BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-II CS&E-A&M : WINTER: 2025
SUBJECT: ORGANIC & ELECTRO CHEMISTRY

Day : Monday
Date : 24/11/2025

W-27701-2025

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) Assume suitable data **WHEREVER** necessary.
4) Draw neat diagrams **WHEREVER** necessary.

Q.1 Define molecular orbital. With molecular orbital energy level diagram explain the stability of N_2 molecule on the basis of molecular orbital theory. **(10)**

OR

Q.1 Explain the main postulates of molecular orbital theory. **(10)**

Q.2 With proper synthetic steps show how adipic acid can be synthesized by using conventional and green pathway. **(10)**

OR

Q.2 What is green chemistry? Explain atom economy concept in green chemistry with example. **(10)**

Q.3 With a neat labelled diagram explain the working of fuel cell. Give the applications of fuel- cell. **(10)**

OR

Q.3 What is secondary cell? Explain in detail the lead-acid storage battery. **(10)**

Q.4 Write a note on polymers and polymerization. **(10)**

OR

Q.4 Write note on conducting polymers. **(10)**

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

OR

Q.5 Explain conductors, semiconductors and insulators on the basis of band gap theory. **(10)**

Q.6 What is ultimate analysis of coal? Explain the determination of nitrogen by Kjeldahl's method. **(10)**

OR

Q.6 Define calorific value. Distinguish between Gross and Net calorific value. **(10)**

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