3B2AJ

Regulation R20 *Subject code:~~3B3AJ~~*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech II Semester Supplementary Examinations, September 2023

Engineering Chemistry

(ME)

Maximum Marks: 70 **Date:16.09.2023** Duration: 3 hours

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

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 What is the magnetic nature of N_2 molecule?

2 What is the bond order of O_2 molecule?

3 Define hardness of water and mention its causes?

4 What is meant by hardness of water?

5 What is electrochemical series write any two applications?

6 Define single electrode potential and stanadard electrode potential?

7 Define pitting Corrosion.

8 Define Corrosion.

9 Define a Fuel.

10 Define HCV and LCV.

Part-B

Answer All the following questions. (10M X5=50Marks)

11 Write about postulates of MOT and Construct the molecular orbital energy level diagram of F_2 molecules? 10M

	OR	
12	Explain the effect of doping in semiconductors?	10M
13	Describe the estimation of hardness of water by EDTA method?	10M
	OR	
14	Explain the various steps involved in the treatment of potable water.	10M
15	Explain the construction, working and applications of Li-ion battery.	10M
	OR	
16	What are fuel cells? Explain the working and applications Methanol-O_2 fuel cell?	10M
17	Explain about the Mechanism of Wet Corrosion?	10M
	OR	
18	Explain the Galvanic Corrosion?	10M
19	Explain about the Proximate Analysis of a Coal?	10M
	OR	
20	Explain about the Fischer Tropsch Synthesis method for the Preparation of Synthatic petrol?	10M