



ACE
Engineering College
(with a Difference in Excellence)

An AUTONOMOUS Institution

2020-21

Question Paper Code:

CH102BS

ACE-R20

Semester End Examination
I B. Tech- I Semester Regular/ Supply - JUNE-2022
Engineering Chemistry
(Common to EEE, CSE, IT, CSD)

Time: 3 Hours

Max. Marks: 70

H. T. No

Answer any 5 Questions out of 8 Questions from the following

Q.No	Question	Marks
1. a)	Draw molecular energy level diagram of N_2 and calculate its bond order and predict magnetic behaviour.	7
b)	Explain the crystal field splitting of d-orbitals in octahedral complexes.	7
2. a)	What do you understand by LCAO method? What are the conditions necessary for combination of atomic orbitals?	7
b)	Explain about p-type and n-type semiconductors.	7
3. a)	Explain different methods of disinfection of potable water.	7
b)	Write short notes on: i) Calgon conditioning ii) Colloidal conditioning	7
4. a)	Explain EDTA method of estimation of temporary and permanent hardness of water.	7
b)	What is Desalination? Explain the Reverse osmosis process in detail.	7
5. a)	Explain the construction and working of Saturated calomel electrode.	7
b)	What is Cathodic protection? Explain the Sacrificial anodic protection in detail.	7
6. a)	Explain charging and discharging of lead acid storage battery with chemical reactions.	7
b)	Discuss the Markownikoff and Anti – Markownikoff's addition of HBr to Propene.	7
7. a)	Write a note on Reduction of carbonyl compounds using $NaBH_4$.	7
b)	Explain the mechanism of SN^1 and SN^2 reactions.	7
8. a)	Write about the preparation, properties and applications of Bakelite.	7
b)	Give the applications of IR Spectroscopy.	7