

Sustainable Management of Natural Resources

Periodic Test

Q.1. List any two measures that you suggest for better management of water resources.

Answer: Two measures for better management of water resources are-

- a. Adopting rainwater harvesting techniques so that we can capture and store rainwater for future use. Construction of dams to store water for irrigation purposes.
- b. At individual level, we can repair faulty taps, pipes and prevent water loss. We should close the water taps when not in use.

Q.2. Why does the management of natural resources require a long-term perspective?

Answer: Management of natural resources requires a long-term perspective so that it helps in sustainable development and it should be available for our future generations too.

Exploiting resources for long-term prospective meet the needs of future generation also. The management of natural resources for future use is a sustainable practice. The judicious use of natural resources in present generation enables the future generation too, to use them for their benefits.

Q.3. State what happened when the “Chipko Movement” spread across communities and media.

Answer: Chipko movement was originated from a small village Reni in 1974 where a group of women under the leadership of Gaura Devi protest against indiscriminate felling of trees by hugging them. The Chipko movement spread slowly to other parts under the leadership of Shri Sunderlal Bahuguna of Silyara in Tehri region. Chipko movement is the movement where people form a circle around the tree and hug them to prevent falling of trees. The local people of Tehri-Garhwal district of UP realize the importance of forests and protest against felling of trees as well as giving forest products to other regions.

It helped in saving trees which ultimately result in conserving soil and water sources which maintain balance in our nature.

Q.4. “Reuse is an important step in saving environment”. Justify.

Answer: Reuse is considered better than recycling as recycling consume some energy to generate new things which is not seen in case of reuse. Reuse prevents environment **pollution by not creating any waste. Reuse also saves money as material is used again without any process.**

Q.5. List any two sources which add greenhouse gases to the environment.

Answer: Two sources are burning of fossil fuels and exhausts from automobiles. Both produce carbon dioxide gas which is a major greenhouse gas.

Q.6. How does mining cause pollution?

Answer: Mining causes soil erosion, loss of biodiversity. The chemicals released from mining activities cause contamination of soil, groundwater, surface water. Dust from mining causes air pollution. Mining activities too cause noise pollution. In this way, mining practices cause air, water, soil and noise pollution.

Q.7. Every one of us can do something to reduce our consumption of various natural resources. List four such activities based on 3-R's approach.

Answer: Four such activities are-

- a. By reusing things instead of throwing away. Example – old clothes, toys etc. can be given to needy people, plastic bottles of jam, pickles can be used to store other things etc.
- b. We can recycle things like paper, plastics, metals, glass etc.
- c. We can use waste water that is produced from water purifier in watering plants, moping floor, cleaning vehicles etc.
- d. Using CFLs bulbs, fluorescent tubes which consume less energy instead of conventional bulbs or tubes.

Q.8. Suggest two ways to conserve forests.

Answer: Two ways to conserve forests are-

- a. Large-scale afforestation programmes.
- b. By implementing law for severe punishment to anyone who is involved in illegal cutting down of trees.

Q.9. Give an example to show that the prejudice against the traditional use of forest areas has no basis.

Answer: The Great Himalayan National park contains Alpine meadows within its reserved areas which were once grazed by Nomadic shepherds but this practice has been stopped now. So grasses have become very tall now which then fall over and prevent fresh growth in alpine meadows. This is an example which shows that the prejudice against the traditional use of forest areas has no basis.

Q.10. Name the old-age water harvesting techniques/structures of Rajasthan still in use today.

Answer: Khadins, tanks and nadis are the old-age water harvesting techniques/structures of Rajasthan still in use today. Khadins is a traditional way of harvesting rainwater and it is mainly followed by people of Rajasthan. These are very long earthen embankments which are built

across the lower edge of the sloping farmlands which are called bund. Rainwater flows down the slopes and fills the bunds to form a reservoir. Pathways are made from bund to nearby well which are mainly dug behind the bund where water seeps and fills the wells.



Traditional water harvesting system —
an ideal setting of the khadin system

Q.11. State two reasons of launching the “Ganga Action Plan”. Which bacteria was found in Ganga’s water indicating contamination?

Answer: Two reasons for launching Ganga Action plan are-

- To improve quality of water of River Ganga.
- To reduce the pollution load of River Ganga and make people aware of preventing pollution of Ganga river.

This plan was launched in 1985 by Mr. Rajeev Gandhi.

