SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.
B.Sc.Physics - END SEMESTER EXAMINATIONS - NOV'2024
SEMESTER - I
22UPHCT1001 - Properties of Matter

Total Duration : 2 Hrs.30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Briefly Explain about Cavendish method for the determination of gravitational constant 'G'.

2. Discuss to determine the Rigidity modulus by static torsion by the method of scale and telescope with required diagram.

3. Differentiate between the drop weight method and Jaeger's method for the measurement of liquid drop method in brief.

4. Derive Poiseuille's formula for the flow of liquid through a capillary tube.

5. Explain how to measure Young's modulus by uniform bending with neat sketch.

6. With necessary diagram Describe to determine the Rigidity modulus of torsion by the dynamic method.

7. Describe Quincke's method to determine the magnetic susceptibility of a paramagnetic substance in liquid.

8. Discuss about the Experiment to determine Co-efficient of viscosity of a liquid by Variable pressure head.

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Describe Gravitational potential and gravitational field due to
(i) a spherical shell   (ii) uniform solid sphere.

10. Explain in detail about Experiment to determine Young's modulus by Koenig's method.

11. Discuss Torsion of a cylinder also derive the expression for torque per unit twist.

12. Determine the angle of contact and also experiment Variation of surface tension with temperature and its experimental study.

13. Discuss about Variation of viscosity of a liquid with temperature and pressure also derive the applications of viscosity

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