

BACHELOR OF TECHNOLOGY (C.B.C.S.) (2021-COURSE)
B. Tech. Sem - II CS&E-A&M :SUMMER- 2022
SUBJECT : ORGANIC & ELECTROCHEMISTRY

Day : Monday
Date : 1/8/2022

S-23931-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagrams wherever necessary.
- 4) Assume suitable data if necessary.
- 5) Use of non-programmable **CALCULATOR** is allowed.

Q.1 Define coordination chemistry. What are the different types of coordinate complexes? Explain with suitable examples. **(10)**

OR

Q.1 Explain paramagnetic nature of oxygen molecule and diamagnetic nature of nitrogen molecule on the basis of molecular orbital theory.

Q.2 What is green chemistry? Explain the "use of renewable feedstock" principle in green chemistry with example. **(10)**

OR

Q.2 Define the term green solvent. What is supercritical CO₂? Give the applications of supercritical CO₂ as a green solvent. **(10)**

Q.3 Give the classification of cells with examples. Describe the construction of lead-acid battery with the reaction occurring during discharge. **(10)**

OR

Q.3 Define the terms
i) emf ii) electrochemical cell iii) electrode potential
iv) oxidation potential v) reduction potential **(10)**

Q.4 What is monomer? Define functionality. Explain the condensation polymerization with suitable example. **(10)**

OR

Q.4 Define the term polymer. What are the types of conducting polymers? Write the applications of conducting polymers. **(10)**

Q.5 Define semiconductor. Discuss the electrical conductivity in n-type and p-type semiconductors. **(10)**

OR

Q.5 What are super conductors? Discuss their properties and uses. **(10)**

Q.6 What is proximate analysis of coal? Explain how the different factors are determined in proximate analysis of coal. Give its significance. **(10)**

OR

Q.6 Define lubrication. Explain the mechanism of fluid-film and boundary lubrication. **(10)**

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