

QUESTION BANK IN SCIENCE CLASS-X (TERM-II)

16

MANAGEMENT OF NATURAL RESOURCES

CONCEPTS

1. We can manage and conserve our natural resources as well as the environment through sustainable development.
2. Sustainable development means development which meets the needs of the present generation as well as of the future generation.
3. The objective of sustainable development is to maintain a healthy environment which is pollution free, so that human beings can live in harmony with nature.
4. To achieve sustainable development, the goal should be to minimise resource use.
5. Preservation refers to non-use, conservation attempts to minimise the use of a natural resource and restoration seeks to return a degraded resource to its original state.
6. The 3R's in sustainable development are **reduce, recycle and reuse**.
7. "Reuse" is in a way better than recycling because the energy used for recycling the resources is not used in case of reuse.
8. Forests are "biodiversity hotspots".
9. Stakeholders are the people living in or around the forests.
10. The "Chipko movement" ("Hug the tree movement") was a movement of the local people to resist the deforestation attempt on the hill slopes.
11. A major law protecting endangered species globally is **CITES** (Convention on International Trade in Endangered species).
12. India has 581 protected areas, among them 89 are National Parks and 492 wildlife sanctuaries.
13. "Project Tiger" was initiated in 1973 and it was founded by the World Wide Fund for Nature.
14. The **Narmada Bachao Andolan** has been very active in its movement against the Sardar Sarovar Project in Gujarat.
15. **Coliform bacteria** act as water pollution indicator.
16. Fossil fuels such as coal and petroleum are termed as **non-renewable sources of energy**.
17. Acid rain as well as global warming are the result of exploitation and misuse of natural resources.
18. Some important NGOs working in the field of environment are Kalpavriksh (New Delhi), World Wide Fund for Nature - India, Bombay Natural History Society (BNHS) Mumbai, etc.

I. SUMMATIVE ASSESSMENT

NCERT QUESTIONS WITH THEIR ANSWERS

SECTION A : IN-TEXT QUESTIONS

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1. What changes can you make in your habits to become more environment-friendly?

OR

Suggest two measures which could be incorporated in daily life to become more environment friendly. [2011 (T-II)]

Ans. We can become more environment-friendly by following the given changes in our daily life :

- (i) **Reusing articles** : Some non-biodegradable wastes like carry bags, packing paper, plastic containers, metallic cans, glass bottles, etc. can be reused.
- (ii) **Recycling** : We can separate the recyclable items from our daily wastes to which we can give to the rag pickers to recycle. Paper, plastic, glass, cotton cloth, metal, etc. are recyclable things.
- (iii) **Reducing the consumption** : We can reduce the consumption of :
 - petroleum fuels by walking down to nearby places.
 - electricity by switch off the unnecessary lights, fans and electrical appliances.
 - water by repair of leaky taps and reducing wastage.

2. What would be the advantages of exploiting resources with short-term aims?

Ans. It will provide short term advantages and the comforts available in plenty. There will be rapid industrialisation and development.

3. How would these advantages differ from the advantages of using a long term perspective in managing our resources?

Ans.	Short Term Advantages	Long Term Advantages
	<ol style="list-style-type: none">1. The resources are available in plenty.2. People often use the things and throw them.3. The resources are likely to get exhausted soon.4. The whole ecology is harmed and disturbed.	<ol style="list-style-type: none">1. Use of various resources is restricted.2. The people reuse, replace and recycle the used articles.3. The resources are likely to remain available for a long time.4. It is eco-friendly.

4. Why do you think there should be equitable distribution of resources? What forces would be working against an equitable distribution of our resources? (Imp.)

Ans. The natural resources are living as well as non-living components which provide food, fodder, shelter, water, energy, articles of daily use and comforts. All human beings have the fundamental right to use these resources. Equitable distribution of resources make this possible.

Forces against equitable distribution :

- (i) Excessive consumption by rich people.
- (ii) Restricted availability of resources.
- (iii) Profit-making by exploiting resources.

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1. Why should we conserve forests and wildlife?

Ans. We should conserve forests and wildlife because :-

- (i) They maintain biodiversity.
- (ii) They are essential for ecological balance.
- (iii) Forests prevent flood and also influence rainfall.
- (iv) They provide us many life-saving drugs, silk, lac, honey, timber, etc.

2. Suggest some approaches towards the conservation of forests.

(Imp.)

Ans. Conservation of Forests : Some approaches are –

- (i) Afforestation and reforestation.
- (ii) Commercial forestry should be separated.
- (iii) Laws can be made for conservation of forests.
- (iv) Controlled grazing.
- (v) Checking on fire and cutting of trees.
- (vi) Building of national parks, sanctuaries and biosphere reserves.

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1. Find out about the traditional systems of water harvesting/management in your region.

Ans. The traditional system of water harvesting differ from place to place in India. Some of these are as follows :

- (i) *Khadins* and *nadis* in Rajasthan.
- (ii) *Bandharas* and *tals* in Maharashtra.
- (iii) *Bundhis* in M.P. and U.P.
- (iv) *Ahars* and *pynes* in Bihar.
- (v) *Kulhs* in Himachal Pradesh.
- (vi) Ponds in the Kandi belt of J.K.
- (vii) *Eris* (tanks) in Tamil Nadu.
- (viii) *Surangams* in Kerala.
- (ix) *Kattas* in Karnataka.

