivers whereas thermal pollution caused due to the draining of hot water from factories and thermal plants into the water.

Let's Compete

Multiple-Choice Questions

1. Which of these is a consumer industry?
(a) Sugar industry (b) Copper smelting

- (c) Aluminium smelting (d) Iron and Steel

Ans. (a) Sugar industry

2. Where was India's first jute mill set up?

- (a) Bokaro (b) Haldia
(c) Meerut (d) Rishra

Ans. (d) Rishra

3. In which of these states are 60 per cent of India's steel units located?

- (a) Uttarakhand and Bihar
(b) Jharkhand and Odisha
(c) Punjab and Haryana
(d) Karnataka and Tamil Nadu

Ans. (b) Jharkhand and Odisha

4. India ranks in the world steel production.

- (a) 7th (b) 8th
(c) 9th (d) 3rd

Ans. (d) 3rd

5. The first fertiliser plant in India was set-up in

- (a) Trombay (b) Ranipet
(c) Jharia (d) Salem

Ans. (b) Ranipet

6. Electronics industry manufactures

- (a) Steel (b) Automobiles
(c) Computers (d) Railway coaches

Ans. (c) Computers

7. The most important sugar producing state of India is

- (a) Odisha (b) West Bengal
(c) Andhra Pradesh (d) Uttar Pradesh

Ans. (d) Uttar Pradesh

8. Which of the following is not a consumer industry?

- (a) Fans (b) Toothpaste
(c) Cement (d) Sugar

Ans. (c) Cement

9. Salem is famous for

- (a) Leather work (b) Cotton fabrics
(c) Steel plant (d) Woollen goods

Ans. (b) Cotton fabrics

10. Processing of jute falls under which of the following industries.

- (a) Agro based (b) Mineral based
(c) Business based (d) None of these

Ans. (a) Agro based

Value-based Questions

(Optional)

1. Mention a few steps you would suggest to minimise environmental degradation caused by industries.

Ans. Following are a few steps to minimise environmental degradation caused by industries:

- Treating hot water and effluents before releasing them into rivers
- Harvesting rainwater to meet water requirements.
- Reusing and recycling of water for processing.
- Industrial smoke can be reduced by using oils and gas.

2. What pro-active approach has NTPC taken to preserve our natural environment?

Ans. The Corporation has taken pro-active approach to preserve our natural environment by:

- minimising waste generation by maximising ash utilisation.
- adopting latest techniques for best utilisation of equipment.
- reducing environmental pollution.
- online database management for all its power stations.
- afforestation.

Lifelines of National Economy

Milestone

Multiple Choice Questions

1. This major port was developed to decongest the Kolkata port.

- (a) Marmagao (b) Paradwip
(c) Haldia (d) Deendayal

Ans. (c) Haldia

2. By what name is Sher Shah Suri Marg known as?

- (a) NH-6 (b) NH-1
(c) NH-5 (d) NH-7

Ans. (b) NH-1

Fill in the Blanks

3. The Indian railways is divided into sixteen zones.

4. Vishakhapatnam is the deepest land-locked and well-protected port.

5. Interstate trade is carried out between two or more states.

Very Short Answer Type Questions

6. Name the different types of roads in India.

Ans. Different types of roads are as follows:

- Golden quadrilateral Super Highways
- National Highways
- State Highways
- District roads
- Other roads
- Border roads

7. Name the first port to be developed after Independence.

Ans. Deendayal port in Kuchchh was the first port to be developed soon after Independence.

8. Name the cities which are connected by the Golden Quadrilateral Express Highway.

Ans. Delhi, Kolkata, Chennai and Mumbai are

connected by the Golden Quadrilateral Express Highway.

9. By which agency was the Ahmedabad-Vadodara expressway constructed.

Ans. National Highway Authority of India (NHAI) constructed Ahmedabad-Vadodara expressway.

10. Which port is called an artificial sea port and why?

Ans. Chennai is an artificial sea port and it is man-made.

