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 Supplementary Examination, May 2022

CHEMISTRY

(CE, ME, ECE)

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

Note: 1. Question paper consists: Part-A and Part-B.
2. In Part – A, answer all questions which carries 20 marks.
3. In Part – B, answer any one question from each unit.
Each question carries 10 marks and may have a, b as sub questions.

PART- A

(10*2 Marks = 20 Marks)

1.	a)	Differentiate atomic orbital and molecular orbital.	2M	CO1	BL2
	b)	Explain effect of doping on conductance.	2M	CO1	BL4
	c)	What is permanent hardness? What are species caused for it?	2M	CO2	BL1
	d)	Describe the principle of ozonization of water.	2M	CO2	BL2
	e)	Define the terms: i) Single Electrode potential ii) Standard Electrode Potential.	2M	CO3	BL1
	f)	Explain the principle involved in Galvanic corrosion.	2M	CO3	BL4
	g)	What is Markownikoff Rule? Give one example.	2M	CO4	BL1
	h)	How would you describe the concept of oxidation of alcohols using $KMnO_4$ with a suitable example?	2M	CO4	BL1
	i)	How would you explain basic concept of spectroscopy?	2M	CO5	BL1
	j)	What is meant by chemical shift?	2M	CO5	BL1

PART- B

(10*5 Marks = 50 Marks)

2	a)	Draw the molecular orbital energy level diagram for N_2 molecule.	5M	CO1	BL1
	b)	How would you explain Crystal field splitting of d-orbitals in octahedral geometry?	5M	CO1	BL1
		OR			
3		State your own words regarding π molecular orbital diagrams of butadiene.	10M	CO1	BL3
4	a)	How would you summerise the treatment of boiler feed water by calgon conditioning?	5M	CO2	BL1
	b)	What are the specifications of potable water?	5M	CO2	BL1
		OR			
5		How would you estimate the temporary hardness of water by complexometric method?	10M	CO2	BL1

6	a)	How would you determine the pH of solution by using quinhydrone electrode?	5M	CO3	BL1
	b)	What is secondary battery? Discuss the principle of Lead acid storage battery.	5M	CO3	BL2
		OR			
7		How would you describe sacrificial anodic and impressed current cathodic protection methods?	10M	CO3	BL1
8	a)	State your own words on conformation analysis of n-butane.	5M	CO4	BL3
	b)	How would you explain synthesis and pharmaceutical applications of paracetomol?	5M	CO4	BL1
		OR			
9		How would you compare the SN1 and SN2 reaction mechanisms?	10M	CO4	BL1
10	a)	How would you summarize selection rules regarding vibration spectroscopy?	5M	CO5	BL1
	b)	How would you explain basic concepts of nuclear magnetic resonance spectroscopy?	5M	CO5	BL1
		OR			
11		How would you describe the selection rules and applications of electronic spectroscopy?	10M	CO5	BL1

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BL: Blooms Taxonomy Levels

Note: 1. Font style: Cambria.

2. Bloom's Taxonomy Level (BL) have to mention for each question. For reference, find the attachment in the mail.