2. Compare the above system with the probable systems in hilly/mountainous areas or plains or plateau regions.

Ans. Water Harvesting in :

Hilly Mountainous areas :

- (i) *Kulhs*, *khattris*, *kuls* in Himachal Pradesh.
- (ii) *Zabo* in Nagaland.
- (iii) *Zings* in Ladakh.

Plains :

- (i) Tanks, *kuis*, *jhaslars*, *booris* or *bers*, *vivdas*, *khadins* and *nadis* in Rajasthan.
- (ii) Ponds in Jammu.
- (iii) *Bandharas* and *tals* in Maharashtra.
- (iv) *Bundhis* in MP and UP.
- (v) *Ahars* and *pynes* in Bihar.

Plateau :

- (i) *Eris* in Tamil Nadu.

(ii) *Surangams* in Kerala.

(iii) *Kattas* in Karnataka.

3. Find out the source of water in your region/locality. Is water from this source available to all the people living in that area?

Ans. The water is supplied by municipal corporation through pipes. It is obtained either from rivers or from canals. In some residential colonies piped water is pumped out from ground by tube wells and stored in tanks.

The water from municipal corporation is not available to all the residential colonies. Many newly built colonies and unauthorised colonies are often without the piped water.

SECTION B : QUESTIONS AT THE END OF THE CHAPTER

1. What changes would you suggest in your home in order to be environment-friendly? **(Imp.)**

Ans. (i) Judicious use of electricity by switching off lights and electrical appliances not required.
(ii) Replacement of electricity or gas operated geysers with solar water heaters.
(iii) Replacement of incandescent bulbs with fluorescent and compact fluorescent ones.
(iv) Replacement of electricity generating sets with solar light.
(v) Reducing wastage of water, food and other articles.
(vi) Having more natural light and ventilation with design supporting warming during winters and cooling during summer.
(vii) Increasing reuse of containers.
(viii) Separation of recyclable waste from non-recyclable waste prior to disposal.
(ix) Using cloth bags instead of polythene, plastic or paper bags.

2. Can you suggest some changes in your school which would make it environment-friendly?

Ans. (i) Enough trees and plants can be planted in the school garden.
(ii) Student should be educated not to pluck leaves and flowers unnecessarily.
(iii) Students and teachers can be educated about the tricks of environment conservation.
(iv) Water and electricity should not be wasted.
(v) Paper can be reused by using it in various crafts.
(vi) There can be more windows in school for natural light.
(vii) Seminars can be organised for spreading environment awareness; etc.
(viii) Compost pits can be made in corners of school area in which biodegradable wastes can be dumped to prepare useful compost.

3. We saw in this chapter that there are four main stakeholders when it comes to forests and wildlife. Which among these should have the authority to decide the management of forest produce? Why do you think so? **(Imp.)**

OR

List any four stakeholders which may help in the conservation of forests. **[2011 (T-II)]**

Ans. The four main stakeholders are –

- (i) **People** : They live in and around forests and depend on forest produce for various aspects of their lives.
(ii) **The government** : It owns and controls the resources of forests and wildlife.
(iii) **The industrialists** : They use forest produce but are not dependent on a forest in any one area.

- (iv) **Wildlife and nature enthusiasts** : They want to conserve nature in its natural form. The management of forest produce should be in the hands of the local people who depend upon the forest and wildlife for their lives for centuries. But there should also be some framework (by the Government) in place which monitors their use of resources so that the exploitation of the forest produce by the local people can be restricted. Also there should be some limited access to the wildlife enthusiasts and scientists who may study the various aspects of forests and wildlife.

4. How can you as an individual contribute or make a difference to the management of (a) forests and wildlife, (b) water resources and (c) coal and petroleum? **(V.Imp.)**

Ans. I can make a difference by the following ways :-

(a) Forests and Wildlife :

- (i) Sustainable use of product from forests and wildlife.
- (ii) More and more plantation should be encouraged.
- (iii) Joint forest management committees should be formed.
- (iv) Financial aid should be given to the organisations helping in forest and wildlife conservation.

(b) Water Resources :

- (i) Recharge the ground water by rain water harvesting.
- (ii) Suggest and train the farmers to apply the modern techniques of irrigation so that wastage of water can be controlled.
- (iii) Judicious use of water and forests.

(c) Coal and Petroleum :

- (i) These should be highly purified to reduce air pollution.
- (ii) Maximum use of solar energy.
- (iii) Other optional source of fuel should be discovered for transport system.

5. What can you as an individual do to reduce your consumption of the various natural resources?

Ans. One should follow the practice :-

- (i) Such as save electricity by switching off the electrical equipments not required.
- (ii) Follow the principles of three R's (Reduce, Recycle and Reuse).
- (iii) Do not waste food.
- (iv) Save water.
- (v) Use cooking gas instead of wood for cooking.

6. List five things you have done over the last one week to –

- (a) conserve our natural resources.
- (b) increase the pressure on our natural resources.

