BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)

B. Tech. Sem - I Computer Science & Engineering : WINTER : 2023

SUBJECT : ORGANIC & ELECTROCHEMISTRY

Day : Monday | Time : 10:00 AM-01:00 PM

Date : 04-12-2023 | **W-24020-2023** | Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data **WHEREVER** necessary.
4) Draw neat diagram **WHEREVER** necessary.

Q.1 What is hybridization? Explain sp^3d and sp^3d^2 hybridization with suitable examples. **(10)**

OR

Q.1 Write a short note on **(10)**

i) Central ion and ligands

ii) Coordination number and coordination sphere.

Q.2 What is green chemistry? Explain in detail the concept of atom economy. **(10)**

OR

Q.2 Explain in detail the use of green solvents. **(10)**

Q.3 Explain the construction and working of H_2-O_2 fuel cells and Li-ion batteries. **(10)**

OR

Q.3 Explain the Nernst equation and compare the properties of Cu and Zn with respect to their position in the periodic table. **(10)**

Q.4 Differentiate between Addition and Condensation polymerization and explain the different steps involved in free radical polymerization. **(10)**

OR

Q.4 Differentiate between thermoplastics and thermosetting plastics. **(10)**

Q.5 What are semiconductors? Explain the preparation and types of semiconductors. **(10)**

OR

Q.5 What are electrical insulators and dielectric materials? Explain with examples. **(10)**

Q.6 Briefly explain the classification of coal and why coal analysis is required? **(10)**

OR

Q.6 Explain the proximate analysis of coal. **(10)**

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