

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.Chemistry - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - III

20UCHAT3003 - Allied Physics - I

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Show how Lissajous figures may be produced and demonstrated.
2. Compute an expression for the bending moment of a beam.
3. Predict the theory of surface tension in soap bubble and liquid drop.
4. What are ultrasonic waves? Explain its uses in various fields.
5. State and explain Biot-Savat's law.
6. Compute an expression for energy stored in a stretched wire.
7. Sketch the postulates of kinetic theory of gases.
8. Determine the magnetic induction at the point on the axis of a circular coil carrying current.

Section C

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

9. Sketch an expression for the resultant motion of two simple harmonic motions acting at right-angles to each other and discuss the different cases.
10. Define Rigidity modulus. Describe static Torsion method to find it.
11. Determine the expression for the rate of flow of liquid through a capillary tube.
12. Describe the production of ultrasonic waves using a Magnetostriction oscillator.
13. Deduce an expression for loss of energy due to sharing of charges.
