*** Multiple choice questions.** [12]

1. When does Nature become a resource?
   (A) when it is created by humans
   (B) when it is used by humans for sustenance or consumption
   (C) when it exists independently of humans
   (D) when it is part of sacred spaces

   Ans. : (B) when it is used by humans for sustenance or consumption

2. Which of the following is NOT a condition for an entity to be considered a resource?
   (A) technological accessibility
   (B) economic feasibility
   (C) cultural acceptability
   (D) being part of sacred groves

   Ans. : (D) being part of sacred groves

3. What is the source of natural resources like coal and petroleum?
   (A) Human-made processes
   (B) Formed over millions of years in Nature
   (C) Created in factories
   (D) Through scientific research

   Ans. : (B) Formed over millions of years in Nature

4. Which of the following is an example of a natural resource mentioned in the text?
   (A) Timber (B) Computers (C) Cars (D) Roads

   Ans.: (A) Timber

5. Which of the following is a resource essential for life?
   (A) Coal (B) Water (C) Wood (D) Oil

   Ans. : (B) Water

6. What is a primary use of natural resources for materials?
   (A) Generating electricity
   (B) Producing food
   (C) Creating objects for practical or aesthetic purposes
   (D) Harnessing wind energy

   Ans. : (C) Creating objects for practical or aesthetic purposes

7. Which of these is a natural resource used for energy?

(A) Copper (B) Marble (C) Coal (D) Gold

Ans. : (C) Coal

8. What is one major environmental problem caused by cement production?

(A) Deforestation (B) Desertification

(C) Water conservation (D) Air and soil pollution

Ans. : (D) Air and soil pollution

9. What is an example of a resource?

(A) Trees in a Tiger reserve forest

(B) Trees used for making furniture

(C) Sacred groves

(D) Petroleum under the glaciers

Ans.: (A) Trees in a Tiger reserve forest

10. What is an example of a resource that is difficult to access?

(A) Trees in a park

(B) Petroleum deep under the ocean

(C) Fruits growing on trees

(D) Water in a river

Ans. : (B) Petroleum deep under the ocean

11. Which category of resources is renewable?

(A) Coal (B) Petroleum (C) Sunlight (D) Natural gas

Ans. : (C) Sunlight

12. Which type of resource is replenished naturally over time?

(A) Non-renewable resources

(B) Renewable resources

(C) Both renewable and non-renewable

(D) Artificial resources

Ans. : (B) Renewable resources

*** In the question given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and chose the correct option:** **[5]**

13. **Assertion (A):** Trees become natural resources when humans use them to make furniture.

Reason (R): An element of Nature becomes a resource only when it is useful,

accessible, and culturally acceptable to exploit.

Codes:

(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.

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

Explanation: Trees are part of Nature, but they become resources only when humans find them useful, can access them, and it's acceptable to use them. This explains why trees used for furniture are considered resources.

14. **Assertion (A):** Coal is classified as a renewable resource.

Reason (R): It takes millions of years for coal to form naturally.

Codes:

(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.

Ans. : (D) (A) is false, but (R) is true.

Explanation: Coal is non-renewable because it takes millions of years to form and cannot be replenished in a human timescale.

15. **Assertion (A):** Solar energy is a nonrenewable resource.

Reason (R): Solar energy is available only during the daytime.

Codes:

(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.

Ans. : (D) (A) is false, but (R) is true.

Explanation: Solar energy is a renewable resource, as it is naturally replenished daily. While it is true that sunlight is only available during the day.

16. **Assertion (A):** Punjab is facing a groundwater crisis.

Reason (R): Excessive extraction of groundwater and use of chemicals during the Green Revolution led to long-term depletion.

Codes:

(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.

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

17. **Assertion (A):** Natural resources are evenly distributed across countries.
Reason (R): All regions of the world have the same geographical and climatic features.
Codes:
(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.

Ans. : (D) (A) is false, but (R) is true.

*** State Whether The Sentences Are True Or False.[1 Marks Each]** **[10]**

18. Industries near natural resources do not help local employment.

Ans. : false-Reason: They create jobs and boost local economies.

19. Tribal communities are sometimes displaced due to resource-based development.

Ans. : true-Reason: Many have lost homes to make way for industries and other projects.

20. Natural resources always bring only positive effects.

Ans. : false-Reason: They can also lead to conflict and loss of sacred places.

21. The Kaveri River water sharing between Karnataka and Tamil Nadu required negotiations.

Ans. : true-Reason: Negotiations were needed for peaceful and fair sharing of water.