11. What is balance of trade?

Ans. The balance of trade of a country is the difference between its value of export and import.

12. Name the mode of transportation which reduces trans-shipment losses and delays.

Ans. Pipeline is the mode of transportation which reduces trans-shipment losses and delays.

13. Name the three different railway gauges of India.

Ans. Broad gauge, Metre gauge and Narrow gauge are the three different gauges of India.

Short Answer Type Questions

14. Mention a few problems faced by the Indian railways.

Ans. Few problems faced by the Indian railways are as follows:

- Passengers travelling without tickets.
- Theft and damage to railway properties by the people.
- Stopping of the trains and pulling of chains unnecessarily by the people causes heavy damage to the railway.

15. Describe any two National Waterways of India.

Ans. The two National Waterways of India are:

- N.W. No.1: The Ganga River between Prayagraj and Haldia(1620 km). It is navigable up to Patna by mechanised boats.

- N.W. No. 2: The Brahmaputra River between Sadiya and Dhubri (891 km). It is navigable by streamers up to Dibrugarh and is shared by India and Bangladesh.

16. Mention the date when air transport was nationalised in India. Name the agencies which provided air services.

Ans. Air transport was nationalised in 1953.

- Air India and some private airlines provide domestic and international air services.
- Pawanhans Helicopters Ltd. provides helicopter services to Oil and Natural Gas Corporation in its off-shore operations to inaccessible areas and difficult terrains.

17. Which are the twelve major ports of India?

Ans. Following are the twelve major ports of India:

- Deendayal Port
- Mumbai Port
- Jawaharlal Nehru (Nhava Sheva) Port
- Marmagao Port
- Kochchi Port
- Tuticorin Port
- Chennai Port
- Vishakhapatnam Port
- Paradwip Port
- Kolkata Port
- Haldia Port
- New Mangaluru Port

Long Answer Type Questions

18. Briefly explain National Highways. State two important fact that highlight the importance of National Highways in India.

Ans. National highways link the extreme parts of the country. These are the primary road systems and are laid and maintained by the Central Public Works Department (CPWD).

Following facts highlight the importance of National Highways in India:

- National Highways link extreme parts of the country.
- A number of major National Highways run in North–South and East–West directions.

19. Define inland waterways. Mention two merits of this transport. Name the rivers which are used for inland water transport.

Ans. The inland waterways refer to using inland water bodies such as rivers, canals, backwaters, etc. for transporting people and goods from one place to another. In order to increase the significance of inland waterways and to improve its efficiency, the Inland Waterways Authority of India was set-up in 1986.

Two merits of this transport are:

- Waterways are the cheapest, fuel-efficient and environment friendly mode of transport.
- It is suitable for carrying heavy and bulky goods. Ganga, Brahmaputra, Mahanadi, Godavari, Krishna, Brahmani and Matai river are the main rivers which are used for inland water transport.

20. Bring out the differences between personal communication and mass communication.

Ans. Differences between personal communication and mass communication are as follows:

Personal Communication	Mass Communication
• It is a communication between one person to another person.	• It is a communication between masses.
• It can be verbal or telephonic communication, a letter, an email or SMS.	• Media is the only source of communication.
• Personal communication includes Indian postal networks, cards and envelopes, telephone, etc.	• Mass communication includes radio, television, newspapers, magazines, books and movies.
• To facilitate quick delivery of mails in large towns and cities, six mail channels have been introduced recently.	• Mass communication provides entertainment and creates awareness among people about various national programmes.

21. What is trade? Name the three types of trade. Describe the International trade of India.

Ans. The exchange of goods among people, states and countries is referred to as trade. Trade may take place through land, sea and air routes.

The three types of trades are local trade, national trade and international trade.

- Trade between two different countries is called international trade. International trade of a country is an index to its economic prosperity. Import and export are the main components of international trade.
- Items of export include agriculture and allied products, base metals, gems and jewellery, chemicals and related products.
- Items of import include petroleum crude and products, gems and jewellery, chemicals and related products, base metals, electronic items, machinery, agriculture and allied products.
- India has trade relations with all the major

trading blocks. Lately, India has come up as a software giant and has started earning a lot of foreign exchange through the export of information technology.

