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SUBJECT:- PHYSICS

CLASS:- XTH

DATE:04/06/XX

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 3. SOURCES OF ENERGY(SOME EXTRA QUESTIONS AND ANSWERS)

1. How is charcoal prepared? Explain why, charcoal is a better fuel than wood.

Ans. Charcoal is prepared by burning wood in a limited supply of air, so that water and other volatile materials present in it get removed.

Charcoal is a better fuel than wood because it has a higher calorific value than wood, and it burns without producing smoke whereas wood produces a lot of smoke on burning.

2. Compare and contrast biomass and hydroelectricity as sources of energy.

Ans. (i) Biomass is a renewable source of energy and hydroelectricity is also a renewable source of energy.

(ii) The use of biomass by burning causes air pollution but the use of hydroelectricity does not cause any pollution.

(iii) Biomass gives heat energy which can be used for cooking and heating only. On the other hand, hydroelectricity can run all types of electrical appliances.

(iv) Biomass energy can be obtained without using any special device but hydroelectricity can be produced only by establishing hydro-power plants

3. Why is biogas considered an ideal fuel for domestic use?

Ans. Biogas is considered an ideal fuel for domestic use because:

(a) Biogas burns without smoke and hence does not cause air pollution.

(b) Biogas has a high calorific value. That is, biogas produces a large amount of heat per unit mass.

(c) Biogas is cheaper than most common fuels.

(d) Biogas is a clean fuel since it burns completely without leaving any residue behind.

4. What are the two ways in which cow-dung be used as a fuel? Which of them is better and why?

Ans. Two ways in which cow-dung can be used as a fuel are:

1. In the form of cow-dung cakes, which can be used directly as a fuel.

2. By preparing biogas from cow-dung.

Biogas is better than cow-dung cakes because it gives a cleaner than cow-dung cakes and after extracting biogas, the spent cow-dung can be used as a manure.