

Natural Resources

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Q. 1. The BP statistical Review of World Energy in June measured total global oil at 188.8 million tones, from proved oil resources at the end of 2010. This is only enough for oil to last for the next 46.2 years. What measures should be taken to conserve oil? What will happen if we do not conserve it?(AS1)

Answer : The measures that should be taken to conserve oil are-

- i. We should opt for alternative sources of energy like solar energy, biofuels, hydro energy, wind energy etc.
- ii. We should use public transport to travel far off places instead of using our personal vehicles.
- iii. We should opt for car pooling.
- iv. We should turn off lights, fans, TVs, computer when not in use.
- v. Energy efficient appliances should be used.
- vi. We can walk or ride a bicycle to short distance places.

If we will not conserve it then it will get exhausted and our future generations will not get it to use. Our future generations cannot know about oil and their products. Various products which are manufactured from petroleum like plastics, fabrics like nylon, waxes, cleaning products, cosmetics etc. will not be available in future.

Q. 2. Here is a news strip, read it carefully and answer the following questions

Villagers oppose sand mining project Santhabommali (Srikakulam): People of more than 20 villages in two mandals of Srikakulam have raised a banner of revolt against the proposed beach sand mining project by a private company and threatened to intensify their agitation if the government does not cancel the project. The sand mining is being taken up extract rich minerals from the area. The villages are located around the forest belt where mining was initiated. (AS1)

- i. Do you think the villagers are doing a right thing to agitate? Why?
- ii. What resources are the villagers trying to save by their agitation?
- iii. Will the villagers be benefitted by the rich minerals extracted from sand?
- iv. Why does the private company want to carry out mining in the area?

v. Does the government have any role to play?

vi. How will mining in that piece of land affect people of the area?

Answer : i. Yes, the villagers are doing the right thing to agitate against mining activity as mining destroys our environment. They destroy the habitats of plants, animals. Soil also gets destroyed by mining activities. It causes pollution of water and air as various harmful toxic chemicals leak into our surroundings.

ii. Villagers are trying to save our mineral resources, soil, forest, habitats of plants and animals, fresh water resources etc.

iii. Yes they will be benefitted as most people will get employment. Various tools and machinery can be manufactured. Roads will be developed to transport these mineral resources.

iv. To extract rich minerals that will give benefits to the company so the private company wants to carry out mining in this area.

v. Yes, Government plays a vital role. He should give permissions to only those projects who will carry out ecofriendly methods for mining activities without causing any damage to our environment. The government should take proper steps for conserving our resources as well as the habitat of animals, plants as well as villagers living in that area.

vi. Mining causes pollution of soil, water, and air which affect the health of the people living surrounding that area where mining is going on. Dust produced may cause respiratory diseases among the people living in that area.

Q. 3. What is sustainable development? How is it useful in natural resource management? (AS1)

Answer : Sustainable development means the use of our natural resources in an eco-friendly way so that both our present and future generations will be benefitted from it. If we use our resources in a useful way we can reduce the wastage of our resources and we can manage them wisely. Both our future and present generations can get benefit from our resources. For example- we can conserve our fossil fuels by switching to alternative sources of energy like solar, wind and hydro energy. We can use biofuels too. Similarly, water can be conserved by using drip or sprinkler method of irrigation etc.

Q. 4. Write a detailed note on management of a natural resource. (AS1)

Answer : i. We should manage our resources wisely to prevent them from getting depleted so that both present and future generations can be benefitted from them. This is called sustainable management of natural resources.

ii. 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 also to use them for their benefits.

iii. 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.

iv. Forests and wildlife are a rich source of biodiversity. They maintain an ecological balance in nature. Forests provide us various valuable products like honey, medicines, lac, gums, resins, wood, prevent soil erosion and flood, brings rainfall, release oxygen to the atmosphere which is a life supporter. Forests are the habitat of a variety of living organisms. Loss of biodiversity would lead to ecological imbalance. V. We should adopt 3Rs techniques Reduce, Reuse and Recycle to conserve our resources.

vi. We should conserve reserved forests and wild life in reserved areas like sanctuaries, National parks, Biospheres. The government should enforce Law for punishment to anyone who kills animals as well as who cut trees.

vii. We should harvest rain water to increase our ground water table and meet the demands of water at the time of scarcity.

viii. We should switch to alternative sources of energy like solar, wind, water, biomass energy to reduce consumption of fossil fuels.