Ans. (a) To conserve our natural resources, I –

- (i) used public transport for going to the market and school.
- (ii) saved water from our daily works and used it for gardening.
- (iii) installed CFL in place of tube-lights.
- (iv) saved paper by using each page on both the sides.

(b) I increased the pressure on our natural resources by –

- (i) While brushing my teeth, I did not close the tap so wasted the water.

- (ii) I brought more food in my tiffin than I required, so I wasted the food.
 (iii) I left the switch on the fan when I went to school.
7. On the basis of the issues raised in this chapter, what changes would you incorporate in your life-style in a move towards a sustainable use of our resources? **(Imp.)**

OR

List four changes you would like to incorporate in your life style which would facilitate the more towards a sustainable use of available resources in our country. **[2011 (T-II)]**

Ans. We can make the following changes for sustainable use of natural resources :-

- (1) Follow the principle of three R's – recycle, reduce and reuse.
- (2) Undertake tree plantation every year during the days of Van Mahotsava.
- (3) Use the public transport, school bus and car pools wherever possible.
- (4) Use solar energy.

ADDITIONAL QUESTIONS (As Per CCE Pattern)

A. Very Short Answer Questions

[1 Mark]

Previous Years' Questions

1. India has more than 50,000 strains of rice. Mention the level of biodiversity it represents. **[2010]**
Ans. It is a genetic variation within the species.
2. Mention the information that the health workers derive by measuring BOD of a water body. **[2009]**
Ans. BOD (Biological Oxygen Demand) is the amount of oxygen required for biological oxidation of microbes in any unit volume of water.
3. State an instance where human intervention saved the forest from destruction. **[2009]**
Ans. Chipko movement.
4. Name any two forest products, each of which is the basis for some industry. **[2009]**
Ans. 1. Wood : Sports, furniture and paper manufacturing.
 2. Resin : Turpentine industry.
5. Why are coal and petroleum considered to be non-renewable sources of energy? **[2009]**
Ans. Coal and petroleum are considered non-renewable sources of energy because they are not being formed continuously in nature and are, therefore, not replenished. Continuous use will result in their depletion.
6. What is meant by renewable natural resources? **[2009]**
Ans. Renewable natural resources are replenished regularly and are therefore, likely to remain available indefinitely if they are used judiciously. Example : forests.
7. What are the two kinds of natural resources? **[2009]**
Ans. (i) Inexhaustible resources that occur in abundance and does not diminish with time.
 (ii) Exhaustible resources are likely to reduce with continued exploitation.

8. Which one of the following is a renewable resource?
Natural gas, Petroleum, Ground water, Coal. [2008]
- Ans.** Ground water.
9. Fire wood is our conventional fuel. List any four reasons for replacing it by alternate sources of energy. [2008]
- Ans.** (i) It results in deforestation.
(ii) Small energy value.
(iii) It is bulky.
(iv) More pollution is produced.
10. Which one of the following gases is the major constituent of biogas: CO_2 , H_2 , CH_4 , CO_2 ? [2008]
- Ans.** CH_4 (methane)
11. How is the increase in demand for energy affecting air environment already? [2008]
- Ans.** The increased consumption of fossil fuels like coal, petroleum and natural gas is releasing a lot of polluting gases such as CO_2 , CO , SO_2 and NO_2 some of which are causing green house effect and acid rain.
12. List any two traditional systems of water harvesting. [2008]
- Ans.** Ponds and streams.

Other Important Questions

1. Define biodiversity.
- Ans.** The existence of a wide variety of species of plants, animals and micro-organisms in a natural community is called biodiversity.
2. Give the main aim of conservation. (Imp.)
- Ans.** The aim of conservation is to preserve the biodiversity we have inherited, for the future generations.
3. What are the two main sources of energy today?
- Ans.** Coal and petroleum.
4. Define water harvesting.
- Ans.** Water harvesting is the activity of collection of rain water directly by various means.
5. Give two causes of overexploitation of natural resources. (V.Imp.)
- Ans.** (i) Industrial growth
(ii) Population growth
6. Name the products formed on burning of coal and petroleum.
- Ans.** CO_2 , water, oxides of nitrogen and oxides of sulphur.
7. Name the most common practice of recharging the ground water.
- Ans.** Rain water harvesting.
8. Name the major programme started to replenish forests.
- Ans.** Silviculture
9. What is *Khadin*? (Imp.)
- Ans.** *Khadin* is a traditional water harvesting system in Rajasthan.

10. Which of the project was launched to clean Ganga?
Ans. Ganga Action Plan (GAP).
11. Write the expanded form of MPN.
Ans. MPN – Most Probable Number.
12. What are the 3R's to save the environment? (V.Imp.)
Ans. The 3R's are — (i) Reuse (ii) Recycle (iii) Reduce
13. Name the award that Government of India instituted in the memory of a social worker who protected *khejri* trees.
Ans. Amrita Devi Bishnoi National Award for Wildlife Conservation.
14. What are the water harvesting methods used in Maharashtra ?
Ans. *Bandharas* and *tals*.
15. When was Ganga Action Plan launched? (Imp.)
Ans. In 1985.

