

NEW ERA PUBLIC SCHOOLSubject :- ScienceTopic :- Coal and PetroleumClass :- 8thLesson no :- 2Solved Assignment of Unit-II

→ Answer the following Questions:-

Q1:- What are the advantages of using CNG and LPG as fuels?

Ans:- The advantages of using CNG and LPG as fuels are:-

1. Both of these fuels are less polluting i.e. they do not produce any poisonous substance on burning.
2. These fuels have high calorific value as compared to other fossil fuels.
3. Both of these fuels are easy to carry and transport and hence can be transported to a network of pipelines.
4. These fuels are less corrosive as compared to other fossil fuels.

Q2:- Name the petroleum product used for surfacing of roads.

Ans:- Bitumen is the petroleum product used for surfacing of roads.

Q3:- Describe how coal is formed from dead vegetation. What is this process called?

(2)

Ans:- About 300 million years ago the earth had dense forests in low lying wetland areas. Due to natural processes, like flooding, these forests got buried under the soil. As more soil deposited over them, they were compressed. The temperature also rose as they sank deeper and deeper. Under high pressure and high temperature, dead plants got slowly converted to coal. As coal contains mainly carbon, the slow process of conversion of dead vegetation into coal is called carbonisation.

Q6:- Explain why fossil fuels are exhaustible natural resources?

Ans:- Fossil fuels are exhaustible natural resources because it took thousands and millions of years for the dead organisms and dead vegetation to get converted into these fuels. On the other hand we know that these resources are present in limited quantity and cannot be recycled or reused, we are still using them at a high rate.

Q7:- Describe characteristics and uses of coke?

Ans:- Coke is produced by heating coal in absence of air. It is tough, porous, black substance containing 98% of carbon content. Coke is used as a fuel and is used in the manufacture of steel and in the extraction of various metals.

Q8:- Explain the process of formation of Petroleum?

③

Ans:- Petroleum was formed from organisms living in the sea. As these organisms died, their bodies settled at the bottom of the sea and got covered with layers of sand and clay. Over millions of years, absence of air, high temperature and high pressure transformed the dead organisms into petroleum and natural gas.

Q10:- What are exhaustible natural resources? Give examples.

Ans:- The amount of these resources in nature is limited. They can be exhausted by human activities. Examples of these resources are forests, wildlife, minerals, coal, petroleum, natural gas etc

Q11:- What are inexhaustible natural resources? Give examples.

Ans:- Inexhaustible natural resources are present in unlimited quantity in nature and are not likely to be exhausted by human activities. Examples are sunlight, air.

Q12:- Why is natural gas called a clean fuel?

Ans:- Natural gas is called a clean fuel because it does not produce any poisonous substance on burning and burns with a smokeless flame, hence has no participation in pollution.

Q13:- What are the uses of Coal?

Ans:- The uses of Coal are :-

1. Coal is used as a domestic and industrial fuel.

2. It is used in the manufacturing of synthetic petrol and synthetic natural gas.

3. It is used to make coal tar, coal gas, and coke.

4. It is used in thermal power stations to generate electricity.

5. It is used as a source of organic compounds like benzene, phenol etc.

→ Objective Type Questions:-

Q4:- Fill in the blanks:-

→ KEY

a) coal, petroleum, natural gas

b) refining

c) CNG

Q5:- Tick True/False against the following statements:-

a) F

b) F

c) T

d) T

e) F

Topic :- Conservation of Plants and Animals.

Lesson no :- 3

Q1:- Fill in the blanks :-

→ KEY

- a) wild life sanctuary
- b) Endemic species
- c) Climatic

Q2:- Differentiate between the following:-

a) Wildlife sanctuary and Biosphere reserve

<u>Wildlife Sanctuary</u>	<u>Biosphere reserve</u>
An area protected for animals where animals can live in their natural habitat is known as Wildlife sanctuary. There are about 440 wildlife sanctuaries in India.	An area which is conserved to protect the biodiversity and culture of that area is known as Biosphere reserve. There are 15 Biosphere reserves in India.

b) Zoo and Wildlife sanctuary

<u>Zoo</u>	<u>Wildlife Sanctuary</u>
1. It is a place where animals live in artificial habitat.	1. It is a place where animals live in natural habitat.
2. The animals are protected for public view and	2. The animals are protected and conserved in very.

they are spread in small areas.

large areas. The areas are prohibited for hunting, grazing etc.

c) Endangered and Extinct species

Endangered species

The species which are at the verge of extinction and which are required to be protected and conserved are known as endangered species. e.g. tiger, wild buffalo, etc

Extinct species

The species which no more exist on the earth are known as extinct species. e.g. dinosaurs.

d) Flora and Fauna

Flora

All plant life occurring in an area is known as Flora. e.g. mango, teak etc.

Fauna

All animal life occurring in an area is known as Fauna e.g. Rhinoceros, crocodiles etc.

