

# END OF TERM 1 EXAMS

## PHYSICS

### FORM 1

TIME: 1 &1/2 HOURS

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

SIGN..... INDEX NO:.....

#### INSTRUCTIONS.

1. ANSWER ALL QUESTIONS IN THE SPACES PROVIDED BELOW.

2. ALL WORKINGS SHOULD BE CLEAR AND LEGIBLE.

1. Distinguish between basic and derived quantity. Give **two** examples in each case. (4mks)

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2. Complete the table below. (7mks)

QUANTITY	SI UNITS	SYMBOL OF SI UNITS
LUMINOUS INTENSITY		
	AMPERE	
		K
	KILOGRAM	
		S
	MOLE	
LENGTH		

**FOR MARKING SCHEMES CALL/WHATSAPP 0705525657**

3. Explain instances where physics is related with the following. (4mks)

a) Biology-

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b) Geography-

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4. A test-tube has a diameter of 3cm. how many turns would a piece of thread of length 90.42cm make round the test tube.(Take  $\pi=22/7$ ) . (3mks)

5. Define the following branches of physics. (4mks)

a) Waves-

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b) Mechanics-

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6. a) Draw a burette filled with water to a volume of  $28\text{cm}^3$ . (2mks)

b) 60 drops fell from a burette. The first and final readings were 28cm<sup>3</sup> and 42cm<sup>3</sup> respectively. What is the average volume of one drop. (3mks)

7. Differentiate between vector and scalar quantity giving relevant examples in each case. (4mks)

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8. Determine the density in SI Units of a solid of mass 40g with dimensions 30cm by 4cm by 3cm. (4mks)

9. Define surface tension and state two factors affecting surface tension. (3mks)

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10. State **two** major differences between mass and weight. (4mks)

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11.  $1600\text{cm}^3$  of fresh water of density  $1\text{g/cm}^3$  are mixed with  $1200\text{cm}^3$  of sea water of density  $1.2\text{g/cm}^3$ .  
Determine the density of the mixture. (4mks)

12. A body weighs 65N. Calculate it's mass. ( $g=10\text{N/Kg}$ ) (2mks)

13. Define pressure giving its SI Units. (2mks)

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b) State any **two** factors affecting pressure in liquids. (2mks)

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14. A block measuring 20cm by 10cm by 5cm rests on a flat surface. The block has a weight of 3N. Determine the maximum pressure it exerts on the surface. (3mks)

15.a) Define force and state its SI Units. (2mks)

b) Find the resultant of a force 4N and 8N acting at the same point on an object if the forces act in the same direction in the same straight line. (2mks)

16. Explain the following observations:

i) Water wets glass surface but does not wet the waxed glass surface. (2mks)

ii) A steel needle placed carefully on the surface of water does not sink. (2mks)

iii) A matchstick rubbed at one end with soap starts moving immediately in one direction when placed on the surface of water. (2mks)

iv) The mass of a lump of gold is constant everywhere, but its weight is not. (1mk)

v) Large mercury drops form oval balls on a glass slide. (2mks)

17. A sphere of diameter 6.0cm is moulded into a thin uniform wire of diameter 0.2mm. Calculate the length of the wire in metres. (Take  $\pi=22/7$ ) (3mks)

18. An astronaut weighs 900N on earth. On the moon, he weighs 150N. Calculate the moon's gravitational strength. (3mks)