B. Short Answer Questions - I

[2 Marks]

Previous Years' Questions

1. Mention any two reasons for which environmentalist protested against raising height of the 'Sardar Sarovar Dam' on river Narmada. [2011 (T-II)]
Ans. (i) **Social problems** : Due to construction of high rise dams, a vast area of land gets submerged under water resulting in displacement of large number of people. These displaced people do not get adequate compensation or rehabilitation.
(ii) **Economic problems** : The construction of high-rise dams involves spending of huge amount of public money and the benefits generated by these projects are not proportional to the expenditure.
2. What is watershed management? How is it helpful to ecosystem? [2011 (T-II)]
Ans. Watershed is a raised area which acts as a source of run-off water to low-lying areas and watershed management emphasises scientific method soil and water conservation in order to increase the biomass production.
It is helpful to ecosystem because
(i) Growing more trees in watershed areas increasing the retention of more rain water and protection of soil from erosion.
(ii) It enhances the productivity that increases the income of watershed community.
(iii) It reduces droughts and flood downstream.
(iv) It increases the life of the downstream dam and reservations because of less silting.
3. What harm has been caused to alpine meadows since nomadic shepherds have stopped from grazing their cattle in such meadows? [2011 (T-II)]
Ans. **Nomadic Shepherds** used to take their flocks to alpine meadows for grazing during summer but they were prevented from doing so, due to establishment of Great Himalayan National Park. The grass of alpine meadows now grows very tall and falls over resulting in stoppage of fresh growth. This example shows that management of protected areas cannot be successful in the long run without the involvement of the local people. They cannot be blamed for all the damage done to the forests.

4. Burning of coal and petroleum pollute the environment. Justify this statement. [2011 (T-II)]
- Ans.** On combustion, coal and petroleum produce carbon dioxide, water, oxides of nitrogen and oxides of sulphur and carbon monoxide. The oxides of sulphur and nitrogen and carbon monoxide are poisonous at high concentrations are considered as major air pollutant.
5. (a) Why are coal and petroleum called fossil fuels?
(b) Name any two elements present in fossil fuels in addition to carbon. [2011 (T-II)]
- Ans.** Coal and petroleum are formed millions of years ago from degeneration of biomass inside the earth under high pressure, heat and anaerobic conditions. Hence, coal and petroleum are called fossil fuels.
6. Explain with the help of two examples how the participation of local people has led to conservation of forest in the past.

OR

- With the help of an example explain how involvement of local people can lead to efficient management of forests. [2011 (T-II)]
- Ans. Examples of people's participation in the management of forests.**
- (i) In 1972, the West Bengal Forest Department realised its failure in revising the degraded sal forests in the south western district of the state. After realising their failure, the forest department revised strategy and allowed forest officer A.K. Banerjee of Arbarsi forest range of Midnapore to involve villagers in the regeneration of 1272 hectares of badly degraded sal forest. He provided employment to villagers in silviculture (cultivation of trees) and foresting, 25% of final harvest and allowed collection of fuel wood and fodder at a nominal fee. With the active participation of the local community, the sal forests of Arbari had been revived and in 1983 it was valued at Rs 12.5 crores.
- (ii) The role of the local people in forest management can be discussed here – Locals are traditionally conservationist e.g. Bishnois of Rajasthan and nearby areas consider conservation of forest and wildlife as religious tenet. The Government of India has recently instituted an award called **Amrita Devi Bishnoi National Award** for wildlife conservation in the memory of Amrita Devi Bishnoi, who sacrificed her life along with 363 others for the protection of 'Khejri' trees in Khejrli village near Jodhpur in Rajasthan in 1731.
7. (a) How can development of efficient engines ensuring complete combustion of fossil fuel be useful to us?
(b) Name the four elements that constitute fossil fuels. [2011 (T-II)]

- Ans.** (a) The development of efficient engines ensuring complete combustion of fossil fuel be useful to us in order to increase efficiency and reduce air pollution.
(b) Fossil fuels are formed of carbon, hydrogen, nitrogen and sulphur.
8. Suggest two methods by which our consumption of coal and petroleum can be reduced. [2011 (T-II)]

- Ans.** Consumption of coal and petroleum can be reduced by
- (i) Using alternate sources of energy, e.g., solar energy or biogas fuel. Wherever possible.
(ii) Avoiding wastage of energy by switching off lights, fans, TV and other domestic gadgets not in use.
9. Give two reasons why, there is a need of switching over from fossil fuels to the other sources of energy. Name any two alternative sources of energy. [2011 (T-II)]

Ans. We need to switch over from fossil fuels to the other source of energy because their over exploitation will not only deplete them faster but will also add unwanted by-products of combustion to the environment which are harmful for humans as well as other living thing. Solar energy and biogas fuel are alternative source of energy.

10. We should use coal and petroleum judiciously. Why? State any four reasons. [2011 (T-II)]

Ans. We need to use fossil fuels judiciously because

- (i) Their over-exploitation will deplete them faster.
- (ii) They will add unwanted by-products of combustion to the environment which are harmful for humans as well as other living things.
- (iii) Fossil fuels are formed of carbon, hydrogen nitrogen and sulphur. On combustion, they produce carbon dioxide, water, oxides of nitrogen and oxides of sulphur and carbon monoxide (when carbon burns in insufficient oxygen). The oxides of sulphur and nitrogen and carbon monoxide are poisonous at high concentrations and are considered as major air pollutant.
- (iv) Carbon dioxide is a greenhouse gas and increase of CO₂ in atmosphere may lead to intense global warming.