Q. 5. Suggest some ways of reusing a resource in your locality? (AS1)

Answer : Some ways of reusing resources are-

i. We can use waste water from RO purifier to water the plants, clean our vehicles, mop the floor etc.

ii. We can use empty jam/pickle bottles to store our daily items like spices, needles, buttons etc.

iii. We can use big plastic bottles to plant trees.

iv. We can store liquids like oil, kerosene in unused glass bottles.

v. We can use unused cans, tins etc. to plant tulsi, money plant etc.

vi. We can use jute bags or cloth bags for shopping instead of plastic bags.

vii. We can use old newspaper to wrap expensive items.

viii. We can use cardboard boxes to store our household items instead of throwing away.

Q. 6. Why should we conserve forests and wild life? (AS1)

Answer : We should conserve forests and wild life because-

- a. They maintain an ecological balance of nature.
- b. It provides a great biological diversity.
- c. Many valuable products like musk, ivory, leather etc. are obtained from wildlife.
- d. Forests provide us various valuable products like honey, medicines, lac, gums, resins, wood etc.
- e. They prevent soil erosion and flood, brings rainfall, release oxygen to atmosphere which is a life supporter.
- f. Forests are habitat of variety of living organisms. Loss of biodiversity would lead to ecological imbalance
- g. To prevent the extinction of rare varieties of animals or birds from our earth's surface.

Q. 7. Suggest some approaches towards the conservation of forests. (AS1)

Answer : Some approaches towards the conservation of forests are:

- a. Large scale afforestation programmes.
- b. Avoid cutting down of trees.
- c. To educate people about the importance of forests by organizing slogans and campaigns.
- d. Forest fires should be checked.
- e. By implementing law for severe punishment to anyone who is involved in illegal cutting down of trees.
- f. Local people should be included in conservation of forests and they should be given proper employment.

Q. 8. Natural resources are decreased more rapidly. Guess what will be the consequences? (AS2)

Answer : If all the fossil fuels will be exhausted we will face a lot of problem in transportation. We cannot obtain petroleum products. Deforestation would lead to disturbance in climatic conditions and ecological balance. Rainfall will be scanty, erosion of soil will occur, animals will lose their habitat. Crop production will decrease leading to starvation. Ground water table will decrease, no rainfall which will lead to

drought conditions. The temperature of the earth will increase leading to global warming. The whole ecological balance will be disturbed causing difficulties for living organisms to exist.

Q. 9. Prepare a questionnaire to conduct interview at petrol filling station personnel about consumption of fossil fuels? (AS2)

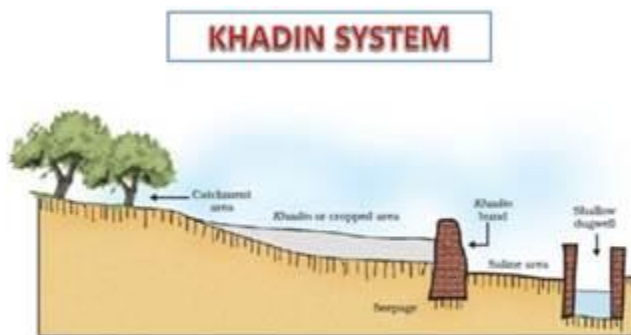
Answer :

- a. How many vehicles come everyday to your petrol filling station?
- b. How many litres of petrol or diesel or natural gas is sold everyday?
- c. What is the average sale of the fuels each month?
- d. Is the demand of fuels increasing or decreasing day by day?
- e. Give some reasons for increasing consumption rate of these fuels?
- f. Can you take some steps to reduce the consumption of these fuels?

Q. 10. Prepare model for rain water harvesting or energy saving or soil management. That reflect your innovative thoughts. (AS3)

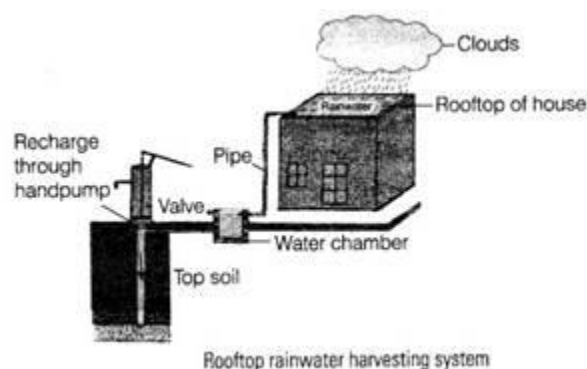
Answer : Water harvesting is the process of collecting and storing rain water by using various techniques so that it can be used in future during non-rainy seasons when there will be scarcity of water and in case of drought.

