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Class - VII Sec - B

Objective Questions

1. Write true or false for each statement.

a. A man going up has potential energy and kinetic energy both.

Ans. True

b. A gum bottle lying on a table has no energy. Ans. False

c. In an electric fan, electrical energy changes into mechanical energy. Ans. True

d. Potential energy changes into kinetic energy when it is put to use.

Ans. True

e. One form of energy cannot be converted into another form.

Ans. False

f. There is always some loss of energy conversion from one form to another. Ans. False

g. The energy of flowing water can be converted into electric energy (electricity). Ans. True

2. Fill in the blanks.

- a. An electric fan converts electrical energy into mechanical energy.
 - b. Cooking gas converts chemical energy into heat energy.
 - c. Energy possessed by a compressed spring is potential energy.
 - d. The ability to do work is called energy.
 - e. The energy possessed by a body due to its position is called potential energy.
 - f. The energy possessed by a body due to its motion is called kinetic energy.
 - g. Green plants convert light energy into chemical energy.
 - h. The S.I. unit of energy is joule.
- i) An object falling freely from the roof of a multi-storey building has potential energy and kinetic energy when halfway down the building.

3. Match the column.

Column A	Column B
a) Running water	i) heat energy
b) Burning	ii) vibration
c) Energy	iii) atom bomb
d) Sound energy	iv) kinetic energy
e) Nuclear energy	v) joule.

a-iv, b-i, c-v, d-ii, e-iii

4. Select the correct alternatives:

a. When we rub our hands

Ans. ii) mechanical energy changes into heat energy

b. A ball rolling on the ground possesses kinetic energy

c. The energy stored in an electric cell is chemical energy

d. When a bulb lights up on passing current, the change of energy is from electrical energy to heat and light energy.

- e. The correct statement is
Both work and energy have the same units
- f. According to law ~~ener~~ of ~~conserv~~ conservation of energy, energy changes from one form to another form, but the total energy of that system remains the same.

B. Short/Long Answer question

1. Define the term energy.

Energy is the capacity to do work.

2. State the unit of energy and define it.

The energy is measured in the same unit as work. Therefore the

S.I. unit of energy is joule (symbol J)

A body is said to possess an energy of one joule if a force of 1 newton moves the body by a distance of 1m in the direction of force. Another unit of energy is calorie (symbol cal) where $1 \text{ cal} = 4.2 \text{ J}$. A bigger unit is kilo-calorie (symbol kcal) where $1 \text{ kcal} = 1000 \text{ cal}$.

3. Name 5 different forms of energy.

The different forms of energy are

- * Mechanical energy
- * Heat energy
- * Light energy
- * Chemical energy
- * Sound energy

24. State the changes in form of energy while producing hydro electricity.

The water in motion in a river or sea has kinetic energy. The energy possessed by the flowing water is called hydro energy. The most important use of hydro energy is to produce electricity from it.

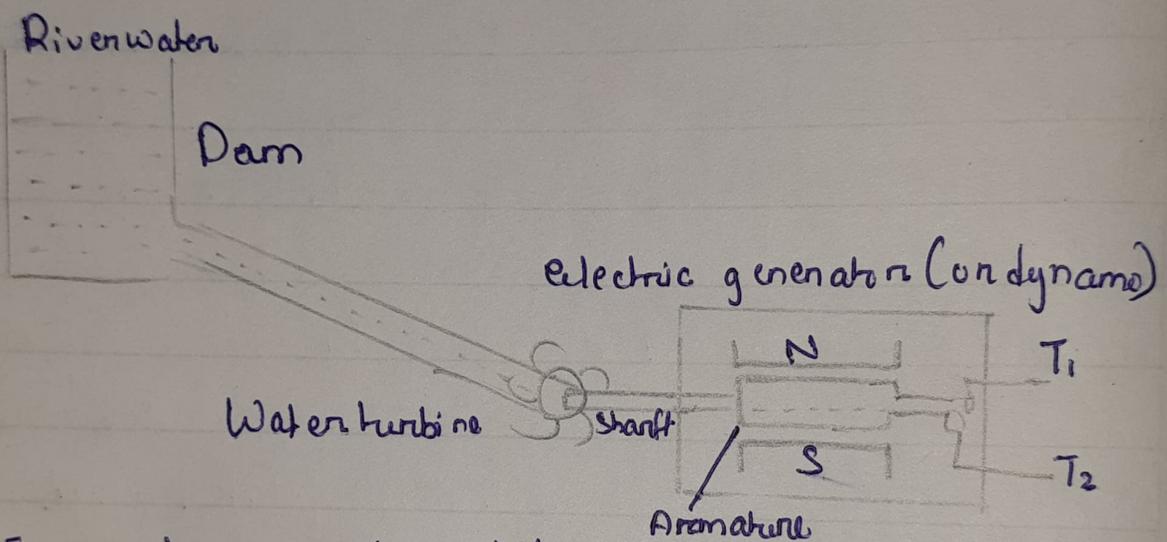


Figure shows the principle of a hydroelectric power plant. The flowing water of river is collected in a dam at a high altitude. The water stored in the dam has the potential energy. When water from dam falls on the water turbine the potential energy of the water stored in dam changes into its kinetic energy and this kinetic energy of water is transferred to the blades of turbine as the kinetic energy which rotates the turbine. As the turbine rotates, it rotates the armature of the generator (or dynamo) to produce electricity.