11. An environmentalist on a visit to your school suggested the use of three R's to save the environment. Explain what he meant of three R's and how would you follow his advice at home? [2009, 2011 (T-II)]

Ans. We can save our environment by practising three R's — Reduce, Recycle and Reuse.

- (i) **Reduce** : This means that you use less. We can save electricity by switching off lights and fans when they are not required. We can save water by repairing leaky taps. We can save papers by using both sides of paper and make rough notepads out of waste papers and old calendars.
- (ii) **Recycle** : This means using the same resource again and again, but in a modified form. Organic waste (from plant food source) can be allowed to rot and manure can be prepared. We should collect the used and discarded items of plastic, paper, glass and metals and send them for recycling to get these items again for use.
- (iii) **Reuse** : This means using the same resource again in the same form, such as refilling cola bottles. Instead of throwing away used envelopes, you can reverse it and use it again.

12. What is water harvesting? Mention any two water harvesting structures. [2009, 2011 (T-II)]

Ans. Water harvesting is the activity of direct collection of rainwater. The rainwater collected can be stored for direct use or can be recharged into the ground.

Examples of water harvesting structures :

- (a) *Bundhis* in M.P. and U.P.
- (b) *Khadins*, tanks and nadis in Rajasthan.

13. List four changes you would incorporate in your lifestyle in a move towards sustainable use of available resources. [2010]

Ans. (i) We should use public transport. Travel in buses, trains and walk short distances.

(ii) We should use both sides of paper and make rough notepads out of waste papers and old calendars.

(iii) We should not leave taps open while brushing teeth or while washing utensils.

(iv) We should stop the wastage of electricity by switching off electrical appliances when not required.

14. What are natural resources? State two factors that work against an equitable distribution of these resources. [2009]

Ans. Natural resources are the components of the environment which are essential for sustaining life on earth, e.g., wildlife, water, forest, etc.

Factors that work against an equitable distribution of natural resources are :

- (a) Geographical and climatic differences at different places on the earth.
- (b) Man's activities like hunting, cutting of trees, etc.

15. Why must we conserve our forests? List any two causes for deforestation taking place. [2009]

Ans. Forests are "biodiversity hotspots". A wide range of different life forms — bacteria, fungi, ferns, flowering plants, nematodes, insects, birds, reptiles, etc. are present in a forest. One of the main aims of conservation is to preserve the biodiversity we have inherited.

Causes of deforestation :

- (a) Deforestation is caused due to requirement of more land by growing population for food, house and industrialisation.
- (b) Deforestation is caused due to expansion of crop-land.

16. List any four measures for conserving forests. [2009]

Ans. (a) **Social forestry** : It involves the raising of fast-growing trees to meet the demands of the community and reduce the stress on forest.

(b) **Afforestation** : It helps in the restoration of the ecological balance.

(c) **Silviculture** : It means reforesting those forest lands from where large number of trees have been cut in a planned way.

(d) By awakening the people and encouraging them not to over use the materials obtained from the forests.

17. What is Chipko movement? Why should we conserve forests? [2009]

Ans. The Chipko movement was a movement of the local people to resist the deforestation attempt on the hill slopes. It was started in early 1970s in village Reni in Garhwal.

We should conserve forests because :

- (a) Forests preserve the biodiversity.
- (b) Forests maintain a perfect water-cycle and oxygen level in nature.
- (c) Forests prevent soil erosion and occurrence of floods.
- (d) Forests produce a large quantity of raw materials for industries.

18. Suggest any four changes that you would like to be incorporated in the lifestyle of students of your age to move towards a sustainable use of available resources. [2009]

Ans. I would like to incorporate the following changes in the lifestyle of students :

- (a) They should use public transport. Travel in buses, trains and walk short distances.
- (b) They should use both sides of paper and make rough notepads out of waste papers and old calendars.
- (c) They should not leave taps open while brushing teeth or while washing utensils.

- (d) They should stop the wastage of electricity by switching off electrical appliances when not required.
- 19.** Write two advantages of classifying energy sources as renewable and non-renewable. [2008]
- Ans.** (i) Stress should be laid on exploitation of renewable sources of energy like solar energy.
(ii) We can prevent the depletion of non-renewable sources of energy by their judicious use.
- 20.** What are fossil fuels? Give two examples of fossil fuels. [2008]
- Ans.** Fossil fuels are energy yielding carbon containing combustible substances formed millions of years ago from degeneration of vegetation under high pressure, heat and anaerobic conditions. **Examples** – Coal and petroleum.
- 21.** Why should we conserve forests? Suggest any two ways to conserve forests. [2008]
- Ans.** We must conserve forests to preserve the biodiversity because it is the home of a large variety of plants and animals. Two ways to conserve forests are :
- (i) Social forestry to meet the demands of community and reduce the stress on forest.
(ii) Afforestation helps in the restoration of the ecological balance.
- 22.** State two reasons each for conserving (a) forests (b) wildlife. [2008]
- Ans.** Reasons for conserving –
- (a) **Forests :-** (i) To preserve the biodiversity we have inherited.
(ii) To increase the economical benefits.
- (b) **Wildlife :-** (i) To make a balance in ecosystems.
(ii) To preserve the rare species of plants and animals.