Khadi's is a traditional way of harvesting rain water 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. Rain water flows down the slopes and fills the bunds to form a reservoir. Pathways are made from bund to nearby well which is mainly dug behind the bund where water seeps and fills the wells.



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

We can harvest rain water from our roof tops too. Rain water is collected from roof tops of houses and is stored in a storage tank through pipes. This water can be used at the time of necessity. Rain water from roof tops can be collected through pipes and store in a pit dug in the ground. So that this water can seeps underground and recharges our ground water.



Q. 11. List out names of villages, farmers, and procedure followed for the restoration of any natural resource in your area. (AS4)

Answer :

S.No	Village Name	Farmer's Name	The procedure followed to restore
1	Kandlagunta	Ch.Ramaiah	Constructed recharge pits to restore underground water
2	Kotappakonda	B.Bangar Raju	Constructed check dams to restore underground water
3	Reddy Palem	T.Ranganadh	Recharged the well by building dykes in the nala
4	Uppalapadu	R.Sundaram	Motivated the villagers to construct percolation pits
5	Nagaram Palem	D.Raja Reddy	Removed silt from the tank.

Q. 12. You might have heard the Natural Gas drillings near Kakinada by ONGC(Oil Natural Gas Corporation). Collect information and prepare a note on the status of Gas production at the basin. (AS4)

Answer : Exploration of oil and gas is undertaken from August, 2011 in the Eastern Offshore Asset (EOA), Kakinada, of the Oil and Natural Gas Corporation. This is the major offshore project taken up by the ONGC, which is using its vast experience and knowledge in spotting the oil and gas reserves both onshore and offshore. Baker Hughes and Schlumberger are fields –development companies working on offshore natural gas fields near the city. The Krishna –Godavari basin is considered the largest natural gas basin in India. Significant discoveries of oil and natural gas were made by ONGC, Gujarat State Petroleum Corporation, and Reliance which has been extracting gas from KG D6 block off the Kakinada coast. The envisaged production of the asset is 0.99 million metric tonnes of oil and 4.636 billion cubic meters of natural gas over a period of 11 years, whereas the peak oil production is assessed as 9,300 barrels of oil per day and that of the gas production as 1.6 million standard cubic meters per day.

Q. 13. Does your village or nearest city have a mechanism in place for recycling these waste materials?

Find out how it is done and write in detail. (AS4)

Answer : No, my village does not have any recycling unit. Some recyclable waste materials like newspaper, glass, metals, plastics etc. should be first segregate from other waste materials and must be sent to their respective recycling units from which fresh paper, plastic or glass or metal objects can be manufactured.

Recycle of paper procedure-

- a. The used papers are taken into recycling units where they are separated based on grades and types.
- b. They are washed with soap water to remove ink, glue.
- c. Then the washed papers are mixed with water in a large tank to create slurry.
- d. By adding different materials to slurry paper products of different types are obtained.
- e. Slurry is spread out in large rollers to form thin sheets.
- f. These sheets are allowed to dry.
- g. Then they are rolled, cut into sheets and then they are ready to be used.

Q. 14. Collect any graph that shows oil (petroleum) consumption in India. (AS4)

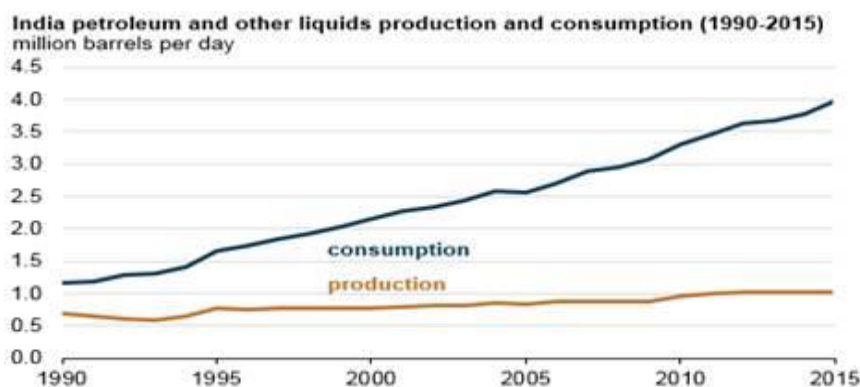
i. Does the production meet consumption in India?

ii. During which period of time shows highest increase in consumption rate?

iii. Why will you say happened to production from past ten years, for example 2004 to 2014?

iv. Suggest some ways to bring down consumption of petroleum.

