Ch. 9 - Work & Energy

A. Tick (✓) the correct answer.

1. In which of the following cases, work is not done?
→ (b) Pushing a boundary wall

2. The capacity to do work is called
→ (a) Energy.

3. Sunaj tried to push a wall but failed to move it, then
→ (a) energy is spent but work is not done.

4. Tube lights, torches & LED bulbs are the sources that give us
→ (b) light energy

B. Define the following.

1. Work – When a force moves some object in its own direction, it is called work.

2. Energy – The capacity to do work is called energy.

3. Renewable sources of energy – The sources of energy which can be renewed easily and are available in plenty in nature are called renewable sources of energy.

C. Fill in the blanks with the correct word.

1. The capacity to do work is called energy.

2. We need energy to carry out various activities

3. The energy of flowing water is used to produce electricity.

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(1)

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4. Wind energy does not cause any pollution.

5. When sound waves fall on ear-drum they make it vibrate.

D. Answer the following questions.

1. Give a few examples where work is done.

⇒ Below are a few examples of where the work is done :—

(i) When a boy is hitting a ball, he is doing physical work.

(ii) When a man carried load, he is also doing physical work.

(iii) When a car moves, the work done is mechanical work.

Q2. From where do we get energy to work?
What is the main source of all energy?

Ans. We get energy to do work from the food we eat. We obtain our food either from plants or animals. Plants depend on the sun directly for photosynthesis whereas the animals depend indirectly by consuming plants.

The sun is the main source of most of the energy found on the earth as all other types of energy comes directly or indirectly from the Sun.

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Q.3. Write the differences between renewable & non-renewable sources of energy?

⇒

Renewable Sources of energy	Non-renewable sources of energy
(i) Sources that can be renewed.	(i) Sources that cannot be renewed easily.
(ii) This type of sources of energy are available in plenty in nature.	(ii) This type of sources of energy are available in limited quantity in nature.
Ex. - Sunlight, Water	Ex. - Coal, petroleum.

Q.4. Give examples of non-renewable sources of energy & write about them.

⇒ Two examples of non-renewable sources of energy are —

(i) Coal — It was formed millions of years ago when huge forest areas got buried under the surface of the earth. It is used as a fuel in the thermal power plants to generate electricity.

(ii) Natural gas — Natural gas is also found in the petroleum reserves. The compressed natural gas (CNG) is a cleaner fuel for transportation, domestic & industrial use.

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5. List various forms of energy along with their sources.

=>

Forms of energy	Sources
(i) Heat Energy	Fire, petrol, diesel.
(ii) Light Energy	Sun, Torch, bulbs.
(iii) Electrical Energy	Coal, natural gas
(iv) Mechanical Energy	Falling Water, Moving air
(v) Chemical Energy	Wood, coal
(vi) Sound Energy	Thunder, ringing bell.

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Q.6. Electrical energy is very important to us. Explain.

Electrical energy is one of the most important forms of energy . One cannot think of a world without it as it has many uses in our day to day life.
1.It is used for lighting rooms, working fans and appliances like A/C, washing machine, refrigerator and more. All these provide comfort to us.
2.In factories, large machines work with the help of electricity.
3.Modern means of transportation and communication also work on this energy.
4.Electricity plays a pivotal role in the fields of medicines and surgery too — such as X-ray, ECG etc.

E. Give reasons for the following :

1. We should minimise the use of coal & petrol.

=> Because coal and petrol which are examples of non-renewable sources of energy. The non-renewable sources of energy which cannot be renewed easily and are available in limited quantity in nature.

2. Solar energy is considered as renewable sourc of energy.

=> Solar energy is a renewable source, meaning it won't ever run out or be in short supply, As long as the sun is shining, solar energy will be around. It can be easily replenished.

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3. People doing hard physical work need more energy than people work in office.

⇒ People doing hard physical work need more energy as there is a muscular activity involved. People in office at the most have to walk which require less energy as compared to people doing physical exercise.

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