Other Important Questions

- 1.** Write the two important purposes of building large dams?
- Ans.** Large dams are built for various purposes —
- (i) to ensure the storage of water for irrigation as well as for generating electricity.
(ii) to distribute water to large distances by building canal systems.
- 2.** What is meant by sustainable development? Give its main objective. (V.Imp.)
- Ans.** Sustainable development means development which meets the needs of the present generation as well as of the future generation. The main objective is to maintain a healthy, pollution free environment.
- 3.** Where was Chipko movement started ? Name two persons who took an active role in it. (V.Imp.)
- Ans.** Chipko Movement was started in early 1970s in village Reni in Garhwal.
Chandi Prasad Bhatt and Sunderlal Bahuguna took active role in Chipko Movement.
- 4.** What is the meaning of recycle? Why is 'Reuse' better than recycling ?
- Ans.** Recycle means using the same resource again and again, but in a modified form.
"Reuse" is in a way better than recycling because the energy used for recycling the resources is not used in case of reuse.
- 5.** What is water harvesting? Give any two advantages of water harvesting.
- Ans.** Water harvesting is the activity of direct collection of rainwater. The rainwater collected can be stored for direct use or can be recharged into the ground.

Advantages of water harvesting :

- (i) Rain water can be stored for recharging aquifers inside the soil for withdrawal later.
- (ii) Rain water can be stored for ready use in containers above and below the ground.

6. Why should we conserve forests? Give four reasons. (Imp.)

Ans. We should conserve forests because :

- (a) Forests preserve the biodiversity because they are the home of a large variety of plants and animals.
- (b) Forests maintain a perfect water cycle and oxygen level in nature.
- (c) Forests prevent soil erosion and occurrence of floods.
- (d) Forests produce a large quantity of raw materials for industries.

7. Name two NGOs working in the field of conserving the environment in India.

Ans. (i) Kalpavriksh, New Delhi.
(ii) Bombay Natural History Society (BNHS), Mumbai.

8. What are the advantages of storing the underground water? Give any four reasons.

Ans. The advantages of groundwater storage :

- (i) It does not evaporate.
- (ii) Provides moisture to crops.
- (iii) Can be utilised by the local people.
- (iv) Remains protected from contamination.

C. Short Answer Questions - II

[3 Marks]

Previous Years' Questions

1. "Industrialization is one of the main cause of deterioration of environment". List any four reasons in favour of this statement. [2011 (T-II)]

Ans. Industries consider forests as sources of different types of raw materials. If the raw material in one forest is exhausted, they get the raw materials from another forest. In such a way they do have a major stake in the conservation of forests, although they may be responsible for its unsustainable use.

Mining causes pollution because of large amounts of slag which is discarded for every tonne of metal extracted. Burning of fossil fuels gives out all kinds of gases in the atmosphere causing air pollution. Building of dams causes large areas to submerge. Various industries release various pollutants into the air, water and soil. Thus, on the one hand our natural resources are getting depleted and on the other hand we are polluting the earth's environment which can regenerate those natural resources to some extent.

2. What is meant by exploitation of resources with short term aims? List its four advantages. [2009]

Ans. To fulfil the short term needs of the present generation by exploitation of resources.

Advantages :-

- (i) Huge profit can be achieved without any accountability.
- (ii) If the resources are exploited to the hilt with short-term aims, then the present generation benefits largely.
- (iii) This can meet the basic needs of the present generation.
- (iv) It minimises the damage caused to the environment.

3. What is Chipko movement? How did this movement ultimately benefit the local population and the environment? [2009]

Ans. The Chipko movement was a movement of the local people to resist the deforestation attempt on the hill slopes. It was started in early 1970s in village Reni in Garhwal. The women of Reni literally clasped the trees, thus preventing the workers of the contractor to cut the trees.

Benefits of Chipko movement to the local population

- (i) The Chipko movement helped in the conservation of forests.
- (ii) The 'Chipko andolan' forced the government to whom the forest belongs, to re-think their priorities in the use of forest produce.
- (iii) It helps to conserve forests, maintain ecological balance and prevent floods and soil erosion.
- (iv) It also helps in the availability of forest materials for the future generations.

4. What is dam? Write two main advantages and two ill-effects of constructing a big dam.

[2009]

Ans. Dams are the large water storing bodies that are usually build by government agencies across the rivers to regulate the flow of water and generate electricity. They store huge amount of water for irrigation of fields throughout the year.

Advantages of Dams :

- (i) Large dams store adequate amount of water for irrigation through a canal system. The canal systems can transfer large amounts of water to great distances which helps in raising agricultural production in far away places. *e.g.*, Indira Gandhi canal originating from Bhakra dam in Punjab has brought greenary in many parts of Rajasthan.
- (ii) Large dams ensure uninterrupted water supply in surrounding areas and stored water is also supplied to neighbouring towns and cities through pipelines.

