

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.(Maths) END SEMESTER EXAMINATIONS NOVEMBER -2023

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. Compare refraction and dispersion through a prism.
2. State Pauli's exclusion Principle and Predict its applications.
3. Analyze the function of L-S Coupling and j-j Coupling schemes.
4. Describe the Nuclear Fission and Fusion.
5. List out the properties of Alpha, Beta, Gamma rays.
6. Explain the Joule Thomson effect and its applications towards low temperature.
7. Show that NOR gate serves as a universal building block.
8. Construct AND, OR and NOT basic logic gates using NAND gate.

Section C

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

9. Describe the determination of diameter of a wire by Air Wedge method.
10. Illustrate the various quantum numbers associated with vector atom model.
11. Obtain the expression for Half-life period and mean life period.
12. Briefly explain how air is liquefied by Linde's method.
13. State and verify DeMorgan's theorem.

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