

Sessional Exam – II (July-December 2025)

BSC-102 Chemistry

B.Tech. (Robotics & Artificial Intelligence) Semester – I

Time: 1 hr 30 min

Maximum Marks: 15

Instructions: All questions are compulsory

1. Discuss the pi-molecular orbital diagram of 1,3-butadiene. [5]
2. Define crystal field theory? Provide a comparative analysis of the CFT energy level diagrams for both octahedral and tetrahedral complexes. [5]
3. Derive the normalization constant of the wave function $\Psi = \sin n\pi x/L$ for a particle confined in 1-D box of length L, where $0 \leq x \leq L$ [5]