

## ASSESSMENT II

Answers to this Paper must be written on the paper provided separately. You will not be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper. The time given at the head of this Paper is the time allowed for writing the answers.

Section A is compulsory. Attempt any five questions from Section B. The intended marks for questions or parts of questions are given in brackets.

## SECTION A (40 Marks)

(Attempt all questions from this section)

## Question 1

Choose the correct answers to the question from the given options:

[8]

- a. A magnet can attract  
 i) steel ring                      ii) copper plate                      iii) rubber band                      iv) glass rod
- b. A freely suspended bar magnet always rest in  
 i) North-South direction    ii) East-West direction    iii) South-West direction    iv) North-East direction
- c. A shadow is formed when the path of light is obstructed by  
 i) transparent object    ii) translucent object    iii) opaque object    iv) none of these
- d. Light travels in  
 i) straight line                      ii) curved path                      iii) zigzag pattern                      iv) random direction
- e. We can lift heavy loads by changing the direction of force applied, by using a/an  
 i) inclined plane                      ii) pulley                      iii) wedge                      iv) screw
- f. Which of the following is not a lever?  
 i) A pair of scissors                      ii) An axe                      iii) a fishing rod                      iv) A knife
- g. Which of the following materials allows light to pass through it?  
 i) Copper                      ii) Wood                      iii) Rubber                      iv) Glass
- h. A magnet can be made using  
 i) rubber                      ii) copper                      iii) aluminium                      iv) iron

## Question 2

Fill in the blanks:

[6]

- a. A compass is based on the \_\_\_\_\_ property of magnet.
- b. Objects that do not allow light to pass through are called \_\_\_\_\_ objects.
- c. Machines make our work \_\_\_\_\_.
- d. \_\_\_\_\_ is the ratio of load to the effort.
- e. A \_\_\_\_\_ camera works on the principle of rectilinear propagation of light.
- f. \_\_\_\_\_ is a strong magnetic material.

### Question 3

State true or false for the given statement:

[6]

- a. A compass can be used to find the east – west direction at any place.
- b. Butter paper is transparent.
- c. Regular oiling and polishing decreases the life of a machine.
- d. A nickel wire is attracted by a magnet.
- e. A machine itself cannot create energy.
- f. Sun is the main source of light on the Earth.

### Question 4

Match the following:

[6]

- |                  |  |
|------------------|--|
| a. Screw         | A simple machine made by joining two inclined planes |
| b. Moon.         | Source of light                                      |
| c. Like poles.   | Non luminous object                                  |
| d. Wedge.        | Attract  |
| e. Bulb.         | simple machine                                       |
| f. Unlike poles. | Repel  |

### Question 5

Define the following terms:

[6]

- a. Electromagnet      b. Eclipse      c. Wheel and axle arrangement

### Question 6

Answer in one word:

[8]

- a. Materials that cannot be magnetised.
- b. An example of an opaque object.
- c. Cutting paper with a pair of scissors.
- d. A dark area formed by an object behind it when it obstructs light.

## SECTION B (40 Marks)

(Attempt any five questions from this section)

### Question 1

- a) State any two properties of magnet. Also write about two uses of magnet. [3]
- b) Describe how our Earth behaves like a magnet with diagram. [5]

### Question 2

- a) What are magnetic field lines? Write its properties. [3]
- b) Describe briefly the single touch method of making a magnet with diagram. [5]

### Question 3

- a) State the characteristics of the images formed in a pin hole camera. [3]
- b) What are eclipses? Write the difference between solar and lunar eclipse. Also draw the diagram. [5]

### Question 4

- a) What are the three things required to observe the formation of a shadow? [3]
- b) What conclusion do you draw from the fact that when an object is placed in the path of light, a shadow is formed behind the object. [5]

### Question 5

- a) A pulley does not increase or decrease force. Then how is it useful as a simple machine? [3]
- b) What care would you take to increase the life span of a machine you use? [5]

### Question 6

- a) The effort arm of a lever is 4m long and the load arm is 8m long. Find the effort required to lift a load of 20 N. [4]
- b) An effort of 20 N is used to lift a load of 60 N by a machine. Calculate the mechanical advantage of the machine. [4]