

NAME.....ADM NO.....

SCHOOL.....DATE.....

STUDENT'S SIGNATURE .....

## **PHYSICS**

TIME: 2 ½ HOURS  
March 2017

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### **INSTRUCTIONS TO STUDENTS**

1. Answer all questions in this question paper .
2. All your answers must be written in the SHEETS provided.

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1. What is meant by the term 'basic quantities' (1 mk)  
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2. Define length and state its SI unit (1 mk)  
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3. Name two types of errors and state how each is minimized when measuring the length of objects. (4 mks)  
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4. Describe how you would estimate the thickness of one paper in a given book if you are provided with a metre ruler only (3 mks)  
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5. State three limitations of using the displacement method when determining the volume of an irregular solid (3 mks)  
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6. A wire of radius 6 mm and length 400 is melted into a sphere. Calculate the radius of the sphere in centimeters. (3 mks)

7. Convert  $5 \text{ g/cm}^3$  to the SI unit. (2 mks)



8. Using the following masses and volumes of substances, calculate their densities in SI unit.
- a) 200 mg,  $0.0004\text{m}^3$  (2 mks)
- b) 0.86 kg,  $1000000\text{ mm}^3$  (2 mks)
9.  $100\text{ cm}^3$  of water is mixed with  $50\text{ cm}^3$  of concentrated acid of density  $1.2\text{ g/cm}^3$ . Assuming no change in volume, find the average density of the mixture. (Take density of water =  $1.0\text{ g/cm}^3$ ) (4 mks)
10. A density bottle weighs 70 g when filled with water and 94 g when filled with a liquid A. Find the density of liquid A given that the density of water is  $1000\text{ kg/m}^3$ . (5 mks)

11. State four effects of forces (4 mks)

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12. State three types of forces that act between objects that are not in contact (3 mks)

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13. Describe two types of molecular forces (4 mks)

14. ....

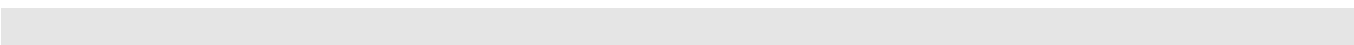
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15. State three areas of application of capillary rise. (3 mks)

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16. Distinguish between mass and weight and state SI units (4 mks)

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17. Differentiate between vector quantities and scalar quantities

(2 mks)

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