22. Sustainable materials created today are more polluting than traditional cement.

Ans. : false-Reason: Sustainable materials are designed to be less polluting and environmentally friendly compared to cement.

23. Wootz steel is an example of combining resources with human skill.

Ans. : True

24. Reaching agreements on natural resource sharing between countries is easy.

Ans. : False

25. Having natural resources guarantees a country's wealth.

Ans. : False

26. The 'natural resource curse' is also known as the 'paradox of plenty'.

Ans. : True

27. Fine dust released from cement factories can damage human and animal lungs.

Ans. : True

*** Fill In The Blanks With Correct Alternative.[1 Marks Each]** **[13]**

28. Natural resources can influence trade and _____ relations. (international, stone)

Ans. : international

29. We must return to the natural _____ of nature. (accessible, rhythm)

Ans. : rhythm

30. Trees become a resource when their wood is turned into _____. (furniture, evenly)

Ans. : furniture

31. Some resources, like petroleum, may not be easily _____. (accessible, conflicts)

Ans. : accessible

32. Countries may face _____ due to competition for resources. (petroleum, conflicts)

Ans. : conflicts

33. Not-so-obvious treasures include coal _____ and precious stones. (international, petroleum)

Ans. : petroleum

34. Traditional methods like _____ and mud are being used as alternatives to cement. (furniture, stone)

Ans. : stone

35. Natural resources are not _____ distributed on Earth. (evenly, conflicts)

Ans. : evenly

36. The term _____ 'resources' applies to materials and substances that occur in Nature and are valuable to human

Ans. : self

37. Rivers are fed by rain and _____ in nature.

Ans. : self

38. Fossil fuels like coal and petroleum are _____ resources.

Ans. : self

39. India's coal reserves may last for about _____ years.

Ans. : self

40. The Central Pollution Control Board has issued guidelines to reduce pollution from _____.

Ans. : self

*** Answer The Following Questions In One Sentence.[1 Marks Each]** **[10]**

41. What type of economy do concerned social scientists support?

Ans. : A regenerative economy that reuses resources, reduces waste, and restores nature.

42. Why might some natural elements not be considered resources?

Ans. : They may be difficult to access or exploit.

43. What three factors make something a resource?

Ans. : Technological accessibility, economic feasibility, and cultural acceptability.

44. What is one emnronmental concern related to cement production?

Ans. : It releases fine dust that causes air, soil, and water pollution.

45. Give an example of nature becoming a resource.

Ans. : self

46. What resources are used for materials?

Ans. : self

47. Which resources are used for energy?

Ans. : self

48. What can stop people from cutting down trees in some areas?

Ans. : Cultural beliefs, such as the presence of sacred groves.

49. When does nature become a resource?

Ans. : self

50. What are natural resources?

Ans. : self

* VERY SHORT ANSWER QUESTIONS [14]

51. How is Nature described in many indigenous traditions?

Ans. : Nature is viewed as sacred, feminine, and a nurturer.

52. How does Nature work in cycles?

Ans. : Nature works in cycles where everything is reused. When a tree falls, it decomposes, enriching the soil and enabling new growth.

53. What are ecosystem services?

Ans. : Ecosystem services are the benefits that humans receive from the natural processes of ecosystems, such as clean water, pollinated crops, and fertile soil.

54. How can resources be renewable or non-renewable?

Ans. : self

55. How does categorisation help us understand natural resources?

Ans. : Categorisation helps us better understand natural resources by grouping them according to their uses, making it easier to discuss them without needing to describe each resource every time.

56. Why is cement production described as one of the most polluting industries?

Ans. : self

57. How do ecosystems provide services to humans?

Ans. : self

*** Answer The Following Questions In Short.[3 Marks Each]** **[3]**

58. What led to the groundwater crisis in Punjab, and what are its effects?

Ans. : The crisis can be traced back to the 1960s, when farmers in Punjab began growing high-yielding varieties of wheat and rice that required more water than traditional crops. To meet this need, they increasingly relied on groundwater, aided by free electricity that encouraged over-pumping. The widespread use of fertilisers and pesticides also contributed to groundwater contamination. Over time, water tables fell to depths of around 30 metres, and nearly 80% of the region became overexploited. Although these practices helped secure food supplies at the time, they have resulted in serious long-term environmental and sustainability issues.

*** Picture Based Question.** **[3]**

Look at the picture given below and answer the questions that follow:

59. What is the man doing in this picture?
60. Why is this method better than using a tractor?
61. What is the advantage of using oxen in farming?

