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SUBJECT:- PHYSICS

CLASS:- IXTH

DATE:-06/01/XXI

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 4. (WORK, ENERGY AND POWER REVISION)(BASED ON NCERT PATTERN)

Question 1. A mass of 10 kg is at a point A on a table. It is moved to a point B. If the line joining A and B is horizontal, what is the work done on the object by the gravitational force? Explain your answer.

Answer:- The work done is zero. This is because the gravitational force and displacement are perpendicular to each other.

Question 2. The potential energy of a freely falling object decreases progressively. Does this violate the law of conservation of energy? Why?

Answer:- It does not violate the law Of conservation of energy. Whatever, is the decrease in PE due to loss of height, same is the increase in the KE due to increase in velocity of the body.

Question 3. What are the various energy transformations that occur when you are riding a bicycle?

Answer:- The chemical energy of the food changes into heat and then to muscular energy. On paddling, the muscular energy changes into mechanical energy

Question 4. Does the transfer of energy take place when you push a huge rock with all your might and fail to move it? Where is the energy you spend going?

Answer:- Energy transfer does not take place as no displacement takes place in the direction of applied force. The energy spent is used to overcome inertia of rest of the rock

Question 5. An object of mass 40 kg is raised to a height of 5 m above the ground. What is its potential energy?

If the object is allowed to fall, find its kinetic energy when it is half-way down.