



Regulation R18

Subject code:2B2AC

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

B.Tech II Semester Supplementary Examinations, September 2023

Engineering Chemistry
(Common to CE,EEE,ME & IT)

Maximum Marks: 70

Date:20.09.2023 Duration: 3 hours

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- 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=20Marks)

- 1 What is the magnetic nature of 'N₂' molecule?
- 2 Write the energy order in tetrahedral complexes?
- 3 Write any two specification of potable water?
- 4 Define breakpoint chlorination?
- 5 Write Overall cell reaction of Glass electrode with equation?
- 6 Define standard Electrode potential?
- 7 Define optical activity?
- 8 Define Conformational Isomerism.
- 9 What are the Selection rules in UV-Visible Spectroscopy?
- 10 Define Chemical Shift.

Part-B

Answer All the following questions.

(10MX5=50Marks)

- 11 a) Construct the molecular orbital energy level diagram of O₂ molecule? 5M
b) Construct the molecular orbital energy level diagram of "CO" molecule? 5M
- OR
- 12 Explain the Effects of doping on on conductance with examples? 10M
- 13 Explain the ion -exchange process in the softening of water? 10M
- OR
- 14 Explain the estimation of hardness of water byusing EDTA method? 10M
- 15 Explain the Lead-acid storage Battery? 10M
- OR
- 16 Explain the construction of galvanic cell? 10 M
- 17 Explain the Conformational Analysis of n-Butane? 10M
- OR
- 18 Explain the synthesis of Asprin and explain their therapeutic uses? 10M
- 19 a) What is the Principle of IR Spectroscopy? 5M
b) Write the Applications of IR Spectroscopy? 5M
- OR
- 20 Explain the Magnetic Resonance Imaging (MRI) in Nuclear Magnetic Resonance Spectroscopy. 10M