B.Sc. DEGREE EXAMINATION,APRIL 2019
I Year I Semester
Allied Physics- I

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Define SHM.
2. What are Lissajous figures?
3. Define bulk modulus.
4. Define Poisson's ratio.
5. Define critical velocity.
6. Define surface tension.
7. Define mean free path.
8. Give any two uses of ultrasonic waves.
9. Give the principle of potentiometer.
10. State Biot-Savart's law.
11. Define critical temperature.
12. Define co-efficient of viscosity.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Give a note on damped and forced vibrations.
14. Derive expression for torque per unit twist of a wire.
15. Describe an experiment to compare the co-efficient of viscosity of two liquids.
16. Give the postulates of kinetic theory of gases.
17. Explain an experiment to calibrate the given voltmeter using potentiometer.
18. Explain the experiment to determine Young's modulus by non-uniform bending.
19. Give a note on Vanderwaal's equation of state.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Describe with necessary theory the composition of two SHM at right angles to each other.
21. Describe with theory how to determine the rigidity modulus of the rod using static torsion.
22. Derive Poiseuille's formula.
23. Explain with neat diagram production of ultrasonic waves by piezoelectric method.
24. Derive an expression for the magnetic field due to current carrying conductor.

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