Coliform bacteria were found in water of Ganga indicating contamination.

Q.12. State the meaning of biodiversity hotspots. What is the criteria of measuring biodiversity of an area?

Answer: Forests where a large number of flora and fauna species are found are termed as biodiversity hotspots. The criteria for measuring biodiversity are-

- Number of species found in that area.
- Range of different life forms like algae, bacteria, mosses, flowering plants, insects, animals, birds etc.

Q.13. What do the three R’s refer to? Explain the main purpose of following these strategies in daily life.

Answer: The three R’s means Reduce, Reuse and Recycle. Reduce means less use of resources like switching off lights, fans, television, computers, music players when not in use. Closing the taps while brushing teeth, repairing the faulty taps from which water leaks. Reuse means using things again and again like we can write on both sides of a paper, we can give our unused and old things to needy and poor people, bottles of jams, jellies, pickles when finished can be used to

store other things etc. Recycle means using recycling technology new things can be produced from old ones like old newspaper, glass bottles, plastics etc. 3R's approach is the best technique to save our environment.

Q.14. List four benefits that could be provided to the local people in Arabari forest range.

Answer: Four benefits provided to local people were employment in silviculture and harvesting operation, collection of firewood, collection of fodder at nominal price, use of forest products etc.

Q.15. Mention two reasons to explain why forests and wildlife should be conserved.

Answer: Wildlife maintains an ecological balance of nature. It provides a great biological diversity. Many valuable products like musk, ivory, leather etc. are obtained from them. Forests provide us various valuable products like honey, medicines, lac, gums, resins, wood, prevent soil erosion and flood, brings rainfall, release oxygen to atmosphere which is a life supporter. Forests are habitat of variety of living organisms. Loss of biodiversity would lead to ecological imbalance so we need to conserve forests and wildlife.

Q.16. Why management of natural resources should ensure equitable distribution of resources?

Answer: There should be an equitable distribution of resources because everyone has equal rights to use natural resources and gets benefits from them. Everyone whether rich or poor has equal rights to get benefits from natural resources. Geographical factors and economic factors are the forces working against an equitable distribution of our resources. The rich and powerful people take advantage and get more benefits by using resources as compared to poor people. Over exploitation and mismanagement of resources also works against equitable distribution of our resources. So natural resources should be managed in such a way that everyone should get equal benefits from our natural resources.

Q.17. Local people around forests are referred to as “stakeholders” for conservation of forests. Give reasons.

Answer: Local people know the practices to use these resources in a sustainable manner without causing any harm or damage to environment. Because as we have seen in our past how local people protect the Sal forests of Arabari and tribal women of Tehri-Garhwal district of UP protest against the felling of trees by hugging them. So the local people who live in or around forest are referred to as “stakeholders” for conservation of forests.

Q.18. Sustainable development implies a change in all aspects of life. Justify the statement.

Answer: i. Sustainable development implies various forms of growth in all levels like agriculture, ecological, social, natural resources etc. and meets the current basic needs.

ii. It helps in preserving resources for future generations too.

iii. It leads to conservation of environment and leads to economic development.

Q.19. What is the aim of water harvesting?

Answer: The aim of water harvesting is to collect and store rainwater by using special techniques for future use when there is shortage of water or during non-rainy days. This water can be used for irrigation or it can be purified and can be used for drinking and other domestic purposes.

Q.20. “Burning of fossil fuels results in global warming.” Justify the statement.

Answer: Burning of fossil fuels releases various types of gases like carbon dioxide, oxides of sulphur, oxides of nitrogen etc. Carbon dioxide is a greenhouse gas and when released in large quantities formed as a layer on our atmosphere causing greenhouse effect. It traps the sunlight rays inside the surface of earth thus the temperature of earth increases. Hence the consequence of greenhouse effect is global warming. Besides the oxides of sulphur, oxides of nitrogen etc. which are released into the atmosphere are the main causes of acid rain.

Q.21. The construction of large dams leads to

(i) social, and

(ii) environmental problems. List two problems in each case.

Answer: i. Social problems – Vast area of land get submerged under water so many people become homeless. It also leads to unequal distribution of water. People close to the source will get enough water for agriculture whereas those far from the source cannot get sufficient water.

ii. Environmental problems – Large-scale deforestation, loss of flora and fauna of that particular area, displacement of large number of people living in that area etc.

