



R18 Regulations
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code:2BIAG

B.Tech I Semester Supplementary Examinations, September 2023
ENGINEERING CHEMISTRY

(Common to ECE & CSE)

Maximum Marks: 70

Date:03.10.2023 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.
 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)

1. What is the bond order of O_2 molecule?
2. Differentiate molecular orbital from atomic orbital?
3. How can we remove temporary hardness? Give its equation?
4. What is meant by desalination of Brackish water?
5. Define single electrode potential and EMF of the cell.
6. What is Galvanisation?
7. State Saytzeff rule.
8. Differentiate enantiomers from diastereomers?
9. Write any three applications of IR spectroscopy.
10. Write about chromophore and Auxochrome?

Part-B

Answer All the following questions.

(10M X 5=50Marks)

11. Explain the salient features of MOT theory by LCAO method. [10]
OR
12. Discuss the crystal field splitting in octahedral complexes in detail. [10]
13. Explain the softening of water by using ion exchange process. [10]
OR
14. How can we estimate hardness of water by using EDTA method? [10]
15. What are secondary batteries and explain construction and working of lead-acid storage cell? [10]
OR
16. Write a note on Cathodic protection? [10]
17. Explain in detail about conformational isomerism of n-butane. [10]
OR
18. Explain about SN^1 and SN^2 mechanisms in substitution reaction by taking Suitable example. [10]
19. Explain about various electronic transitions in molecule by the absorption of energy. [10]
OR
20. (a) Explain the theory of NMR spectroscopy. [5]
(b) Write a note on MRI. [5]

