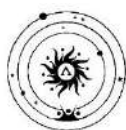


H.T.No:

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CourseCode:241CH002



ADITYA UNIVERSITY

B.Tech – I Semester End Examinations Regular (B.Tech2024)

APPLIED CHEMISTRY (Common to CSE &AIML)

Time: 3 hours

Max. Marks: 50

Answer ONE question from each unit

All Questions Carry Equal Marks

All parts of the questions must be answered at one place only

UNIT-I

- 1 a. Explain Emulsion polymerization? L2 CO1 [5M]
b. Differentiate between addition and condensation polymerizations? L1 CO1 [5M]

(OR)

- 2 a. Define bio-degradable polymers. Write preparation, properties and applications of PGA? L2 CO1 [4M]
b. Interpret the mechanism of conduction in Polyacetylene (Doping)? L2 CO1 [6M]

UNIT-II

- 3 a. Outline an equation for the determination of electrode potential and specify the terms in the equation. L3 CO2 [4M]
b. Calculate the EMF of a cell at 25°C Zn/Zn²⁺(0.1)//Cu²⁺(1.75M)/Cu. Given that E⁰(Zn/Zn²⁺) = -0.76V and E⁰(Cu²⁺/Cu) = + 0.34V L3 CO2 [6M]

(OR)

- 4 a. Outline the construction and working of a secondary battery with a suitable example. L2 CO2 [5M]
b. Discuss the working of Ampero-metric sensors and give its applications. L2 CO2 [5M]

UNIT-III

- 5 a. Summarize the prediction of molecular properties using computational chemistry. L3 CO3 [6M]
b. Explain about computational quantum chemistry and its applications. L2 CO3 [4M]

(OR)

- 6 a. Describe the tools used in molecular modeling. L2 CO3 [5M]
b. Discuss techniques used for conformational samples. L3 CO3 [5M]

UNIT-IV

- 7 a. Explain the preparation of Nano materials by Sol-Gel Method L2 CO4 [5M]
b. Discuss the uses of Graphene in water treatment and drug delivery. L3 CO4 [5M]

(OR)

- 8 a. Define Smart materials and explain their engineering applications. L2 CO4 [5M]
b. Describe Poly acryl amides as Thermo response materials. L2 CO4 [5M]

UNIT-V

- 9 a. Illustrate the Zeolite process in the removal of hardness of water. L3 CO5 [6M]
b. Explain the desalination of water by electro dialysis. L2 CO5 [4M]

(OR)

- 10 a. Discuss the need of E-waste management. L2 CO5 [5M]
b. Explain the extraction of copper from E-waste. L2 CO5 [5M]

MODEL QUESTION PAPER