

I B. Tech I Semester Supplementary Examinations, August/Sep - 2022**APPLIED CHEMISTRY**

(Common to ECE, EIE, ECT, CSE-AI&ML, CSE-AI, CSE-DS, CSE-AI&DS, AIDS,CSD)

Time: 3 hours

Max. Marks: 70

Answer any five Questions one Question from Each Unit**All Questions Carry Equal Marks****UNIT-I**

1. a) Write the applications of BUNA-S and PVC. (7M)
b) Discuss stress-strain graph to explain the mechanical properties of polymers. (7M)

Or

2. a) Write notes on intrinsically conducting polymers. (7M)
b) Write the essential characteristics of biomedical polymers and its applications. (7M)

UNIT-II

3. a) Discuss (i) phosphoric acid fuel cell (ii) zinc air cells. (7M)
b) Write notes on special paints. (7M)

Or

4. a) Explain (i) standard hydrogen electrode (ii) primary and secondary batteries. (7M)
b) Write notes on (i) galvanic corrosion (ii) pilling-bedworth rule. (7M)

UNIT-III

5. a) Describe any two methods for preparation of CNTs. (7M)
b) Write notes on (i) rectifiers (ii) Epitaxy method for preparation of doped semiconductor P - n junction diodes. (7M)

Or

6. a) Discuss the working of Xerox machine using chalcogen semiconductor. (7M)
b) Differentiate the types of superconductors. (7M)

UNIT-IV

7. a) Explain the instrumentation of IR spectroscopy. (7M)
b) Discuss ocean thermal energy conversion with neat sketch. (7M)

Or

8. a) Outline briefly the working of MRI. (7M)
b) Write notes on (i) Lambert Beer's Law (ii) auxochrome (7M)

UNIT-V

9. a) Explain briefly about molecular modeling and docking studies. (7M)
b) Explain how a molecular shuttle works in presence and absence of H⁺ ion. (7M)

Or

10. a) Discuss molecular elevator. (7M)
b) Write notes on rotaxenes and catenanes. (7M)