Ans. : 1. The man is ploughing the field with the help of two oxen.

2. This traditional method can be more sustainable, as it requires less fuel and is gentler on the soil, maintaining its fertility. It also involves lower costs compared to using a tractor.

3. Oxen are often more reliable in areas with limited access to modern machinery, and they can work in smaller or more uneven plots of land where tractors might struggle.

*** Answer The Following Questions In Brief.[5 Marks Each]** **[130]**

62. How do we categorise natural resources?

Ans. : Natural resources are elements found in the environment that humans use for various purposes. They can be categorised based on their use and renewability. By use, natural resources are divided into essential resources like air, water, and soil, which are crucial for life; material resources like wood, coal, and metals, used to create products; and energy resources like solar, wind, and fossil fuels, which are used for generating electricity and powering industries. By renewability, they are classified as renewable resources, such as timber, water, and solar energy, which can regenerate over time and non-renewable resources, like coal, petroleum, and minerals, which are limited and take millions of years to form, making them hard to replace, once used.

63. What is the connection between the distribution of natural resources and different aspects of life?

Ans. : The distribution of natural resources impacts various aspects of life, including human settlements, trade, and international relations. Areas rich in resources tend to attract industries, which fosters economic growth and creates job opportunities. However, unequal distribution can lead to conflicts over access to resources, such as water or minerals, both within countries and between nations. It also shapes the development of infrastructure and can create disparities in quality of life, with some regions benefiting more from their resources than others.

64. What are the implications of unsustainable use/over exploitation of natural resources?

Ans. : When natural resources are used unsustainably or over-exploited, it can lead to severe long-term consequences. Resources may become depleted, and ecosystems suffer damage, affecting biodiversity and natural habitats. The excessive use of renewable resources, like water or soil, can prevent them from regenerating, leading to shortages. Similarly, overuse of non-renewable resources, may exhaust them, leaving fewer options for future generations. This disruption not only harms the environment but can also negatively impact the livelihoods of communities dependent on these resources. Over-exploitation often contributes to broader issues, such as climate change and pollution, and can provoke conflicts over the remaining resources.

65. Identify human actions in your surroundings that result in Nature losing her ability to restore and regenerate. What types of interventions can be undertaken to restore Nature's cycle?

Ans. : Human activities such as cutting down trees faster than they can grow back, polluting rivers with industrial and domestic waste, over-extracting groundwater, and excessive use of chemical fertilisers and pesticides disturb Nature's ability to

restore and regenerate itself.

These actions disrupt natural cycles, leading to soil degradation, water contamination, and loss of biodiversity. To help restore Nature's balance, we can take steps like planting native trees to rebuild forests, practising sustainable water management such as rainwater harvesting, reducing pollution by properly treating waste before disposal, and using organic farming methods that avoid harmful chemicals. These measures support natural restoration and regeneration, allowing ecosystems and resources to recover over time.

66. Take up a small research study to assess the types of renewable resources in your region; you may discuss with your teacher the geographical area of your study and sources to access information that you may need. What has been the change in their status over time? Make a small report that identifies the reasons for the change and what may be done.

Ans. : In my region, Delhi, the primary renewable resources are solar energy, wind energy, and biomass. Solar energy has grown with government incentives, but adoption is limited by high costs and space constraints. Wind energy is underdeveloped due to the city's flat terrain, and biomass remains untapped due to inefficient waste management. Delhi is working to increase its renewable energy capacity through initiatives like rooftop solar panels and projects such as a 1,000 MW solar plant and a 111 MW wind power plant.

The status of these resources has changed due to urbanisation and rising energy demand. While solar energy is growing, pollution and overcrowding reduce its efficiency. Wind energy has not progressed, and biomass potential remains unused. To improve, Delhi needs stronger policies for solar adoption, better waste-to-energy systems, and urban planning focused on renewable energy.

67. What are the non-renetvable resources that you use daily, directly or indirectly? What are the possible renewable substitutes? What are some of the steps we can take to transition to renewables?

Ans. : Non-renewable resources that we use daily, either directly or indirectly, include coal, petroleum, natural gas, and metals like iron and copper. These are used for electricity, transportation, heating, and manufacturing many products. Possible renewable substitutes include solar energy, wind energy, hydropower, biofuels, and sustainably managed timber. To transition to renewable resources, we need to increase the use of clean energy sources, improve energy efficiency, develop better energy storage, promote electric vehicles and public transport, and protect natural ecosystems. Additionally, raising awareness and supporting government policies that encourage sustainable use of resources are vital to ensure this transition is successful.

