SUBJECT:- PHYSICS　　　　　　CLASS:- IXTH　　　　　　DATE:03/09/XX

SUBJECT TEACHER:- MR. NEEL NIRANJAN

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

Q1. What is the work done by the force of gravity on a satellite moving around the earth? Justify your answer.

Ans. As the force acting on the body is perpendicular to the direction of displacement,Work done is zero.

Q2. Can there be displacement of an object in the absence of any force acting on it? Think Discuss this question with your friends and teacher.

Ans. If an object is in a state of motion, then as per Newton's first law of motion in the absence of any external force acting on it, the object will maintain its motion along a given straight line. So the object will have displacement. However, if the object is initially at rest then there can be no displacement, the work done by person is zero.

Q3. A person holds a bundle of hay over his head for 30 minutes and gets tired. Has he done some work or not? Justify your answer.

Ans. Work is said to be done when force is applied on a body and the body shows the displacement. In this case force is applied on hay bundle but there is no displacement of it. Hence no work is said to be done on the way.

Q4. An electric heater is rated 1500 W. How much energy does it use in 10 hours.

Ans. Power = 1500 W → 1.5 kW, time = 10 hour, Energy = ?

　　Energy = Power × Time taken

　　　= 1.5 × 10 = 15 kWh

　　∴ Energy required = 15 Kwh

Q5. Find the enemy in kwh consumed in 10 hours by four devices of power 500 W each

Ans. Power = 500 W = 0.5 kW, time = 10 hours,　Devices = 4

　　　∴ Energy consumed in kWh = 0.5 kW × 10 hours × 4

　　　=20 kWh