Ill-effects of Dam :-

- (i) **Social problems** : Due to construction of high rise dams, a vast area of land gets submerged under water resulting in displacement of large number of people. These displaced people do not get adequate compensation or rehabilitation.
- (ii) **Economic problems** : The construction of high-rise dams involves spending of huge amount of public money and the benefits generated by these projects are not proportional to the expenditure.

5. What is meant by sustainable management? The environmentalists are insisting upon "sustainable natural resources management"? State its four advantages. [2009]

Ans. Sustainable management is controlling the use of resources in such a way as to provide for its equitable and continuous availability to the present generation as well as for future generations without any harmful impact on the environment. Environmentalists insist on sustainable natural resources management because of following advantages :-

- (i) The resources would be made available to all sections of the society.
- (ii) The exploitation is restricted so as to meet the judicious demands of the society.
- (iii) Technology is employed to ensure minimum wastage during processing of the resource.
- (iv) The waste of the processing units is not allowed to degrade the environment. Instead proper safety measures are taken to convert the waste into useful product.

Other Important Questions

1. List any six changes you can suggest in your home in order to be environment friendly.
- Ans.** (i) Use CFL instead of ordinary filamented bulbs.
(ii) Stop wearing fur coat.
(iii) Use solar cooker for cooking food whenever possible.
(iv) Use solar heater to heat water in winters.
(v) Reuse the empty metallic, plastic and glass containers.
(vi) Walk on foot for short distances.
2. State three advantages of constructing dams across the rivers. **(Imp.)**
- Ans.** (i) Water from a dam is used for irrigation in fields through a network of canals. Dams ensure continuous water supply to the crop fields and help raise agricultural production.
(ii) Water from a dam is supplied to the people in towns and cities through pipelines after suitable treatment. So construction of dams ensures continuous water supply to the people of that region.
(iii) The falling water from the dam is used for generating electricity. The water rushing down the dam turns turbines which run electric generators.
3. Despite good rains, we are not able to meet the demand of water for all the people in our country. Explain, why? **(V.Imp.)**
- Ans.** Despite good rains, we are not able to meet the demand of water for all the people in our country.
The main reasons are —
(i) Rapidly increasing population.
(ii) Lack of sufficient vegetation covered area.
(iii) Cemented areas surrounding the houses do not enable the rain water to seep into the ground.
(iv) High yielding varieties need more water for irrigation.
(v) Discharge of sewage and other wastes into the water bodies makes water unfit for use.
(vi) Consumption of water per person per day is continuously increasing in urban areas.
4. Give three advantages of rain water harvesting.
- Ans.** (i) Rain water harvesting in rural areas results in increase of agricultural products and hence the income of farmers.
(ii) Rain water harvesting reduces the effect of droughts on agricultural production.
(iii) Rain water harvesting reduces the effect of floods and reduces the risk of damage to dams in the downstream area.
5. Quote three instances where human intervention saved the forests from destruction. **(Imp.)**
- Ans.** (i) Amrita Devi Bishnoi sacrificed her life along with a number of other people for the protection of *khejri* trees in Khejarli village of Jodhpur in Rajasthan.
(ii) Chipko movement was started in early 1970s in a small hilly village of Tehri-Garhwal thus preventing the workers from felling the trees.

- (iii) In 1972, a forest officer A.K. Banerjee of Arbari forest range of Midnapore involved the villagers in foresting and allowed them to collect the fuel wood and fodder at a nominal fee. With the active participation of the local community, the sal forests of Arbari was revived.

D. Long Answer Questions

[5 Marks]

Other Important Questions

1. Prepare a list of activities that you perform daily in which natural resources can be conserved or energy utilisation can be minimised. [HOTS]

Ans. We can perform the following activities to conserve or minimise the use of natural resources :

- (i) To stop misuse of water.
- (ii) To stop misuse of electrical energy.
- (iii) Maximise the use of solar energy.
- (iv) To make PUC check for cars regularly.
- (v) To make others aware about environmental conditions.
- (vi) To say 'No' to plastic bags.
- (vii) To separate garbage as biodegradable and non-biodegradable.
- (viii) To compost organic wastes.
- (ix) To stop burning garbage.
- (x) To reduce paper consumption.
- (xi) Not to litter.
- (xii) To avoid chemical pesticides and other toxic substances.
- (xiii) To give emphasis on three R's — Reduce, Recycle and Reuse.
- (xiv) To use manure instead of fertilisers.
- (xv) Walk for the short distances instead of using personal vehicle.

2. Write in brief about various forest resources or stakeholders of the forests and their influence on each other. (V.Imp.)

Ans. The stakeholders are persons or parties having a binding interest in an asset. Forests have four types of stakeholders :

- (i) **Locals :** The people who live in or around forests and are dependent on forest produce for various aspects of their life.
- (ii) **The forest department :** It is a government body which owns the land and controls the resources from forests.
- (iii) **The industrialists :** They consider the forest as a source of raw material for industries but are not interested in its sustainability. e.g. Tendu leaves are collected for making bidis, trees are cut for making papers.
- (iv) **Wildlife and nature enthusiasts :** They want to conserve forests in their natural, unused form.