68. Discuss the implications of extracting the natural resources in those parts for current and future generations. Suggest ways in which we can use Nature's gifts

in responsible ways.

Ans. : The extraction of natural resources brings economic benefits but often leads to the displacement of communities, loss of cultural heritage, and environmental damage. Over time, it depletes resources, harms ecosystems, and creates sustainability challenges for future generations.

To use Nature's gifts responsibly, it is essential to adopt sustainable extraction methods, prioritise renewable energy, and implement effective resource management. Supporting policies that promote conservation and respect local communities' rights is crucial. Encouraging a circular economy, where resources are reused and recycled, helps reduce waste and ensures long-term sustainability. Educating future generations on the importance of preserving natural resources is key to safeguarding the Earth for the future.

69. Find out about such a conflict in the international context? Discuss your findings in the class.

Ans. : An international example of a conflict over natural resources is the ongoing tension between Ethiopia, Egypt, and Sudan regarding the Nile River. Ethiopia has constructed the Grand Ethiopian Renaissance Dam (GERD) to generate electricity, but Egypt and Sudan, situated downstream, are concerned that the dam could reduce their access to essential water supplies, with Egypt relying on the Nile for nearly 90% of its water. Despite numerous rounds of negotiations, a permanent solution has not been reached. This situation highlights how shared natural resources, such as rivers, can lead to significant disputes between countries.

70. What do you think are the different inputs required to enable the use of the natural resources available in different geographical areas?

Ans. : To make the best use of natural resources in different geographical areas, several key inputs are needed. These include skilled people with the right knowledge to manage and develop the resources efficiently, good governance to ensure fair use and prevent corruption, and proper planning to avoid overdependence on a single resource. Investment in infrastructure such as roads, electricity, and transport is essential, along with the use of modern technology to extract and process resources safely and effectively. Environmental care and respect for local communities are also important to ensure sustainability. Finally, access to markets allows countries to sell resources and products at fair prices, helping to turn natural wealth into long-term development.

71. Take a pause. Look at yourself and the things around you. What is the origin of each of them? At some point they all lead to Nature; even the plastic button on your shirt.

Ans. : Everything around us, from our clothes to the technology we use, originates in nature. Even a plastic button on our shirt comes from fossil fuels, such as petroleum and natural gas. Fabrics like cotton and wool are from plants and animals, while

buildings are made of timber stone, and metals mined from the Earth. The energy we rely on, whether coal, wind, or sunlight, also comes from nature.

In short, everything we use connects back to nature. This reminds us of the importance of using natural resources wisely and sustainably for future generations.

72. What might be the different criteria we can use to categorise natural resources?

Ans. : Natural resources can be categorised in many ways. They may come from living things, called biotic resources, like plants and animals, or from non-living things, including water, air, and minerals. One key way to divide them is into renewable types like sunlight and wind, and non-renewable ones like coal and oil. They can also be classified by where they are found. For example, coal and oil exist only in certain places, while sunlight and wind are available almost everywhere. Another way to categorise them is by how easy they are to access. Surface minerals are easy to get, while oil deep under the ocean requires special technology. Finally, some hold cultural or religious importance, such as sacred rivers or forests.

73. Do you know ofpractices that reflect this?

Ans. : Yes, many traditional practices show respect for Nature as sacred. In India, sacred groves are protected forest areas where cutting trees or harming wildlife is not allowed, as they are believed to be home to gods or spirits. Rivers like the Ganga are worshipped and seen as holy. Certain trees, such as the peepal and banyan, are also considered sacred and are not cut down. Indigenous groups in other countries, like Native Americans and Aboriginal Australians, hold similar beliefs and perform rituals to honour nature. These practices reflect care for the environment and a deep respect for natural resources.

74. Do you know of other traditional practices that help the ecosystem to stay in balance?

Ans. : Yes, there are several traditional practices that help keep the ecosystem in balance. In India, farmers have long used croprotation and mixed cropping to keep the soil healthy and reduce pests without chemicals. In many villages, stepwells and community ponds were built to store rainwater and recharge the groundwater naturally. In the Northeast, people practise jhum cultivation (shifting farming), where they leave the land to rest for a few years after growing crops so that the forest and soil can recover. Tribal communities also follow seasonal rules for hunting, fishing, and gathering, taking only what they need and allowing nature to renew itself. These practices are based on traditional knowledge and help protect the environment in a natural and sustainable way.

75. What can make what is today a renewable resource non-renewable tomorrow? Describe some actions that can prevent this from happening.

