Course Code: 1920008 **Roll No:** **MLRS- R19**

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

I B.Tech II Sem Supply End Examination, March 2021

CHEMISTRY

(CIVIL, MECH, ECE)

Time: 3 Hours. **Max. Marks: 70**

Note: 1. Answer any FIVE questions.
2. Each question carries 14 marks and may have a, b as sub questions.

1	a)	Explain in detail the molecular orbital energy level diagram of O_2 molecule.	7M	CO	BL
	b)	Write about crystal field splitting of d-orbital in tetrahedral complexes.	7M	CO	BL
2	a)	Explain the π molecular orbital of benzene.	7M	CO	BL
	b)	Write a detailed note on Band structure of Solids.	7M	CO	BL
3	a)	Define hardness. Explain the different types of hardness.	7M	CO	BL
	b)	What is potable water and write its specifications.	7M	CO	BL
4	a)	Give a detailed account of mechanism on wet (or) electrochemical theory of corrosion	7M	CO	BL
	b)	Write a detailed note on Electro less plating of Nickel.	7M	CO	BL
5	a)	Explain about Calgon and Phosphate conditioning.	7M	CO	BL
	b)	Describe the working functioning of glass electrode. Explain how the pH of a solution is determined by using glass electrode.	7M	CO	BL
6	a)	Write the structure, synthesis and pharmaceutical applications of Aspirin.	7M	CO	BL
	b)	Write a note on oxidation of alcohols using $KMno_4$.	7M	CO	BL
7	a)	Write a note on conformations analysis of n-butane.	7M	CO	BL
	b)	Write the important applications of Vibrational rotational spectra.	7M	CO	BL
8	a)	Write the applications of NMR Spectroscopy.	7M	CO	BL
	b)	Explain about MRI (Magnetic Resonance Imaging)	7M	CO	BL

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