

## Value Based Questions

**1. On a railway station, a passenger hires a coolie to pick his luggage and carry it to the train. When the coolie finished his work, he asked for the money. But the passenger refused to pay him saying that he has done no work.**

**Answer the following questions based on the above information:**

**(i) Was the passenger right in saying so?**

**(ii) What values are not promoted by the passenger?**

**(iii) Give a situation seen in everyday life when no work is said to be done by you even though you get tired.**

**Ans. (i)** The passenger was right in saying so according to the laws of physics. Since the direction of force is vertically up and displacement horizontal, no work is said to be done.

**(ii)** Sympathy and value for other's work.

**(iii)** When you push a heavy boulder but are unable to displace it.

**2. Ram's family was worried about heavy electricity bills to be paid. Their neighbour Mohan suggested some easy and effective steps to reduce the same. Next month's bill came as a relief to Ram, as the consumption of electricity had reduced by 50 units and so had the bill.**

**(i) In what other aspects of life can this situation help?**

**(ii) What is the unit of energy?**

**(iii) Write any three steps that you think Mohan might have suggested to Ram.**

**Ans. (i)** Promotes saving habits and judicious uses of resources.

**(ii)** Joule.

**(iii)** -Switch off the power where it is not need.

-Use of CFL light.

-To check the proper wiring as to avoid leakage of power.

**3. Prachi and Kanchi were observing a building having two different staircase. One slanting and other vertically spiral. Prachi was of the opinion that a person using slanting staircase will be doing more work against gravity but Kanchi thought otherwise. They started arguing. Sanchi, their friend, explained and gave entirely different view and pacified them.**

**(i) What according to you was the explanation given by Sanchi?**

**(ii) What appreciable values do you see in Sanchi?**

**Ans. (i)** Sanchi explained that the energy required in both the cases is equal because whenever the work is done against gravity, the amount of work is equal to the product of weight of the body and the vertical distance through which the body is lifted.

(Work done in lifting a body = Weight of body x Vertical height).

**(ii)** Sanchi has problem solving values and conceptual value.

**4. Shyam and his friends were playing with a catapult (gulel) in his garden. Several mangoes were dislodged and fell with the help of catapult. One of his friend was aiming the catapult on a bird. Shyam prevented him from doing so.**

**(i)** Name the energy possessed by the stretched string of the catapult.

**(ii)** What will happen if the stone is thrown without stretching the string of a catapult?

**(iii)** Why did Shyam prevent his friend from aiming at the bird? Which quality is highlighted in Shyam's behavior?

**Ans. (i)** Elastic potential energy.

**(ii)** If the stone is thrown without stretching the string of catapult the stone will fall down. As the stretched catapult posses potential energy due to a change in their shape it throws the stone with the high speed.

**(iii)** Shyam prevents his friend form aiming at the bird because he does not want to harm or kill the bird, this shows his care and love for the animals.

**5. Anil lives in a village and his school is 8 km away from his home. His father suggests buying a motor cycle to go to school. Anil opposes the idea and opts for a bicycle instead.**

**(i)** Write the energy transformation taking place while Anil rides his bicycle.

**(ii)** Justify the stand taken by Anil in your own words.

**(iii)** How can he convince his friends to do the same?

**Ans. (i)** Muscular (chemical) energy converts into mechanical energy.

**(ii)** Anil wisely opt for the bicycle as he was concerned towards environment, to avoid noise and air pollution.

**(iii)** By informing them about the harms of pollution, by putting forward the advantages of cycle.