

Short Answer Type Questions – I

[2 marks]

Q. 1. What is the use of the black painted surface in solar heating devices?

Ans. Black colour is a very good absorber of heat but a very poor reflector. So, it is used to absorb the maximum amount of heat from the sunlight. It is used in solar heating devices to maximise the absorption of heat and to minimise heat loss due to reflection

Q. 2. Give an example of indirect harnessing of solar energy.

Ans. All green plants prepare carbohydrates from carbon dioxide and water in the presence of sunlight by the process of photosynthesis. All non-green plants and animals directly or indirectly consume food from the green plants (producers) and store this food in their bodies in the form of chemical energy. In other words, solar energy is transformed into chemical energy.

Q. 3. State the important uses of wind energy.

Ans. The wind energy is used:

- (i) To generate electricity.
- (ii) To grind the wheat in flour mills.
- (iii) To run a pump to draw water from the ground.

Q. 4. Write two advantages of classifying energy sources as renewable and non-renewable.

Ans. (i) The classification helps us to decide which of the available energy sources need to be conserved to ensure their availability for future generations.

(ii) The classification helps us to look for alternative sources of energy like solar and wind energy. It has, therefore, accelerated the pace of development of technologies suitable for harnessing new sources of energy.

Q. 5. Why is tidal energy not likely to be a potential source of energy?

Ans. The tidal energy is not likely to be a potential source of energy because:

- (i) Only few sites are available around the world which are suitable for building field barrages, and
- (ii) The rise and fall of sea water during high and low tides is not enough to generate electricity on a large scale.

Q. 6. Why is it not possible to make use of solar cells to meet all our energy needs? State at least two reasons to support your answer.

Ans. (i) In the solar cells, the energy is obtained only during the day, when the Sun shines.

(ii) In the solar cells, the solar panel convert solar energy into electricity, which is stored in storage battery. The storage battery give the direct current but all the appliances are working by the alternating current, so first of all direct current is converted into alternating current by any suitable appliance before it can be used to run various devices. So, it increases the cost of using solar panels as the source of energy.

So, the solar cell is not used to meet all our energy needs.

Q. 7. How is nuclear energy generated during nuclear fusion?

Ans. During fusion, two nuclei of light element combine to form a heavy nucleus with the release of tremendous amount of energy. There is some loss of mass during fusion process which is transformed into tremendous amount of energy.