STATE COUNCIL OF EDUCATIONAL RESEARCH & TRAINING, TELANGANA,HYDERABAD

LIP –Learning Improvement Programme

End-line test

Subject: Physical Sciences **Class: IX** **Time: 1 Hour**

I. READING COMPREHENSION

We define work to be equal to the product of the force (F) and the displacement (s) moved along the direction of the force. Two conditions need to be satisfied in order to say that work has taken place. One is, a force should act on the object and another is, the object must be displaced or there must be change in the position of the object. The work done by a force acting on an object is equal to the magnitude of force (F) multiplied by the distance moved (s). This formula for work is used in only translatory motion of the object. Work has only magnitude, no direction. So work is a scalar. Capability of doing work by an object or energy possessed by an object depends on position and state of the object which is doing work.

Whenever work has been done on an object its energy either increases or decreases. Sun is the biggest natural source of energy to us. Many other sources are derived from it. The energy possessed by an object due to its motion is called kinetic energy. The energy possessed by an object because of its position or shape is called its potential energy. The sum of the kinetic energy and the potential energy of an object is called its mechanical energy. Energy can neither be created nor destroyed. It can only be changed from one form to another. This is the law of conservation of energy.

Read the above paragraph and answer the following questions.

1. Write the two conditions that must be satisfied for work to take place.
2. Why work is considered as a scalar quantity?
3. Explain kinetic energy and potential energy.
4. Explain mechanical energy, and how is it related to kinetic and potential energy?

II. TESTING OF PREVIOUS KNOWLEDGE / PREREQUISITES

5. Write the source of energy to ride your vehicle?
6. Why don't we hear sounds when our ears are closed?
7. Differentiate between Heat and Temperature?

III. TESTING OF LEARNING OUTCOMES

8. Why do we get dew on the surface of a cold soft drink bottle kept in the open air?
9. Write the formula to find the speed of sound, to hear an echo?
10. Give any 2 examples for renewable energy sources.