

R18

Code No: 151AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year I Semester Examinations, June - 2022

CHEMISTRY

(Common to EEE, CSE, IT, CSIT, ITE, CE(SE), CSE(CS), CSE(DS), CSE(Networks), CSED)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Write molecular orbital structure and energy level diagram of N_2 .
b) Write crystal field splitting of transition metal ion in tetrahedral geometry. [8+7]
- 2.a) Describe band structure of solids.
b) Discuss salient features of crystal field theory. [7+8]
- 3.a) Describe Calgon conditioning and Phosphate conditioning.
b) Discuss potable water and its specifications. [7+8]
- 4.a) Discuss the applications of metallic coating.
b) Discuss principle involved in the construction and applications of Glass electrode. [8+7]
- 5.a) Write the principle and applications of calomel electrode.
b) Discuss factors affecting rate of corrosion. [7+8]
- 6.a) Write a note on Lead-acid storage battery.
b) Write the mechanism of electrochemical corrosion. [7+8]
- 7.a) Discuss the mechanism of addition of HBr to propene under thermal and Photo chemical conditions.
b) Explain structure, synthesis and pharmaceutical applications of Aspirin. [8+7]
- 8.a) Write a note on Grignard reaction with suitable examples.
b) Explain the terms chemical shift and spin-spin coupling. [7+8]

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