

QB365

Important Questions - Sources of Energy

10th Standard CBSE

Science

Reg.No. :

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Time : 01:00:00 Hrs

Total Marks : 50

Section - A

- 1) A solar water heater cannot be used to get hot water on **1**
 - (a) A sunny day
 - (b) A cloudy day
 - (c) A hot day
 - (d) A windy day
- 2) Acid rain happen because **1**
 - (a) Sun leads to heating of upper layer of atmosphere
 - (b) Burning of fossil fuels release oxides of carbon, nitrogen and sulphur in the atmosphere.
 - (c) Electrical charges a produced due to friction among clouds
 - (d) Earth's atmosphere contains acids.
- 3) In a hydro power plant **1**
 - (a) Potential energy possessed by stored water is converted into electricity.
 - (b) Kinetic energy possessed by stored water in converted into potential energy.
 - (c) Electricity is extracted form water.
 - (d) Water is converted into steam to produce electricity.
- 4) Which one of the following forms of energy leads to least environment pollution in the process of its harnessing and utilization? **1**
 - (a) Nuclear energy
 - (b) Thermal energy
 - (c) Solar energy
 - (d) Geothermal energy
- 5) The major problem in harnessing nuclear energy is how to? **1**
 - (a) Split nuclei
 - (b) Sustain the reaction
 - (c) Dispose off spent safely
 - (d) Convert nuclear energy into electrical energy
- 6) The main constituent of biogas is **1**
 - (a) Methane
 - (b) Carbon dioxide
 - (c) Hydrogen
 - (d) Hydrogen sulphide
- 7) The power generate in a wind mill **1**
 - (a) More in rainy season since damp air would mean more air mass hitting the blades.
 - (b) Depends on the height of the tower
 - (c) Depends on wind velocity
 - (d) Can be increased by planting tall trees close to the tower.

- 8) Choose the incorrect statement regarding wind power. 1
- (a) It is expected to harness wind power to maximum in open space
 - (b) The potential energy content of wind blowing at high altitudes is the source of wind power.
 - (c) Wind hitting at the blades of a windmill causes them to rotate. The rotation thus achieved can be utilized further.
 - (d) One possible method of utilizing the energy of rotational motion of the blades of a windmill is to run the turbine of an electric generator.
- 9) What is the minimum speed of wind required by a wind mill to maintain the necessary speed of turbine in electric generator? 1
- 10) What is meant by fusion? 1

Section - B

- 11) How has the traditional use of wind and water energy been modified for our convenience? 2
- 12) On what basis would you classify energy sources as 2
- (a) Renewable and non-renewable
 - (b) Exhausting and inexhaustible?
- Are the option given in (a) and (b) the same?
- 13) (a) Why is there a need to harness non-conventional source of energy? 2
- (b) Give two main examples.
- 14) Write two different ways of harnessing energy from ocean. 2
- 15) What steps would you suggest to minimize environment pollution caused by burning of fossil fuels? 2
- 16) Discuss one limitation each for the extracting of energy from 2
- (a) wind
 - (b) tide
- 17) Name the type of nuclear reaction by which the Sun produces its energy. List two conditions which are present at the centre of the Sun responsible for this reaction. 2
- 18) (a) What is a 'solar cell'? 2
- (b) Why is biogas considered an ideal fuel for domestic use?
 - (c) Name a device in which controlled chain reaction is used.
- 19) (a) Why is the Solar Cooker box covered with a plane glass plate? 2
- (b) Why is energy of water flowing in a river considered to be an indirect form of solar energy?
 - (c) How is the fission of nucleus brought about?
- 20) (a) State one limitation of solar energy available from solar cells. 2
- (b) What is the minimum wind velocity required to obtain useful energy with a windmill?
 - (c) Define the term 'nuclear fission'.

Section - C

- 21) Which is the process used to harness nuclear energy these days? Explain it briefly. 5
- 22) What are the environmental consequences of using fossil fuels? Suggest the steps to minimize the pollution caused by various source of energy including non-conventional sources of energy? 5

23) (i) Write the value of solar constant of Sun.

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(ii) What type of mirror is used in Box Type Solar Cooker?

(iii) Why it is difficult to use hydrogen as a source of energy?

(iv) Fossil fuels are classified as non-renewable source of energy. Explain why.

24) (i) Distinguish between renewable and non-renewable sources of energy giving one example of each.

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(ii) Why is the use of wood as a fuel not advised although forests can be replenished?