Self-Assessment

Multiple-Choice Questions

- The cheapest means of transport is
 - roadways
 - pipelines
 - airways
 - waterways

Ans. (d) waterways

- A place where there is provision of loading and unloading the ships is called a
 - dock
 - harbour
 - port
 - hinterland

Ans. (c) port

Assertion-Reason Type Questions

For question numbers 3 to 6, two statements are given as Assertion (A) and Reason (R). Read the statements and choose the correct option from (a), (b), (c) and (d) as given below.

- Both A and R are true and R is the correct explanation of A.
- Both A and R are true but R is not the correct explanation of A.
- A is true but R is false.
- A is false but R is true.

- Assertion (A):** The historical Sher Shah Suri Marg is called National Highway No.7, between Delhi and Srinagar.

Reason (R): India has one of the largest road networks in the world, aggregating to about 54.7 lakh km.

Ans. (d) A is wrong because the historical Sher Shah Suri Marg is called National Highway No. 1, between Delhi and Amritsar.

- Assertion (A):** Roads linking a state capital with different district headquarters are known as State Highways.

Reason (R): These roads are constructed and maintained by the State Public Works Department (PWD) in States and Union Territories.

Ans. (b) Both Assertion (A) and Reason (R) are true but R is not the correct explanation of A. It is true that Roads which link the state capital with district headquarters are known as State Highways and these highways are constructed and maintained by the State Public Works Department (PWD), but 'R' does not explain 'A'.

- Assertion (A):** Railways is the principal mode of transportation for freight and passengers in India.

Reason (R): Railways also make it possible for people to conduct multifarious activities like

business, sightseeing, pilgrimage along with transportation of goods over longer distances.

Ans. (a) Both A and R are true and R is the correct explanation of A, because better railway network in India facilitates multifarious activities like business, pilgrimage in addition to the principal mode of transportation for freight and passengers in India.

- Assertion (A):** Waterways are the cheapest means of transport. They are most suitable for carrying heavy and bulky goods.

Reason (R): India has inland navigation waterways of 17,200 km in length.

Ans. (c) A is correct but R is wrong because, India has inland navigation waterways of 14,500 km in length.

Match the Following

- Match the following items given in Column A with those in Column B. Choose the correct answer from the options given below:

Column A (Waterways)	Column B (Length of Waterways)
A N.W. No.1	1 1620 Km
B N.W. No.2	2 891 Km
C N.W. No.3	3 205 Km
D N.W. No.4	4 1078 Km

Codes:

A	B	C	D
(a) 1	2	3	4
(b) 2	4	1	3
(c) 4	1	3	2
(d) 3	1	4	2

Ans. (a)

Find the Incorrect Option

- Mumbai is the biggest port with a spacious natural and well-sheltered harbour.
 - Deendayal in Kuchchh was the first port developed soon after Independence to ease the volume of trade on the Mumbai port.
 - Chennai is the deepest landlocked and well-protected port.
 - Air transport was nationalised in 1953.

Ans. (c)

Correct the Statement and Rewrite

- With a long coastline of 8,317.5 km, India is dotted with 14 major and 159 notified non-major (minor/intermediate) ports. These major ports handle 80 per cent of India's foreign trade.

Ans. With a long coastline of 7,516.6 km, India is dotted with 12 major and 200 notified non-majors

(minor/intermediate) ports. These major ports handle 95 per cent of India's foreign trade.

Fill in the Blanks

- 10. International trade** is considered the economic barometer of a country.
- The length of a broad gauge is **1.676** metre.
- Airways** is the costliest means of transport.
- The **Haldia** port was set up to reduce the load on Kolkata sea port.
- Kerala** state of India has the highest road density.

