R18 Regulation *Subject code:2B2AC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech II Semester Supplementary Examinations, January 2024

Engineering Chemistry

(Common to CE,EEE,ME & IT)

Maximum Marks: 70 Date:25.01.2024 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

	Part-A		
All the following questions carry equal marks (10x2M=20 Marks)		CO	Bloom Tx
1	What is the Doping.	CO1	L1
2	Define HOMO & LUMO.	CO1	L1
3	What is reverse osmosis?	CO2	L1
4	Write about chlorination?	CO2	L1
5	Write the example of structural isomers.	CO3	L1
6	Explain the Water-line corrosion.	CO3	L2
7	State Saytzeff rule.	CO4	L1
8	Write the chemical reaction of addition of HBr to propene.	CO4	L1
9	Write the two selection rules of IR.	CO5	L1
10	What is an absorption spectrum?	CO5	L1
	Part-B		
Answer All the following questions. (5X10M=50Marks)			
11	Explain crystal field splitting in an octahedral complex. 10M	CO1	L2
	OR		
12	Details study of Band structure of solids and how doping effect on conductance. 10M	CO1	L2
13	Explain estimation of hardness by complexometric method? 10M	CO2	L2
	OR		
14	a) Explain Ion exchange (or) demineralization process. 6M b) Explain about disinfection of potable water? 4M	CO2	L2 L3
15	Explain the composition, applications and advantages of the Lead acid cell. 10M	CO3	L3
	OR		
16	What are fuel cells? Explain the hydrogen-oxygen fuel cell and its advantages. 10M	CO3	L3

17	Write the SN^1 SN^2 mechanism reactions with examples. 10M	CO4	L4
	OR		
18	Write the Structure, synthesis and pharmaceutical applications of Paracetamol and Aspirin. 10M	CO4	L3
19	a) Explain the principles of IR spectroscopy and its applications. 5M b) Write the basic principles of Magnetic Resonance Imaging (MRI). 5M	CO5	L2 L3
	OR		
20	a) Write the full details of NMR spectroscopy and its applications. 5M b) Write the selection rules and applications of UV. 5M	CO5	L2 L3