Ans. : A renewable resource can become non-renewable if its consumption rate exceeds its natural regeneration rate, such as overfishing, deforestation, or excessive

groundwater extraction. For example, when water is taken from underground reserves faster than it can be naturally replenished, the resource is depleted.

To prevent this, adopting sustainable management practices is essential. Controlled water harvesting, reducing waste, and using resources efficiently are key steps. Restoration efforts, such as reforestation or implementing water conservation technologies, can also play a vital role in maintaining balance. By prioritising responsible practices in areas like agriculture and resource management, the regeneration of these resources can be safeguarded for future generations.

76. Name five ecosystem functions that serve humAnswer:

Ans. : Ecosystems provide several crucial functions that directly support human life and well-being. These include:

1. Pollination: Insects such as moths, flies, and other pollinators help in the reproduction of many crops and plants, supporting food production.
2. Water Purification: Ecosystems like wetlands and forests naturally filter and clean water, ensuring access to clean resources.
3. Climate Regulation: Ecosystems absorb carbon dioxide and produce oxygen, helping to regulate the climate and maintain environmental stability.
4. Soil Fertility: Processes like decomposition and nutrient cycling in ecosystems support soil formation and fertility, which is essential for agriculture.
5. Provision of Food: Ecosystems provide diverse food sources, including plants, animals, and fish, which are vital for human nutrition and survival.

77. What are renewable resources? How are they different from non-renewable ones? What can people do to ensure that renewable resources continue to be available for our use and that of future generations? Give two examples.

Ans. : Renewable resources are natural materials that regenerate over time, such as sunlight, wind, water, and wood. Unlike non-renewable resources like fossil fuels and minerals, they are not exhausted when used responsibly, as they replenish naturally. Non¬renewable resources, however, are limited and cannot be restored within a human timescale.

To keep renewable resources available for the future, they must be managed with care. This involves using clean energy sources such as solar energy and wind power, minimising waste, and adopting sustainable practices like responsible forestry. For instance, installing solar-powered street lighting helps reduce dependence on fossil fuels. Second example is to replant trees after timber harvests ensures forest renewal.

78. Identify cultural practices in your home and neighbourhood that point to mindfulness in the use of natural resources.

Ans. : In our home and neighbourhood, several cultural practices reflect a mindful approach to using natural resources. Firstly, certain trees such as the peepal and banyan are regarded as sacred and are never cut down, promoting tree

conservation. Secondly, forest patches known as sacred groves are preserved due to their spiritual significance, helping protect biodiversity.

Thirdly, traditional festivals involve the use of eco-friendly materials, for example, banana leaves for serving food, clay for making idols, and natural dyes for decoration. Additionally, water bodies like ponds and wells are cleaned and honoured through rituals, encouraging water conservation. Lastly, practices such as fasting and simple living during religious observances help reduce unnecessary consumption and promote sustainability.

79. What are some considerations to keep in mind in the production of goods for our current use?

Ans. : In producing goods for current use, it's essential to prioritise sustainability by using renewable resources and eco-friendly materials. Energy efficiency should be considered to minimise carbon footprints, which refers to the amount of harmful gases, like carbon dioxide, released into the air from activities such as production and transportation. Waste can be reduced by recycling and reusing materials. Ethical sourcing ensures that materials are obtained responsibly, while goods should be designed for durability to reduce the need for frequent replacements. Additionally, production should support local communities and reduce transportation emissions, contributing to both environmental and social sustainability.

80. What is Vrikshayurveda, and what agricultural practices does it promote?

Ans. : Vrikshayurveda is an ancient Indian science focused on the care of plants and trees, with its roots in Sanskrit: Vriksha meaning tree and ayurueda meaning science of life or health. Formalised in texts such as Surapala's Vrikshayurveda in the 10th centuiy CE, it offers guidance on sustainable farming practices.

The system recommends specific plants for different soil types, detailed methods for seed collection and treatment, and irrigation techniques tailored to plant species and seasons. It encourages natural pest control using plant-based repellents and companion planting. Vrikshayurveda also supports crop rotation and mixed cropping to maintain soil health, and promotes ploughing methods that conserve moisture and support beneficial soil organisms like earthworms, fungi, and bacteria. It reflects a holistic and eco-friendly approach to agriculture rooted in traditional knowledge.

81. What were the outcomes of Sikkim's transition to organic farming?

Ans. : Sikkim's transition to organic farming brought .about remarkable and transformative outcomes. By 2016, Sikkim became the first state in India to achieve 100% organic certification for all its farmland. This transition led to significant improvements in local biodiversity, with beneficial insects and birds returning to the region, enriching the ecosystem.