Very Short Answer Type Questions

- Who implements the Super Highways?
Ans. National Highway Authority of India implements the super highways.
- Give reasons why India's trade is considered unfavourable.
Ans. India's trade is considered unfavourable because there is unfavourable balance of trade which means there are more imports than exports.
- What do you understand by an inland riverine port?
Ans. Inland riverine ports are commonly referred as inland ports. They are extension of seaports.

Short Answer Type Questions

- Explain why the distribution of roads is not uniform in India.
Ans. The distribution of road is not uniform in the country due to the following reasons:
 - About half of the roads are unmetalled and this limits their usage during the rainy season.
 - The National Highways are inadequate too.
 - Moreover, the roadways are highly congested in cities and most of the bridges and culverts are old and narrow.
- Bring out the differences between transport and communication.
Ans. Difference between transport and communication is as follows:
 - Transport helps in carrying people from one place to another, whereas communication is a process of sharing ideas between people.
 - Transport consists of roadways, railways, airways and waterways whereas communication consists of radio, television, radio and internet.
 - Transport connects regions whereas communication connects people.
 - Transport fulfils economic needs whereas communication fulfils social needs.
- Why is Mumbai considered to be the most important port of India?

Ans. Mumbai is considered as the most important port of India because it is the biggest port with a natural harbour on the west coast of India. A new port Nhava Sheva has been developed near this port to decongest traffic at Mumbai port. It handles a large variety of cargo from Middle East and European countries.

Paragraph Based Questions

- Read the sources given below and answer the questions that follow:

Source A – Major Sea Ports

Kandla is a tidal port. It caters to the convenient handling of exports and imports of highly productive granary and industrial belt stretching across the Jammu and Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan and Gujarat.

- (a) What is the new name of Kandla port?

Source B – Pipelines

Pipeline transport network is a new arrival on the transportation map of India. In the past, these were used to transport water to cities and industries. Now, these are used for transporting crude oil, petroleum products and natural gas from oil and natural gas fields to refineries, fertilizer factories and big thermal power plants.

- (b) How are solids transported through pipelines?

Source C – Railways

Railways are the principal mode of transportation for freight and passengers in India. Railways also make it possible for people to conduct multifarious activities like business, sightseeing, pilgrimage along with transportation of goods over longer distances.

- (c) How many zones are there in Indian Railways?

- Ans.**
- (a) Kandla port is renamed as Deendayal port.
 - (b) Solids are transported through pipeline after converted them into slurry.
 - (c) There are sixteen zones of Indian railways.

Case Based Questions

- Railways are the principal mode of transportation for freight and passengers in India. Railways in India bind the economic life of the country as well as accelerate the development of the industry and agriculture. The Indian Railway is now reorganised into 16 zones. The distribution pattern of the railway network in the country has been largely influenced by physiographic, economic and administrative factors. The northern plains with their vast level land, high population density and rich agricultural resources provided the most favourable condition for their growth. However, a large number of rivers requiring construction

of bridges across their wide beds posed some obstacles. In the hilly terrains of the peninsular region, railway tracts are laid through low hills, gaps or tunnels. The Himalayan mountainous regions too are unfavourable for the construction of railway lines due to high relief, sparse population and lack of economic opportunities. Likewise, it was difficult to lay railway lines on the sandy plain of western Rajasthan, swamps of Gujarat, forested tracks of Madhya Pradesh, Chhattisgarh, Odisha and Jharkhand.

22.1 Which of the following statements is/are true for northern plains providing favourable condition for construction of railways?