Answer :



i. No, the production does not meet consumption in India. So we have to import from other countries.

ii. During the years 2005-2015 there is highest increase in consumption rate.

iii. The production is nearly stabilized and not increased as compared to consumption rate. Due to more running vehicles consumption rate is increased.

iv. Some ways to conserve petroleum are-

a. We should use public transport instead of personal vehicles.

b. We can use a bicycle or can walk to short distance places.

c. We should opt for alternative sources of energy.

d. We should use energy efficient appliances etc.

Q. 15. Proper utilisation of natural resources is the way to show gratitude to our nation. Can you support this statement? Give your argument. (AS6)

Answer : Yes, I support this statement as control use of natural resources is an effective way of management of natural resources. We should use our resources wisely so that it may not get exhausted and both future and present generations will be benefitted from it. We should conserve them without causing any damage and this sustainable use of our resources will be a way to show gratitude to our nation.

Q. 16. Crop selection and cultivation should be based on availability of water. Prepare a slogan to make aware of farmers about this? (AS7)

Answer : Various slogans are-

Harvest Rain water for better crop yields.

Rain follows the plough.

Crops selection based on water availability.

Fill in the blanks

Q. 1. Fill in the blanks

_____ Plants are used for production of bio fuel.

Answer : Jatropha curcas

Explanation: The seeds from the Jatropha curcas plant are used for the production of biofuel which play an important role to attain energy sustainability. Biodiesel can be obtained from these seeds, which is an alternative fuel to fossil fuels.

Q. 2. Fill in the blanks

Bio diversity is important for more than just food and for _____ also.

Answer : Medicines

Explanation: We get variety of medicines from forests as well as some animals. Many plants like neem, eucalyptus etc. are used as herbal medicines. Many medicines including tablets, capsules, vaccines, injections etc. contain one or more animal products.

Q. 3. Fill in the blanks

Example for non-renewable resource is _____

Answer : Fossil fuels

Explanation: Fossil fuels like coal, petroleum etc. are non-renewable resources as they take millions of years for their formation. Once they get exhausted they cannot be replenished. So they are non-renewable resources.

Q. 4. Fill in the blanks

_____ is the alternative method to prevent ground water depletion.

Answer : Water storage structures

Explanation: Water storage are built to capture and store rain water which can be used for our daily activities as well as for irrigation purposes. Because mostly in India we depend on bore wells, tube wells for water uses which depletes ground water table. Hence we can built these water storage structures and store rain water for our uses.

Q. 5. Fill in the blanks

Cultivation of paddy is suitable for _____ areas.

Answer : humid subtropical and temperate

Explanation: In these areas both high temperature and heavy rainfall occurs which are ideal conditions for cultivation of paddy.

Choose the correct Answer

Q. 1. Percolation tanks helps to ()

- A. Supply water for agriculture**
- B. increase ground water level**
- C. Preserve rain water**
- D. Prevent overflow of water from tanks during rainy season**

Answer : They are artificially created surface water bodies where surface rain water is made to percolate and recharge the ground water storage.

Q. 2. Which of the following practice is suitable to farmer with less water resources ()

- i. Select short term crops,**
- ii. Cultivate commercial crops,**
- iii. adopt drip system**
- iv. Crop holiday**

- A. i,iii**
- B. i,ii,iii**
- C. i,iv**
- D. iii,iv**

Answer : Short term crops can grow within a short period of time thus require less amount of water. Similarly if commercial crops are cultivated water can be used less. In drip msystem of irrigation water will fall drop by drop near the roots of the plants thus minimize the use of water.

Q. 3. Which of the fossil fuel reserves decrease more rapidly in India ()

- A. natural gas**
- B. coal**
- C. Petroleum**
- D. all**

Answer : Petroleum reserves are decreasing more rapidly in India because not only it is used as a fuel in vehicles but also various products like plastics, waxes, cosmetics, synthetic fibres like nylon, cleaning products, synthetic rubber etc. are manufactured from it. These products are used by us extensively leading to more use of petroleum which causes its depletion.

Q. 4. Huge amount of toxic chemicals leak into the surrounding eco system because of ()

- A. industries**
- B. mining**
- C. pesticides**
- D. modern technology**

Answer : Mining causes releases of various harmful toxic gases into our environment that deteriorates our environment as well as life of human beings, plants and animals. It also causes pollution of water, air and soil.

Q. 5. Sustainable development means ()

- A. Prevention of wastage**
- B. Stable growth**
- C. development without damaging**
- D. high yieldings in less time**

Answer : Sustainable development means use of natural resources in an ecofriendly way to meet the demands of both present and future generations. It leads to use of natural resources for our growth and development in such a way that our environment is not affected.