

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.

5

(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?

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