Q.22. “Industrialization is one of the main causes of deterioration of environment”. List any four reasons in favor of this statement.

Answer: a. Industrialization causes air, water, soil and noise pollution.

b. Effluents released from industries to nearby water bodies destroy the quality of water.

c. Toxic gases release into air pollutes it and causes many respiratory disorders.

d. Constant running of heavy machines causes noise pollution.

Q.23. Mention any reasons for which environmentalist protested against raising height of the “Sardar Sarovar Dam” on river Narmada.

Answer: The problems which arise due to construction of big dams are:

a. Social problems – Vast area of land get submerged under water so many people become homeless. It also leads to unequal distribution of water. People close to the source will get enough water for agriculture whereas those far from the source cannot get sufficient water.

b. Economic problems – It involves a huge expenditure and low benefits as compared to the cost.

c. Environmental problems – Large-scale deforestation, loss of flora and fauna of that particular area, displacement of large number of people living in that area etc.

Q.24. What are fossil fuels? How are they formed?

Answer: Fossil fuels are obtained by degradation of dead remains of plants and animals which are buried under the surface of earth over a million years ago. They are called so as they are produced by degradation of biomass over a million years ago. They are an important source of fuels. The two fossil fuels are coal and petroleum.

Q.25. List three reasons to justify the need to manage the available resources carefully.

Answer: Three reasons are-

- a. We should manage our available resources carefully so that our future generations can take benefits from them.
- b. Every one of us can take benefits from them without any shortage.
- c. Some resources are non-renewable so we should use them wisely without leading to any exhaustion of these resources.

Q.26. List any four human activities responsible for the pollution of river water.

Answer: Four human activities that cause pollution of river water are-

- a. Disposal of sewage, human unburnt corpses.
- b. Bathing and washing of clothes.
- c. Bathing of domestic animals
- d. Immersion of ashes, garbage disposal.

Q.27. We should use coal and petroleum judiciously. Why? State any four reasons.

Answer: We should use them judiciously because-

- a. They are an important source of fuels. Petroleum products like petrol, diesel etc. are used as fuel in automobiles. Coal is used in thermal power plants to generate electricity and also used as a fuel for domestic purposes.
- b. They took millions of years to get formed hence if consumption will over exceeds it may lead to exhaustion of these resources.
- c. We should use them judiciously so that our future generations can take benefits from them.
- d. Burning of these fuels cause pollution, global warming so we should use them wisely.

Comprehensive Exercises (MCQ)

Q.1. It is important to make small check dams across the flooded gullies because they:

- (i) hold water for irrigation**
- (ii) hold water and prevent soil erosion**
- (iii) recharge groundwater**
- (iv) hold water permanently**

- A. (i) and (iv)**
- B. (ii) and (iii)**
- C. (iii) and (iv)**
- D. (ii) and (iv)**

Answer: Small check dams hold water and prevent soil erosion, they help in recharging groundwater. So they are build across flooded gullies.

Q.2. The three R's that will help us to conserve natural resources for long-term use are:

- A. recycle, regenerate, reuse**
- B. reduce, regenerate, reuse**
- C. reduce, reuse, redistribute**
- D. reduce, recycle, reuse**

Answer: Reduce, reuse and recycle are three Rs which helps us to conserve our resources for long-term use.

Q.3. Arabari forest of Bengal is dominated by:

- A. teak**
- B. sal**
- C. bamboo**
- D. mangrove**

Answer: Sal forests were mainly found in the Arabari forests of Bengal.

Q.4. A successful forest conservation strategy should involve:

- A. protection of animals at the highest trophic level**
- B. protection of only consumers**
- C. protection of only herbivores**
- D. comprehensive programme to protect all the physical and biological components**

Answer: The program should involve protection of all physical and biological components present in forests like flora, fauna, soil etc.

Q.5. The important message conveyed by the 'Chipko Movement' is:

- A. to involve the community in forest conservation efforts.**
- B. to ignore the community in forest conservation efforts**
- C. to cut down forest trees for developmental activities**
- D. government agencies have the unquestionable right to order destruction of trees in forest.**

Answer: People living in and around forest should be involved in conserving forests because they have better knowledge of using these resources without causing any harm to them.

Q.6. The pH of water sample collected from a river was found to be acidic in the range of 3.5 — 4.5, on the banks of the river were several factories that were discharging effluents into the river. The effluents of which one of the following factories is the most likely cause for lowering the pH of river water?