The move also had a positive impact on the economy. As the state became known for its organic produce, tourism grew, with many visitors coming to see the successful model of organic farming in action. Farmers in Sikkim saw an average

income increase of 20%, proving that sustainable farming practices could improve financial stability for local communities.

Overall, Sikkim's shift to organic farming served as a powerful example of how an entire region could adopt sustainable agricultural practices while improving both ecological health and economic prosperity. It has since become a global model, demonstrating the long-term benefits of organic farming.

82. What role did biodiversity play in the success of Sikkim's organic farming transition?

Ans. : self

83. What are the consequences of excessive groundwater extraction in India, and what measures are being taken to address this issue?

Ans. : self

84. What is the concept of the "natural resource curse," and how can it affect economic growth despite abundant resources? How can it be avoided?

Ans. : The "natural resource curse" is a paradox where countries with abundant natural resources often experience slower economic growth than those with fewer resources. This happens because such economies tend to rely heavily on extracting and exporting raw materials instead of developing industries that turn these resources into higher-value products. As a result, they can become overly dependent on resource extraction, making them vulnerable to market fluctuations, economic instability, and a lack of diversified growth.

Furthermore, focusing on resource extraction may discourage investment in other sectors like manufacturing, technology, and services, slowing long-term development. To avoid the natural resource curse, it is crucial for countries to use their resources wisely, develop strong industries, and implement effective policies. With good governance, strategic planning, and the right use of resources, countries can transform their natural wealth into lasting economic prosperity.

85. What are some social and environmental costs of developing natural resources?

Ans. : While the development of natural resources can support economic growth and improve living conditions, it often brings significant social and environmental costs. In many cases, when projects like mining or the construction of large dams are undertaken, local communities, particularly tribal groups, may be displaced from their ancestral homes.

This displacement can result in the loss of cultural heritage and traditional ways of life. In addition, important natural areas such as forests and sacred sites may be damaged or destroyed. On the environmental side, the overuse or poor management of resources can lead to deforestation, water and air pollution, and a decline in biodiversity. To ensure sustainable progress, it is essential to manage

development carefully and with respect for both communities ' and the natural environment.

86. How does the idea of lokasangraha' from the Bhagavad-Gita relate to modem environmental responsibility?

Ans. : 'Lokasangraha', a concept from the Bhagavad-Gita, encourages individuals to act not solely for personal gain, but for the wellbeing of society as a whole. When applied to environmental responsibility, it urges us to rise above self-interest and make decisions that safeguard the planet for current and future generations.
This may involve reducing excessive consumption, preserving natural ecosystems, or supporting sustainable policies. The principle serves as a powerful reminder that our choices should promote the common good. Embracing this perspective is essential for addressing today's environmental challenges with empathy, responsibility, and long-term vision.

87. In what ways can modem education systems promote responsible and judicious use of natural resources?

Ans. : Modern education can help promote the responsible use of natural resources by including environmental studies in the curriculum from a young age. This will help students understand the importance of sustainability and the impact of overusing resources. Practical skills, such as saving water, managing waste, and using sustainable farming methods, can be taught through hands-on activities and field trips. Education should also encourage students to think critically about the ethical issues around resource use, helping them develop a sense of responsibility towards the environment. By teaching these values, the education system can prepare students to support sustainable practices in their daily lives and future careers.

*** Match the Following.** **[10]**

Column A	Column B
88. Uneven Distribution of Resources	(i) Sources of energy for buildings and transport
89. Employment Opportunities	(ii) Affects human settlements, trade, and conflicts
90. Solar energy and wind	(iii) Essential for human survival
91. Air, water, and food	(iv) Can regenerate naturally if managed properly
92. Timber and forests	(v) Local industries lead to job creation and economic growth

(a) 1 - (ii), 2 - (v), 3 - (i), 4 - (iii), 5 - (iv)
(b) 1 - (iii), 2 - (iv), 3 - (ii), 4 - (i), 5 - (v)

(c) 1 - (iii), 2 - (v), 3 - (ii), 4 - (i), 5 - (iv)
(d) 1 - (iv), 2 - (v), 3 - (ii), 4 - (i), 5 - (iii)

