

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.Mathematics - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - II

20UMAAT2D02 - Allied Physics - II

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Describe how you would combine two prisms to produce dispersion without deviation.
2. Describe the liquid drop model of the nucleus.
3. Predict some practical applications of low temperature physics.
4. Explain the function of AND gate. Give its truth table.
5. What are the types of coupling schemes? Explain any one.
6. Derive an expression for mean life period.
7. Describe Linde's process of liquefying of air.
8. Illustrate the DeMorgan's first theorem.

Section C

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

9. Explain the principle of air wedge and how it can be used to find the diameter of a thin wire.
10. Compute the quantum numbers associated with the vector atom model.
11. Organize the properties of alpha rays and gamma rays.
12. Predict and explain the porous plug experiment.
13. Judge the NAND and NOR gates as universal building blocks.
