

Science Chapter 14: Sources of Energy

1. A good fuel is one that possesses:

- (a) High calorific value and low ignition temperature
- (b) Low calorific value and low ignition temperature
- (c) High calorific value and moderate ignition temperature
- (d) Low calorific value and moderate ignition temperature

Answer: (c) High calorific value and moderate ignition temperature

2. There are four fuels which all contain only carbon and hydrogen. The fuel having highest calorific value will be one which has:

- (a) More of carbon but less of hydrogen
- (b) Less of carbon but more of hydrogen
- (c) Equal proportions of carbon and hydrogen
- (d) Less of carbon as well as less of hydrogen

Answer: (b) Less of carbon but more of hydrogen

3. Coke is more valuable when used:

- (a) As a fuel for industrial boilers
- (b) As an oxidizing agent
- (c) As a reducing agent
- (d) As a fuel in domestic ovens

Answer: (c) As a reducing agent

4. In a hydroelectric power plant more electrical power can be generated if water falls from a greater height because:

- (a) Its temperature increases.

(b) Larger amount of potential energy is converted into kinetic energy.

(c) The electricity content water increases with height.

(d) More water molecules dissociate into ions.

Answer: (b) Larger amount of potential energy is converted into kinetic energy.

5. In order to make efficient solar cooker, the cover of cooker box should be made of:

(a) Transparent plastic sheet

(b) Shining aluminium sheet

(c) Butter paper sheet

(d) Transparent glass

Answer: (d) Transparent glass

6. Which of the followings is not a fossil fuel?

(a) Coal

(b) Petroleum

(c) Natural gas

(d) Nuclear fuel

Answer: (d) Nuclear fuel

7. The rise of sea-water during high tide is caused by the gravitational pull of the:

(a) Sun

(b) Earth

(c) Moon

(d) Mars

Answer: (c) Moon

8. What is the energy equivalent of one atomic mass unit?

(a) 93.1 MeV

(b) 9.31 MeV

(c) 1 MeV

(d) 931 MeV

Answer: (d) 931 MeV

9. How many joules are there in 1eV?

(a) 1.6×10^{-19} J

(b) 9.1×10^{-31} J

(c) 6.0×10^{23} J

(d) 1.6×10^{-13} J

Answer: (a) 1.6×10^{-19} J

10. The disposal of wastes produced in a nuclear power plant is a big problem because it is:

(a) Highly radioactive

(b) Highly inflammable

(c) Extremely foul smelling

(d) Too heavy

Answer: (a) Highly radioactive

11. The energy efficient device for producing light is:

(a) DLF

(b) CFL

(c) FCL

(d) LPG

Answer: (b) CFL

12. The radiation present in the sunlight that gives us the feeling of hotness is

(a) Visible radiation

(b) Infra-red

(c) Red

(d) Ultra-violet

Answer: (b) Infra-red

13. The major constituent of biogas is

(a) Methane

(b) Ethane

(c) Propane

(d) Butane

Answer: (a) Methane

14. The process by which energy is produced in the sun is

(a) Nuclear fission

(b) Nuclear fusion

(c) Both nuclear fusion and fission

(d) Combustion of hydrogen

Answer: (b) Nuclear fusion

15. The diagram shows a simple calorimeter system for measuring the heat given out by a liquid fuel contained in the burner. The experimental data for four fuels A, B, C and D is given below. 100 ml (100g) of water was put in the calorimeter and a thermometer is used to measure the change in temperature. With the help of the data find the fuel which is the least efficient?

Mass of fuel

Rise in temperature

0.80 g

12°C

1.20 g

24°C

0.50 g

9°C

1.75g

28°C

(a) A

(b) B

(c) C

(d) D

Answer: (a) A