Ans. : self

Column A	Column B
93. Over-extraction of groundwater	(i) Degradation of soil from improper use of chemicals
94. Water-harvesting and traditional practices	(ii) Use of natural fertilisers like cow dung
95. Sustainable use of natural resources	(iii) Resources don't guarantee prosperity
96. Improper use of chemical fertilisers and pesticides	(iv) Leads to groundwater becoming unavailable
Q.5. Paradox of plenty groundwater levels	(v) Initiatives to raise

(a) 1 - (i), 2 - (iv), 3 - (ii), 4 - (i), 5 - (iii)
(b) 1 - (v), 2 - (iv), 3 - (i), 4 - (iii), 5 - (ii)
(c) 1 - (iv), 2 - (v), 3 - (ii), 4 - (i), 5 - (iii)
(d) 1 - (iv), 2 - (v), 3 - (iii), 4 - (i), 5 - (ii)

Ans. : (c) 1 - (iv), 2 - (v), 3 - (ii), 4 - (i), 5 - (iii)

*** CASE BASED QUESTIONS** **[4]**

A crisis has unfolded in the fertile plains of Punjab where groundwater resources have been severely depleted. Punjab was home to the Green Revolution that fed a large proportion of our population, and contributed to India becoming self-sufficient in food. Today the same state faces issues of sustainability. Nature has been exploited beyond regeneration, at least in the short term.

In the 1960s farmers shifted to high-yielding varieties of wheat and rice. These required more water than the traditional seeds, and farmers began to extract groundwater to meet this need. In addition, the supply of free power led to the over-pumping of groundwater. Modem farming techniques also required the use of pesticides and fertilisers.

The combined effect of these factors is that the groundwater level in a large part of Punjab (see map) has become inaccessible till depths of about 30 metres; and the chemicals from the pesticides and fertilisers have dissolved in the groundwater causing health hazards.

Almost 80% of the area of Punjab has been classified as 'over-exploited'; in other words, we have drawn water at a rate much greater than at which restoration and rejuvenation of groundwater is possible. We can see that food security was ensured for the short term, but the long- term consequences will take time and effort to

heal.

97. What caused the depletion of groundwater in Punjab?

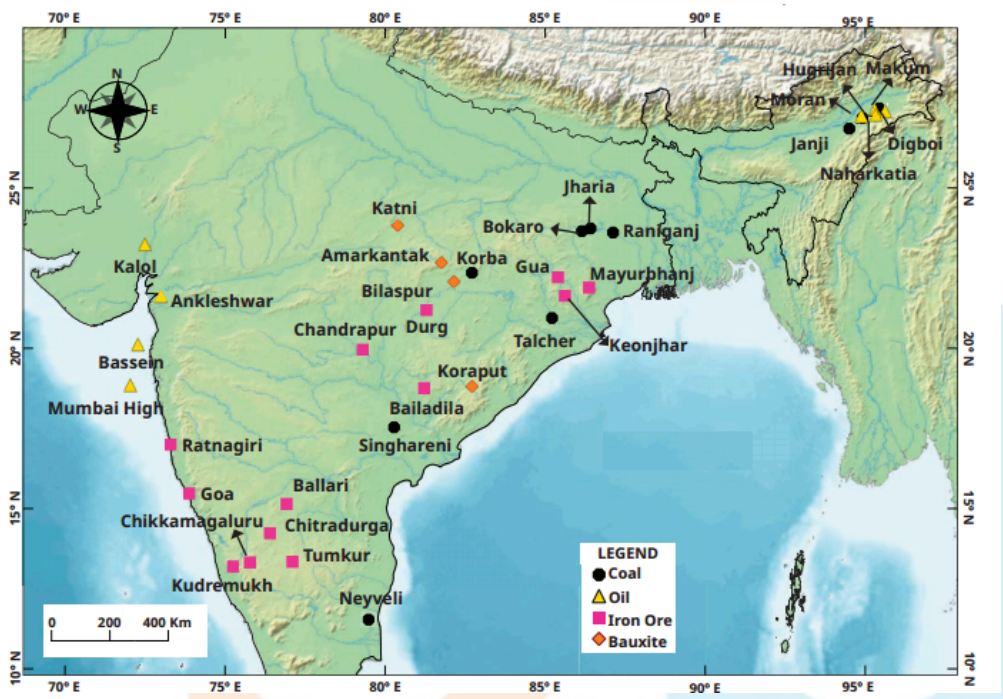
98. What does 'over-exploited' mean in the context of Punjab's groundwater, and how do the immediate and long-term effects of the Green Revolution differ?

Ans. : 1. The depletion was caused by the shift to high-yielding crops, over-pumping due to free electricity, and the use of pesticides and fertilisers.