The influence of forests and its stakeholders on each other

- (1) Large quantities of firewood, small timber and thatch are needed by the locals from the forests. Local people also gather fruits, nuts and medicines from the forests. Forests are also used for grazing cattle or fodder for cattle is collected from the forests.
- (2) The local people living in the forest areas for centuries have developed practices that ensure the use of resources in sustainable manner.

- (3) The forest department has taken over the control of forests from Britishers in independent India. Excessive cutting of trees and over-exploitation of small areas resulted in large scale deforestation.
- (4) The forest department has also ignored local knowledge and local needs in managing forests. In order to earn more revenue and to cater to the requirement of industrialists, the forest department has cleared vast tracts of forests and converted them into monocultures of Pine, Teak, Sal and Eucalyptus. This has destroyed a large amount of biodiversity in those areas.

3. How does the over exploitation of fossil fuels affect our health? Give any five changes in our daily life or habits by which we can reduce the use of fossil fuels.

Ans. We need to use fossil fuels judiciously because their over-exploitation will not only deplete them faster but will also add unwanted by-products of combustion to the environment which are harmful for humans as well as other living things. Fossil fuels are formed of carbon, hydrogen, nitrogen and sulphur. On combustion they produce carbon dioxide, water, oxides of nitrogen and oxides of sulphur and carbon monoxide (when carbon burns in insufficient oxygen). The oxides of sulphur and nitrogen and carbon monoxide are poisonous in high concentrations and are considered as major air pollutant.

Simple choices can make a difference in our energy consumption patterns *e.g.*

- (1) Taking a bus instead of using personal vehicles like cars or bikes saves energy and money, reduce both air pollution and traffic congestion.
- (2) Walking and cycling to nearby places is good for health as well as environment friendly.
- (3) Using fluorescent tubes instead of bulbs can save both energy as well as money.
- (4) Taking stairs instead of lift burns extra calories, tone muscles and saves electricity.
- (5) Wearing an extra sweater instead of using heating devices on cold days saves energy and prevents drying of air which causes respiratory problems.

II FORMATIVE ASSESSMENT

A. Quiz

1. In our country, there are attempts to increase the height of several existing dams like Tehri and Almati, dams across Narmada. What are the reasons behind it?

Ans. Dams are large water storing bodies that are usually built by government agencies across the rivers to regulate the flow of water and generate electricity. They store huge amount of water for irrigation of fields throughout the year.

2. On the banks of the river, there are several factories that are discharging effluents into the river. The pH of water sample collected from the river is found to be acidic in the range of 3.5–4.5. Name the effluents which is the most likely to cause the lowering of pH of river water. What should be the effect of pollution on the fishes of the river.

Ans. Untreated sewage, garbage, some human activities like bathing, washing of clothes and immersion of ashes or unburnt corpses are the most likely causes of lowering of pH of river water. It makes the water toxic and kills the aquatic organisms.

B. Puzzles

- Look across, up and down in the grid to find the answer of the following questions :
 - Water harvesting structure in Himachal Pradesh.
 - First national park of India.
 - Water harvesting structure in Karnataka.
 - Water harvesting structure in M.P.
 - Bacteria indicating contamination of water with untreated sewage.
 - Water harvesting structures in Maharashtra.
- Ans.** (i) Kulhs (ii) Corbett (iii) Kattas
(iv) Bundhis (v) Coliform (vi) Tals

C	L	P	R	E	S	E	V	E	K
O	O	B	I	R	T	N	S	C	U
L	A	R	S	E	M	T	P	O	L
I	Y	T	B	M	R	V	Q	N	H
F	L	L	U	E	N	T	R	S	S
O	P	R	N	K	T	U	K	E	V
R	A	J	D	M	A	T	L	T	R
M	L	O	H	I	L	N	H	I	I
N	A	C	I	E	S	F	G	O	K
C	U	W	S	K	A	T	T	A	S
P	D	I	T	E	C	M	E	N	H

- Hug the tree movement was a movement of the local people to resist the deforestation attempt on the hill slopes. The movement originated from an incident in a village Reni in Garhwal during the early 1970's. There was a specific name for such a movement. To spell it, first write down the letters that occur before each of the given letters. Then unscramble the word, to get the name of the movement—

JLPQDI

Ans. CHIPKO

C. Group Activities

- Prepare a list of forest materials that you use. What products do a person living near a hill forest would use? Also prepare a list of forest products used by a person living in a desert. Discuss with your friends if there are differences in the various lists.
- Study the rainfall pattern in different parts of India. Mark the areas with abundant rainfall and regions of water scarcity. You will find that the regions of water scarcity are also the regions of acute poverty. Find out the connection between water scarcity and acute poverty.

D. Debates

- Dams can add to global warming.
- Agroforestry reduces pressure on the forests.

E. Group Discussions

- In the absence of forest cover, the summer becomes hotter while the winters become extra cool.
- Ganga Action Plan was formulated to reduce pollution load on river Ganga.

F. Surveys

- Visit a town or village that you have seen a few years back and find out :
 - New roads and buildings that have come up.
 - Work out a list of materials that have been used in building new roads and houses.
 - Where have these materials come from?
- Visit a nearby national park and observe carefully :
 - The effect of building rest houses for tourists.
 - The effect of throwing of plastic bottles, covers and other litter by the tourists.
 - The effect of allowing grazing of domestic animals.