

Code No: 181AJ

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech I Year I Semester Examinations, March/April - 2023

ENGINEERING CHEMISTRY

(Common to EEE, CSE, IT, CSIT, CE(SE), CSE(CS), CSE(DS), CSD)

Time: 3 Hours

Max. Marks: 60

Note: This question paper contains two parts A and B.

i) Part- A for 10 marks, ii) Part - B for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of ten questions (numbered from 2 to 11) carrying 10 marks each. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A

(10 Marks)

- What are the methods used for disinfection of water.
- What is importance of ion exchange method of water treatment?
- Define cathodic protection.
- What are the applications of fuel cells?
- Give applications of terelene.
- Give examples for thermosetting polymers.
- What is the composition of LPG?
- Define HCV.
- Give applications of shape memory materials.
- Define lubricant.

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PART-B

(50 Marks)

- Define portable water, give its specifications.
- Explain determination of F^- ion by ion-selective electrode method.
OR
- Differentiate internal and external treatment of water.
b) Explain reverse osmosis method and its importance,
- What are the basic requirements for commercial batteries, explain construction, working principle and applications of Zn-air batteries.
OR
- What are the causes and effects of corrosion?
b) Explain Galvanic and pitting corrosion.
- Explain steps involved in free radical polymerization mechanism with suitable example.
b) Give brief note on Bakelite.

[5+5]
[5+5]
[10]
[5+5]
[5+5]

OR

- 7.a) Give brief note on Fibre reinforced plastics and its applications.
b) Explain properties and applications of synthetic rubbers.

8. Compare proximate and ultimate analysis of fuel and give its significance. [5+5]

- 9.a) Describe Fischer-Tropsch's process.
b) Give brief note on Trans esterification. [10]

10. Explain various smart materials and their importance. [5+5]

11.a) Explain mechanism of lubrication. [10]

b) Explain any three important properties of lubricants. [5+5]

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