- (a) Rich agricultural resources
- (b) Vast level land
- (c) High population density
- (d) All of these

Ans. (d) All of these

22.2 In the hilly terrains of the peninsular region, railway tracts are laid through

- (a) low hills
- (b) gaps
- (c) tunnels
- (d) all of these

Ans. (d) all of these

22.3 Why was it difficult to lay railway line on sandy terrain of western Rajasthan?

- (a) Dense population
- (b) Lack of economic opportunities
- (c) Heavy rainfall
- (d) Vast level land

Ans. (b) Lack of economic opportunities

22.4 Why is it difficult to lay railway tracks on Himalayan mountain regions?

- (a) High relief
- (b) Sparse population
- (c) Both (a) and (b)
- (d) None of these

Ans. (c) Both (a) and (b)

23. Mumbai is the biggest port with a spacious natural and well-sheltered harbour. The Jawaharlal Nehru port was planned with a view to decongest the Mumbai port and serve as a hub port for this region. Marmagao port (Goa) is the premier iron ore exporting port of the country. This port accounts for about fifty per cent of India's iron ore export. New Mangalore port, located in Karnataka caters to the export of iron ore concentrates from Kudremukh mines. Kochchi is the extreme south-western port, located at the entrance of a lagoon with a natural harbour. the extreme south-eastern port of Tuticorin, in Tamil Nadu has

a natural harbour and rich hinterland. Thus, it has a flourishing trade handling of a large variety of cargoes to even our neighbouring countries like Sri Lanka, Maldives, etc. and the coastal regions of India. Chennai is one of the oldest artificial ports of the country. It is ranked next to Mumbai in terms of the volume of trade and cargo. Vishakhapatnam is the deepest landlocked and well-protected port. This port was, originally, conceived as an outlet for iron ore exports. Paradwip port located in Odisha, specialises in the export of iron ore. Kolkata is an inland riverine port. This port serves a very large and rich hinterland of Ganga-Brahmaputra basin. Being a tidal port, it requires constant dredging of Hoogly. Haldia port was developed as a subsidiary port, in order to relieve growing pressure on the Kolkata port.

23.1 Which of the following is the deepest landlocked port in India?

- (a) Kolkata
- (b) Vishakhapatnam
- (c) Kochchi
- (d) Mangalore

Ans. (b) Vishakhapatnam

23.2 Which port was developed as a subsidiary port to the Kolkata port?

- (a) Haldia port
- (b) Paradwip port
- (c) Tuticorin port
- (d) Mumbai port

Ans. (a) Haldia port

23.3 Which port is the oldest artificial port in India?

- (a) Chennai
- (b) Vishakhapatnam
- (c) Kolkata
- (d) Marmagao

Ans. (a) Chennai

23.4 Which port caters to the export of iron ore concentrates from Kudremukh mines?

- (a) Marmagao port
- (b) Kolkata port
- (c) New Mangalore port
- (d) Haldia port

Ans. (c) New Mangalore port

Long Answer Type Questions

24. What is trade? Explain the importance of international trade.

Ans. The exchange of goods among people, states and countries is referred to as trade.

Such exchanges take place in market. Trade between two countries is international trade.

Importance of international trade:

- International trade plays an important role as no country can survive without international trade.
- Advancement of international trade of a country is an index to its economic prosperity.
- It is considered economic barometer for a country. The balance of trade of a country is the difference between its export and import.
- India has trade relations with almost all the major trading blocks.
- International trade between different countries helps in raising living standards and provides employment.

25. With the help of examples explain how physiographic and economic factors influence the distribution pattern of railway network in our country.

Ans. The distribution pattern of the railway network in our country has been largely influenced by physiographic and economic factors.

- The northern plains with vast level land, high population density and rich agricultural resources provided the most favourable condition of their growth.
- The Himalayan mountainous regions are unfavourable for the construction of railway lines due to high relief, sparse population and lack of economic opportunities.
- It was difficult to lay railway lines on the sandy plain of western Rajasthan, swamps of Gujarat and forested tracks of Odisha, Jharkand, Chhattisgarh and Madhya Pradesh.

26. Highlight the main characteristic of the Indian railways.

Ans. The main characteristics of the Indian Railways are as follows:

- Indian Railways plays an important role in the economic, industrial and social development.
- Railways provide the cheapest and convenient mode of communication for goods and passengers.
- Railways have helped the growth and development of industries in India.
- Railways provide a medium of integration.
- Railways are most suited for transporting bulky goods to long distances.
- Railways help in supplying raw materials, machinery and other facilities to factories and finished goods to the market.
- Railways have helped in the growth of agriculture as the farmers can now sell their produce in far off markets and get better prices.

