

BACHELOR OF TECHNOLOGY (C.B.C.S.) (2021-COURSE)
B. Tech. Sem - I Electronics & Communication : WINTER- 2022
SUBJECT : CHEMISTRY & ECONOMICS OF MATERIAL SCIENCE

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 11/1/2023

W-24084-2022

Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat labeled diagram **WHEREVER** necessary.
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Q.1 What are Superconductors? Give its types and applications. (10)

OR

Q.1 What are dielectric materials? Explain polar and non – polar molecules. (10)

Q.2 What are polymers? Give the classification of polymeric materials based on structure and origin. (10)

OR

Q.2 Classify the polymers based on their behavior when heated, and based on chemical composition. (10)

Q.3 What are metal matrix composites? Explain properties and applications of metal matrix composites. (10)

OR

Q.3 What are structural composites? Give its types and applications. (10)

Q.4 What is a green design concept? Explain the sustainable design principles. (10)

OR

Q.4 Explain the recycling of non – metals. Discuss the issues and importance of recycling. (10)

Q.5 What are biosensors? Give the construction and working of any one biosensor. (10)

OR

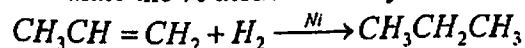
Q.5 What are actuators? Give its types and applications. (10)

Q.6 What are supercritical solvents in green chemistry? Why CO₂ is called a green solvent? (10)

OR

Q.6 a) What is atom economy in green chemistry? Give its formula and importance. (05)

b) Calculate the % atom economy for the reaction, (05)



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