Sharya Academy

Science | Worksheet | Class X

Sources of Energy

1. Name fuel used in nuclear reactor.

2. Name the reaction responsible for large energy production in the sun.

3. How has the traditional use of wind energy been modified for our convenience?

4. Biogas is considered to be a boon to the farmers. Give reasons.

5. What is a solar cell panel? Mention any three of its applications?

6. Why are many thermal plants set up near coal or oil fields?

7. Distinguish between renewable and non-renewable resources of energy. Also give examples

8. What is geothermal energy? What are the advantages of wind energy?

9. Name the device used to convert

   a. Solar energy into heat

   b. Solar energy into electricity

10. Write the principle of generation of electric power by a boiling water type nuclear reactor. Name the coolant used in such a reactor.

11. a. name four gases which are mainly present in biogas.

    b. List two advantages of using biogas over fossil fuels.

12. List any three hazards of nuclear waste. How does the disposal of nuclear waste pose a problem for the plant and animal life?

13. List three energy sources that are considered to be inexhaustible. State three reasons in support of your answer.

14. Why is there so much emphasis on changing over from petrol/diesel driven automobiles to CNG driven vehicles.

15. The increase in demand for energy is affecting our environment adversely. List two effects

16. What happens to waste of a nuclear plant system? How waste produced in nuclear power plants are different from those produced in thermal power plants?

17. What is acid rain? What are its harmful effects?

18. What is the use of black painted surface in a solar cooker?

19. Name the energy which is used in treatment of cancer.

20. Choose the correct options:

1. Which of the following is the odd one out?

a. Petroleum b. Hydroelectricity c. Coal d. CNG

2. Which method is used to produce electricity in thermal power plant?

a. By heating chargeable cells b. By boiling water

c. By pushing pistons by heat energy d. Any of above

3. Which of the following is a component of biogas?

a. Methane b. LPG c. CNG d. Hydrogen sulphide

4. Which of the following produces energy because of temperature difference at various levels in ocean.

a. Tidal energy b. Wave energy

c. Solar energy d. Ocean thermal energy

5. Which energy source is the largest source used in India?

a. CNG b. LPG c. Coal d. Bio-Gas

6. Which of the following is normally used in solar cookers for trapping solar energy?

a. Solar panels b. Silicon cells c. Mirrors d. Any of above

7. In which of the following kinetic energy is converted into electrical energy?

a. Tidal energy b. Hydro energy c. Wind energy d. All of these

8. Which of the following is the ultimate source of energy for us?

a. LPG b. Nuclear c. Solar d. CNG

9. Which of these gaseous fuel have higher calorific value

a. hydrogen b. Methane c. LPG d. Biogas

21. Fill in the blanks

a. The major constituent of the Biogas _____

b. _____ and _____ two gases, other than carbon-dioxide that are given out during burning of fossil fuels and contribute towards acid rain formation.

c. Mirrors used for solar cooker are _____.

d. A fuel is a good one if its _____ value is high.

e. Ocean thermal energy is used to boil _____ before running the turbine.

f. Artificial satellites and space probes are electrified using _____ .

22. True and False Statements

a. Acid rains happens because burning of fossil fuels release oxides of carbon, nitrogen and sulphur in the atmosphere.
b. Ocean thermal energy is due to pressure difference at different level
c. Sun is the ultimate source of energy
d. Methane is not a constituent of biogas
e. The potential energy of the high-altitude wind is the source of wind power
f. Charcoal and coal are both fossil fuels
g. The use of turbine is essential for the production of electrical energy.

23. Direction (Q1 to Q4): In the following Questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

a. Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.

b. The Assertion and the Reason are correct, but the Reason is not the correct explanation of the Assertion.

c. Assertion is true, but the Reason is false.

d. The statement of the Assertion is false, but the Reason is true.

1. **Assertion:** Fuel has to be burnt to obtain heat energy.

Reason: The minimum temperature to which a fuel must be heated so that it may catch fire and start burning is known as ignition temperature.

2. **Assertion:** The major constituent of biogas is methane.

Reason: Biogas is produced by the aerobic degradation by animal wastes like cow ding in the presence of water.

3**. Assertion**: Wind energy farms cannot be established everywhere.

Reason: The wind energy farms can be established only at those places where wind blows for most part of the year.

4**. Assertion:** Non-conventional sources of energy are the major source of energy for generating electricity in power plants.

Reason: Coal and petroleum are non- conventional energy sources.