Q3: Discuss the effects of deforestation on the following:-

a) Wild animals:- The natural habitat of the animals is destroyed by deforestation. Without the natural habitat, the animals are left with no place to live and breed. As a result of this many animals are at the verge of extinction.

(b) Environment:- Deforestation has resulted in global warming. Carbon dioxide is not absorbed by plants and it gets accumulated in the atmosphere. It has an adverse effect on our ecosystem.

(c) Villages (Rural areas):- The rural areas largely depend on forests for fuel, fruits, wood etc. Deforestation has reduced their resources and the uninhabited animals are also a danger for the villagers.

(d) Cities (Urban areas):- Cities are not directly affected by deforestation. But the changes in the climate results in calamities like flood and droughts which affect the cities also. It also leads to global warming.

(e) Earth:- Deforestation has converted the fertile lands into deserts. The natural calamities like floods and droughts are also the result of deforestation. The climate of earth has been changed due to deforestation.

(f) The next generation:- Deforestation has affected our climate very much. Many species are at the verge of extinction because of deforestation. and some species are already extinct. The next generation may not be able to see many beautiful and attractive flora and fauna. It may have to suffer from the effects of global warming, no fuel and no paper etc.

Q4:- What will happen if:

(a) we go on cutting trees:- If we go on cutting trees, rainfall and fertility of soil will decrease. It will also lead to decrease in water holding capacity of the soil which will result in floods. Animal life will also be affected.

(b) the habitat of an animal is disturbed:- The survival of the animals will become difficult if their natural habitat is disturbed. They will not have any space to live and to breed. As a result they will not survive and because of scarcity of food will start wandering in the nearby villages targeting domestic animals as their prey.

(c) the top layer of soil is exposed:- If the top layer of soil is exposed, it will wash away with water. The removal of top layer will gradually convert the fertile land into deserts. Moreover, the soil washed away with water will be deposited in the river bed resulting in decreasing the depth of rivers. The chances of floods will increase many folds.

Q5:- Answer in brief:-

(a) Why should we conserve biodiversity?

Ans:- We should conserve biodiversity because it is very important for all living organisms and for the environment. We should conserve biodiversity to save it from becoming extinct.

(b) Protected forests are also not completely safe for wild animals. Why?

Ans:- Protected forests are not completely safe for wild animals because poachers have found access in these areas and killing animals. There is a need to make strict rules against poaching and trespassing.

(c) Some tribals depend on the jungle. How?

Ans:- Some tribals are still dependent on the jungle for their food, fuel, wood, shelter etc. They live in forests and are dependant on them.

(d) What are the causes and consequences of deforestation?

Ans:- The main cause of deforestation is growing urbanization and industrialization. Need for more land and resources have lead to the cutting down of forests. The consequences of deforestation are desertification and natural calamities. It has also rendered many species of plants and animals unprotected and unconserved.

(e) What is Red Data Book?

Ans:- Red Data Book keeps the record of all the endangered animals and plants. Different record books are maintained for endangered animals and endangered plants.

(f) What do you understand by the term migration?

Ans:- For the purpose of breeding and specific purposes, some species of birds and animals

move from their habitat to some other habitat. Some birds move to far away areas every year during a particular time because of climatic changes and return to their original habitat after sometime.

This periodical movement of some species is known as migration.

Q6: In order to meet the ever-increasing demand in factories and for shelter, trees are being continually cut. Is it justified to cut trees for such projects? Discuss and prepare a brief report.

Ans: The ever increasing demand in factories and for shelter, trees are being continually cut. Cutting of trees can only be justified when reforestation is done. Reforestation is the restocking of destroyed forests by planting new trees. The trees planted should be of the same species that are generally found in the forests. We should plant as many trees as we cut. Reforestation can take place naturally also if the land is left undisturbed. The forests will establish itself over a period of time. We have damaged our forests to such an extent that it is difficult to retain the green wealth for our future generations. So it is very important to plant more trees and to find out ways of recycling and restoring our natural wealth.

Q7:- How can you contribute to the maintenance of green wealth of your locality? Make a list of

actions to be taken by you.

Ans:- The green wealth of the locality is the responsibility of every resident. We should grow more and more plants in the locality. The residents should work together to conserve the green belt of the locality. Also they should be taught about the consequences of deforestation and global warming.

I plant trees in my locality. I also teach the small children and encourage the slogan

'One Man One Tree' so that every resident plants atleast one tree and takes care of it.

Q0:- Explain how deforestation leads to reduced rainfall.

Ans:- Plants absorb water from the soil and evaporates it to form clouds. Deforestation leads to cutting down of trees. As a result less water is absorbed from the soil and it disturbs the water cycle. The formation of clouds becomes difficult which leads to reduced rainfall.

Q10:- Why should paper be saved? Prepare a list of ways by which you can save paper.