2. 'Over-exploited' refers to the situation where groundwater is being used at a rate faster than it can naturally regenerate, resulting in depletion. While the Green Revolution initially led to increased food production and self sufficiency, its long-term effects include the depletion of groundwater, soil degradation, and contamination from the use of chemicals such' as pesticides and fertilisers.

* MAP SKILL BASED QUESTION [6]

99. Observe the map in Figure Notice the uneven distribution of important minerals. What types of resources are available in your region? How are they distributed?

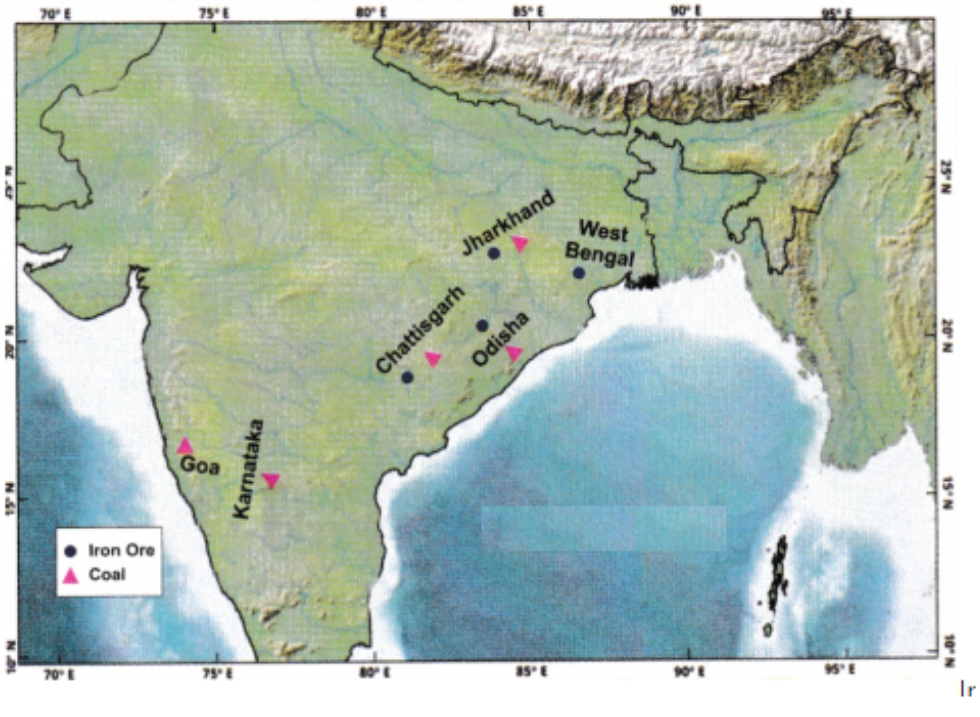


Ans. : The map shows that minerals are unevenly distributed across India. Coal is mainly found in eastern and central regions like Jharia, Raniganj, and Korba, as well as in the south at Neyveli and Singareni. Iron ore is abundant in central, eastern, and southern parts, including Bailadila and Mayurbhanj. Bauxite deposits are mostly in central and eastern India, such as Katni and Koraput in southern Odisha. Petroleum and natural gas fields are located along the western coast near Mumbai High and Ankleshwar, and in the northeast at Digboi. This uneven distribution reflects India's varied geology, with certain regions rich in specific minerals.

In my region, Jharkhand, several important minerals are found. The state is especially rich in coal, with major coalfields located in Jharia, Bokaro, and Dhanbad. Iron ore is another key resource, mainly found in the Singhbhum district. Jharkhand

also has deposits of bauxite, copper, mica, and uranium, spread across different parts of the state. These minerals are mostly located in the eastern and central parts of Jharkhand, making it one of India's most resource-rich areas. The distribution of these resources supports many industries and plays a vital role in the state's economy.

100. Select any two natural resources. Gather information about their availability across different parts of India. Mark them on a map. What do you observe about their distribution? What are the types of economic actimties connected with them?



Ans. : Coal and iron ore are two important natural resources found in different parts of India. Coal is mainly found in Jharkhand, Chhattisgarh, Odisha, and West Bengal, while iron ore is mostly found in Odisha, Jharkhand, Chhattisgarh, Karnataka, and Goa. Their distribution is uneven, with large deposits located in the eastern and southern regions. This has led to the growth of mining and related industries in these areas. Coal is used mainly for electricity generation and in industries, while iron ore is used to make steel, supporting construction and manufacturing activities.

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