

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
Computer Science & Engineering-AI&ML
B. Tech. Sem - II :SUMMER : 2023
SUBJECT : ORGANIC & ELECTROCHEMISTRY

Day : Friday

Time : 10:00 AM-01:00 PM

Date : 26-05-2023

S-23931-2023

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 What do you understand by the term bonding and antibonding orbitals? (10)
Give the conditions for the combination of atomic orbitals to form molecular orbitals.

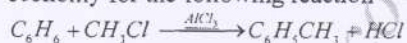
OR

Q.1 Define molecular orbital. Explain the diamagnetic behaviour of hydrogen molecule on the basis of molecular orbital theory.

Q.2 Define green chemistry. Explain "Prevention of waste" principle in green chemistry. (10)

OR

Q.2 What do you mean by atom economy? Calculate the percentage atom economy for the following reaction (10)



Q.3 Define electrochemical cell. Explain the construction and working of a Daniel cell. (10)

OR

Q.3 Define fuel cell. Explain the construction and working of $H_2 - O_2$ fuel cell. (10)
Mention the advantages and limitations of fuel cell.

Q.4 Define polymer. What do you mean by degree of polymerization? Explain the addition polymerization with suitable example. (10)

OR

Q.4 What are conducting polymers? Explain the different types of conducting polymers with examples. (10)

Q.5 What are intrinsic semiconductors? Explain the conductivity in n-type and p-type semiconductor. (10)

OR

Q.5 What are chalcogen photoconductors? Explain the principle of photocopying process by using selenium photoconductor. (10)

Q.6 Define a chemical fuel. Give complete classification of fuels with examples. (10)
What are the characteristics of a good fuel?

OR

Q.6 Define lubricants. Discuss the classification of lubricants with suitable example. (10)

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