Ans:- Paper is used in our day to day life. Thousands of trees are cut to fulfill the demand of paper. If the trees are cut for paper, one day we will be left with no trees. So paper should be saved and should be used intelligently. The ways by which we can save paper are:-

1. We should recycle the waste paper.

2. We should not litter paper here and there.
3. Paper should be sent through proper channel for recycling.
4. We should not tear our old books. We should donate it to poor children. so that they can reuse these books.
5. We should encourage buying recycled paper products.
6. We should avoid taking paper bags from the shops, instead we should carry jute bags.

Topic :- Sound

Lesson no :- 5

→ Choose the correct answer:-

KEY

1. d

2. c

Q3:- In the following statements, tick T against those which are true, and F against those which are false.

a) T

d) T

g) T

b) F

e) F

c) F

f) F

Q4:- Fill in the blanks:-

a) time period

d) noise

b) amplitude

e) frequency

c) hertz

Q5:- A pendulum oscillates 40 times in 4 seconds. Find its time period and frequency.

Ans:- Frequency of oscillation is defined as the number of oscillations of a vibrating body per second. It is given by

$$\text{Frequency} = \frac{\text{Number of oscillations}}{\text{Total time}} = \frac{40}{4} = 10 \text{ Hz.}$$

The time required to complete one oscillation is known as time period. It is given by the inverse of the frequency.

$$= \frac{1}{\text{Frequency of oscillation}} = \frac{1}{10} = 0.1 \text{ s}$$

Q6:- The sound from a mosquito is produced when it vibrates its wings at an average rate of 500 vibrations per second. What is the time period of the vibration?

Ans:- The time required to complete one oscillation is known as time period. It is given by the inverse of frequency.

$$\text{Time period} = \frac{1}{\text{Frequency of oscillation}}$$

$$\text{Frequency of oscillations} = 500 \text{ Hz}$$

$$\Rightarrow \text{Time period} = \frac{1}{500} = 0.002 \text{ s}$$

Q7:- Identify the part which vibrates to produce sound in the following instruments:

(a) Dholak:- is a musical instrument. It consists of a stretched membrane called its head. When the head is beaten gently, the stretched membrane sets into vibration. Since sound is produced when an object vibrates, the dholak produces a sound.

(b) Sitar:- is a musical instrument. It consists of stretched strings. When a string is plucked, it sets into vibration. Since sound is produced when an object vibrates, the sitar produces a sound.

(c) Flute:- is a hollow pipe. When air is blown over its mouth, the air inside the pipe is set into vibration. As a result, a pleasant sound is produced.

Q8:- What is the difference between noise and music? Can music become noise sometimes?

Ans:-	Music	Noise
1. It has a pleasing effect on the ears.		1. It doesnot have a pleasing effect on the ears.
2. It is produced by regular vibrations.		2. It is produced by irregular vibrations.
3. Presence of this sound in the surroundings doesnot create health related problems like hypertension, anxiety etc		3. Presence of this sound in the surroundings create health related problems like hypertension, anxiety etc.

Yes, Music can become noise when played at high volume.

Q9:- List sources of noise pollution in your surroundings.

Ans:- Some sources of noise pollution in our surroundings are as follows:-

1. Televisions and transistors running at high volumes.
2. Loudspeakers and crackers.
3. Horns of buses, cars and trucks.
4. Home appliances such as mixer, desert cooler etc.
5. Electronic generators and by jackhammers.

Q10:- Explain in what way noise pollution is harmful to humans.

Ans:- Noise pollution can lead to a number of health related problems. Some of them are as follows:-

1. Hearing loss
2. Inability to sleep.
3. Hypertension
4. Severe headache
5. Stress
6. Anxiety

Q11:- Your parents are going to buy a house. They have been offered one on the roadside and another three lanes away from the roadside. Which house would you suggest your parents should buy? Explain your answer.

Ans:- There will be more noise in the house which is along the roadside. This is because noise produced by transportation vehicles may cause trouble to the residents.

Hence, it is better to take house that is three lanes away from the roadside.

Q12: Sketch larynx and explain its function in your own words.

Ans:- Larynx is a part of the throat. It is responsible for production of sound. Larynx moves when we swallow something. Inside the larynx, there are two vocal cords. There is a small gap between them. This small gap allows air to pass through. When we speak, air is forced into this small gap by the lungs. This prompts vocal cords to vibrate. Since vibrating object produce sound, sound is produced due to the vibration of vocal cords. Thus sound is produced by larynx.

→ Draw Diagram (Fig. 5.8) — Voice Box in Humans on Pg. no 51 on book.

Q13:- Lightning and thunder take place in the sky at the same time and at the same distance from us. Lightning is seen earlier and thunder is heard later. Can you explain?

Ans:- The speed of sound is less than the speed of light. Hence, light reaches us before the sound during a lightning, which is accompanied by thundering.
