BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - I COMPUTER SCIENCE & ENGINEERING : SUMMER : 2024
SUBJECT: ORGANIC & ELECTROCHEMISTRY

Day : Thursday
Date : 09/05/2024

S-24020-2024

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) Use of non-programmable calculator is **allowed.**
4) Assume suitable data **WHEREVER** necessary.
5) Draw neat diagram **WHEREVER** necessary.

Q.1 Find the bond order of N_2 molecule from the molecular orbital diagram **(10)**

OR

Q.1 Explain the Molecular Orbital Theory (MOT) **(10)**

Q.2 With proper synthetic steps show how adipic acid can be synthesized using traditional and greener methods **(10)**

OR

Q.2 Write down any six principles of green chemistry and the synthesis of Indigo dye by traditional pathway **(10)**

Q.3 With a neat diagram explain the working of fuel cells and alkaline storage battery **(10)**

OR

Q.3 Show the construction, working and applications of Li-ion battery and Li-Po battery **(10)**

Q.4 Explain the conduction mechanism of polymers by taking polyacetylene as example **(10)**

OR

Q.4 Explain the free radical polymerization reaction by taking suitable example **(10)**

Q.5 Explain the types, properties and applications of superconductors **(10)**

OR

Q.5 With suitable example write a short note on **(10)**

a) Conductors
b) Semiconductors
c) Insulators

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

OR

Q.6 Write a short note on **(10)**

a) Producer gas
b) Water gas

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