WORKSHEET 2

CHAPTER 8 – ENERGY

A. Tick (✓) the correct option.

1. Kaiga atomic power station at Kaiga is situated in which state of India?
   a. Karnataka b. Kerala c. Bihar d. Uttar Pradesh
2. Solar water heater can be used to get hot water on
   a. sunny day. b. cloudy day. c. hot day. d. windy day.
3. Which of these is not an example of a biomass energy source?
   a. Wood b. Nuclear energy c. Gobar gas d. Coal
4. Molten rocks are called
   a. magma. b. hot spots. c. geysers. d. none of these.
5. A solar cell converts solar energy into
   a. mechanical energy. b. electrical energy. c. chemical energy. d. nuclear energy.

B. Fill in the blanks.

1. The sources of energy which cannot be renewed or replaced in short intervals of time are called _____
2. Combustion of fossil fuels produces _____ when supply of oxygen is insufficient.
3. Cow dung contains important nutrients _____ like and _____
4. _____ is prepared by strong heating of wood in a limited supply of air.
5. Biogas is a mixture of _____, _____, _____ and traces of _____

C. State whether the following statements are true or false.

1. Solar cookers cannot be used for making *chappatis*.
2. The tides are caused due to gravitational pull of moon.
3. The cost of installation of nuclear power plant is low.
4. Biomass is defined as the total mass of all living organisms in an ecosystem.
5. The approximate value of solar constant is 1.4 kJ per second per square metre.

D. Match the following.

1. Charcoal	wave energy
2. Hydrogen power plant	solar energy into electrical
3. Solar photovoltaic cell	destructive distillation of wood
4. Energy associated with sea waves	1.602×10^{-19} J
5. 1 electron volt	flowing water

Name: ..... Teacher's signature: .....

Class: IX Date: .....

E. Answer the following questions.

Very short answer questions

1. What is the value of one electron volt in joules?
2. What are the types of chain reactions?

Short answer questions

1. Define nuclear fusion.
2. What is ocean thermal energy?

Long answer questions

1. What are advantages of hydroelectricity generation?
2. What are differences between renewable and non-renewable sources of energy?

ANSWERS

WORKSHEET 2

A. Tick (✓) the correct option.

1. a 2. a 3. b 4. a 5. b

B. Fill in the blanks.

1. non-renewable
2. carbon monoxide
3. nitrogen and phosphorus
4. charcoal
5. methane, carbon dioxide, hydrogen, hydrogen sulphide

C. State whether the following statements are true or false.

1. T 2. T 3. F 4. T 5. T

D. Match the following.

1. Charcoal	destructive distillation of wood
2. Hydrogen power plant	flowing water
3. Solar photovoltaic cell	solar energy into electrical
4. Energy associated with sea waves	wave energy
5. 1 electron volt	1.602×10^{-19} J

E. Answer the following questions.

Very short answer questions

1. 1.602×10^{-19} J
2. Controlled and uncontrolled.

Short answer questions

1. The process in which two lighter nuclei fuse to form a stable heavier nucleus with the liberation of enormous amount of energy is called nuclear fusion.
2. The energy available due to the difference in temperature between water at the surface and water at depths is called ocean thermal energy.

Long answer questions

1. The advantages of generating hydroelectricity are discussed below:
   i. The generation of hydroelectricity in a hydroelectric power plant does not cause any environmental pollution.
   ii. The energy of flowing water is a renewable source of energy.
   iii. Hydroelectricity is one of the cheapest sources of energy. The hydropower plant constructed to produce it also has a low maintenance cost.
   iv. Hydropower plants constructed to generate hydroelectricity are multipurpose projects. They help in controlling floods, enable us to use water for irrigation, develop recreational sites, etc.

2.

Parameter	Renewable sources of energy	Non-renewable sources of energy
1. Nature	The sources of energy which are inexhaustible and can be renewed after a short period of time are called renewable sources of energy.	The sources of energy which are exhaustible and cannot be renewed are called non-renewable sources of energy.
2. Availability	They are continuously available.	They will be exhausted one day.
3. Renewal	They are quickly replaced when used.	They cannot be quickly replaced when used.
4. Period of formation	They take short period of time for their formation.	They take millions of years for their formation.
5. Environmental pollution	These sources do not cause any environmental pollution.	These sources are a major cause of environmental pollution.
6. Conservation	We need not conserve renewable sources of energy.	We need to conserve non-renewable sources of energy.
7. Examples	Solar energy, wind energy, hydro energy, energy from biomass.	Coal, petroleum, natural gas.