END OF TERM 1 EXAMS

PHYSICS

FORM 2

TIME: 1 &1/2 HOURS

NAME……………………………………………ADM NO:…………….……

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

<u>**INSTRUCTIONS.**</u>

1. Answer all questions in the spaces provided below.

1. Define the following terms giving appropriate examples.   (4mks)
   a) Magnetic materials-

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b) Non-magnetic materials-

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2. $0.01cm^3$ of oil spreads out on water to form a patch of diameter 28cm. estimate the diameter of an oil molecule ,and   express your answer correct to 3s.f.g.   (3mks)

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3. A uniform meter rule with a mass of 200g suspended at zero mark is pivoted at the 22.0cm mark. Calculate the mass of the rule.   (4mks)

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4. State **three** uses of magnets.   (3mks)

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5. Explain the following.   (4mks)
   a) Principal of moments of a force.

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   b) Moment of a force is a vector quantity.

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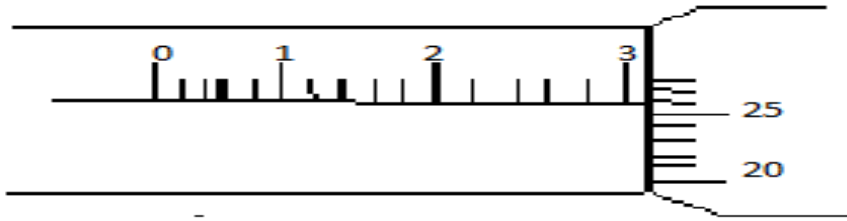
6. The micrometer screw gauge below has a zero error of -0.15.Determine the final Redading of the instrument. (3mks)

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7. State **two** factors that affect the centre of gravity. Explain each briefly. (4mks)

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8. State **two** practical applications of the C.O.G. (2mks)

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9. A solid weighs 36N on the Moon .The force due to gravity on the moon is 1.7N/Kg. Determine the mass of the solid. (3mks)

10. Use simple sketches of a cone to illustrate the three states of Equilibrium. (3mks)

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11.a) Give a reason why water is not suitable as a barometric liquid.   (2mks)

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b) Explain the application of 11(a) above.   (1mk)

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12.Determine the density in SI units of a solid whose mass is 40g measuring 30cm long, 4cm wide and 3cm thick. (4mks)
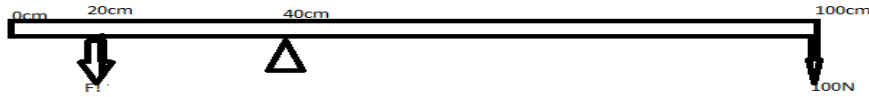
14.a).Sketch **two** diagrams of a wire loop dipped in soap solution to illustrate the surface tension experiment.   (2mks)

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b) Explain the observation in 14 (a) above.   (2mks)

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15. A uniform wooden bar of length 1m and mass 5kg is pivoted at 40cm mark as shown below. Calculate the value of F1.   (4mks)

16. Using domain theory of magnetism, explain how a magnet may lose its magnetism on heating and hammering. (4mks)

17. Distinguish between soft and hard magnetic materials.   (2mks)

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18. A boy jumping from a high table tends to spread his legs. Explain   (1mk)

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19. State **two** differences between mass and weight.   (2mks)

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20. State **two** practical applications of friction.   (2mks)

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21. What is wrong with the statement." the mass of an astronaut in the moon is $1/6^{th}$ his mass on earth".
    (1mk)

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22. State the **two** conditions for a body to be in equilibrium.   (2mks)

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23. Explain what is meant by magnetic shielding and state one application of magnetic shielding.   (2mks)

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24.a)Define the following terms.   (2mks)
    i) Principal focus-

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    ii) Radius of curvature-

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25. An object is placed 30cm from a concave mirror of focal length 20cm.
Calculate. i) The image position   (2mks)

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        ii) The magnification   (2mks)

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26. State **one** advantage and one disadvantage of using a convex mirror.   (2mks)

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