**S.3 PHYSICS**

**TIME: 1 ½ HOURS**

Instructions: Attempt all questions

**SECTION A**

1. a) State the number of significant figures in the following measurements
2. 3456 ……………………………………………………………….
3. 700 …………………………………………………………………
4. 0.006 ……………………………………………………………….
5. 909 …………………………………………………………………
6. 0.900 ……………………………………………………………….

b) The distance from the earth to the sun is 1496000000m. Write this in scientific notation

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c) A plot of land has an area of 2.3km2. Convert the area to m2

1. a) Ants always work together. They add their forces to get a combined force to carry heavy objects. Which special name can you give that combined force?

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b) Two forces of 17.2N and 12.9N act on a body at right angles to each other. Find the resultant force.

1. a) An object has a mass of 45kg on earth. What is its mass on other planets?

b) Is mass the same as weight or they are different? If they are different, state the differences.

c) The values of acceleration due to gravity on the moon and earth are 1.62ms-2 and 10ms-2 respectively. A body weighs 280N on the earth’s surface. What is the weight of the same body on the surface of the moon?

1. a) List down the advantages of solar energy to man and the environment.

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b) Suggest the possible ways of minimizing the dangers caused by solar energy to man and the environment.

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1. a) With relevant examples, explain three ways in which levers are useful in your locality

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b) A lever has a velocity ration of 4 when an effort of 150N is applied, a force of 450N is lifted. Determine the:

i) Mechanical advantage

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ii) Efficiency of the lever

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1. A dish of hot food is put on a wooden table as shown in figure 1

Fig . 1

1. State three processes by which the dish and its contents could lose theat to the surroundings

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1. (i) Describe one way of reducing the heat loss to the surroundings

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ii) Which form of heat loss would this reduce?

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