27. Read the extract and answer the questions that follow:

The distribution pattern of the Railway network in the country has been largely influenced by physiographic, economic and administrative factors. The northern plains with their vast level land, high population density and rich agricultural resources provided the most favourable condition for their growth. However, a large number of rivers requiring construction of bridges across their wide beds posed some obstacles. In the hilly terrains of the peninsular region, railway tracts are laid through low hills, gaps or tunnels. The Himalayan mountainous regions too are unfavourable for the construction of railway lines due to high relief, sparse population and lack of economic opportunities. Likewise, it was difficult to lay railway lines on the sandy plain of western Rajasthan, swamps of Gujarat, forested tracks of Madhya Pradesh, Chhattisgarh, Odisha and Jharkhand.

- Which factors are responsible for the distribution of railway network in the country?
- Why are mountainous regions not well connected to railways?
- Do you think that railways play a very important role in our national economy?

Ans. (a) The factors responsible for the distribution of railway network in the country are physiographic, economic and administrative factors.

(b) Mountainous regions are unfavourable for the construction of railway lines because of the thick forested areas, high relief, uneven terrain, very less population and lack of economic opportunities.

(c) Yes, Railways play a very important role in our national economy than all other means of transport. It has accelerated the development of the industry and agriculture. Railways are the principle mode of transportation for freight and passengers.

Let's Compete

Multiple-Choice Questions

- The Grand Trunk Road is a
 - State Highway
 - Golden Quadrilateral
 - National Highway
 - Express National Highway

Ans. (c) National Highway

- In a railway line, the width between two rails is called

- (a) locomotive (b) gauge
(c) container (d) density

Ans. (b) gauge

3. The Border Roads Organisation started in the year

- (a) 1970 (b) 1980
(c) 1990 (d) 1960

Ans. (d) 1960

4. Which of the following has the lowest density of roads?

- (a) Rajasthan (b) Assam
(c) Goa (d) Jammu and Kashmir

Ans. (d) Jammu and Kashmir

5. The approximate length of Indian coastline is

- (a) 5516.5 km (b) 6516.6 km
(c) 3516.6 km (d) 7516.6 km

Ans. (d) 7516.6 km

6. Which region provides the most favourable conditions for the growth of railways?

- (a) The North-Eastern states
(b) The Indian Desert
(c) The Northern Plains
(d) The Himalayan regions

Ans. (c) The Northern Plains

7. Name the trade which is carried between two or more states.

- (a) International Trade (b) Local Trade
(c) State Level Trade (d) None of these

Ans. (c) State Level Trade

8. Which of the following sea port was constructed to decongest the Mumbai port?

- (a) Deendayal Port (b) Marmagao Port
(c) Jawaharlal Nehru Port (d) Goa Port

Ans. (c) Jawaharlal Nehru Port

9. Which of the following caters to 95 per cent of trade volume of India?

- (a) Airways (b) Pipeline
(c) Roadways (d) Waterways

Ans. (d) Waterways

10. Which port has a natural harbour and rich hinterland?

- (a) Cochin (b) Chennai
(c) Mumbai (d) Tuticorin

Ans. (d) Tuticorin

Value-based Questions

(Optional)

1. Name the values which can be associated with transport and communication.

Ans. Transport and communication plays a very important role in our daily life. They both help to overcome the barrier of physical distance. It is an effective way to connect with people without thinking about the distance that separates them. Transport involves the movement of people whereas communication involves sharing information from one source to another.

2. Mention the values which make the means of transport and communication lifelines of a nation's economy.

Ans. Transport and communication are called the lifelines of any nation because they are the preconditions for progress and development. They play a major role in the developing economy. They both help in the economic and social growth and development of the country. The transport facilities should be efficient. The means of communication should stress on dignity of an individual, respect of cultural heritage and national integration.