- A. soap and detergent factor**
- B. lead battery manufacturing factory**
- C. plastic cup manufacturing factory**
- D. alcohol distillery**

Answer: Lead battery manufacturing factory use acids in lead batteries which has lower pH and when discharged into nearby water bodies are more likely to lower pH value of water.

Q.7. Groundwater will not be depleted due to:

- A. afforestation**
- B. thermal power plants**
- C. loss of forest, and decreased rainfall**
- D. cropping of high water demanding crops**

Answer: Afforestation means planting of more trees which will bring rainfall thus increasing ground water level.

Q.8. Opposition to the construction of large dams is due to:

- A. social reasons**
- B. economic reasons**
- C. environmental reasons**

D. all the above

Answer: All three i.e. social, economic, environmental reasons are main opposition for construction of large dams.

Q.9. Khadins, Bundhis, Ahars and Kattas are ancient structures that are example for:

A. grain storage

B. wood storage

C. water harvesting

D. soil conservation

Answer: These are all ancient or traditional methods of water harvesting. These structures are prepared to capture and store rainwater for various uses. These structures are known by different names in different states of India.

Q.10. Pick the right combination of terms which has no fossil fuel:

A. wind, ocean and coal

B. kerosene, wind and tide

C. wind, wood, sun

D. petroleum, wood, sun

Answer: Wind, wood and sun are not included under fossil fuels. Coal and petroleum are main fossil fuels.

Q.11. Select the eco-friendly activity among the following:

A. using car for transportation

B. using polybags for shopping

C. using dyes for colouring clothes

D. using windmills to generate power for irrigation

Answer: Using windmills to generate power for irrigation is one of the eco-friendly activity. We can harness wind energy to generate electricity which is one of the inexhaustible natural resources and is an eco-friendly approach.

Q.12. Among the statements given below select the ones that correctly describe the concept of sustainable development:

(i) planned growth with minimum damage to the environment.

(ii) growth irrespective of the extent of damage caused to the environment.

(iii) stopping all development work to conserve the environment.

(iv) growth that is acceptable to all the stakeholders.

A. (i) and (iv)

B. (ii) and (iii)

C. (ii) and (iv)

D. (iii) only

Answer: Sustainable development means growth in every sector without causing any damage to our environment to meet demands of both present and future generations. Four main stakeholders should accept the growth that will be taking place in every sector, as stakeholders play an important role towards sustainable development.

Comprehensive Exercises (T/F)

Q.1. Write true or false for the following statements:

A loss of diversity may lead to a loss of ecological stability.

Answer: True

Diversity refers to flora, fauna of that particular region and loss of these may cause an ecological imbalance as they play an important role in maintaining our diversity.

Q.2. Write true or false for the following statements:

Non-judicious use of forest resources has a very little effect on biodiversity.

Answer: False

Non-judicious use of forest resources creates a large impact on biodiversity as forests are the main habitats of all flora and fauna species and damaging them might create havoc on the lives of all living beings living in that area.

Q.3. Write true or false for the following statements:

Natural resources must be used with due caution for our economic and social growth, and to meet our material aspirations.

Answer: True

We should use our natural resources cautiously to meet our needs as well as for social and economic development.

Q.4. Write true or false for the following statements:

The environment is only regarded as a pristine collection of plants and animals.

Answer: False

Environment includes all biotic and abiotic components and their interaction.

Q.5. Write true or false for the following statements:

The kind of economic and social development we want will ultimately determine whether the environment will be conserved or further destroyed.

Answer: True

If we want our economic and social development by causing harm to our environment it will destroy our environment but if we will follow sustainable development it will lead to conservation of our environment.

Q.6. Write true or false for the following statements:

The Chipko Andolan was started in Khejrali village near Jodhpur in Rajasthan.

Answer: False

Chipko movement was first started in a small village Reni in 1974 by a group of women under leadership of Gaura Devi.

Q.7. Write true or false for the following statements:

Destruction of forests has little or no effect on the quality of soil and the source of water.

Answer: False

Destruction of forests leads to soil erosion where the top fertile soil is removed causing great effect on quality of soil. It reduces rainfall thus affecting water bodies.

Q.8. Write true or false for the following statements:

Participation of the local people can indeed lead to the efficient management of forests.

Answer: True

Local people can effectively use forest resources without harming them, they have great knowledge of these resources. So active participation of local people leads to efficient management of forests.