

Roll No. 2482300012

Total No. of Questions : 6]

[Total No. of Printed Pages : 4

EY-70**B.Tech. Ist Semester (CSE, IT & Elect.)****Examination, 2023-24****Engineering Chemistry****Paper - BE-102****Time : 3 Hours]****[Maximum Marks : 60**

Note :- Attempt all questions. Questions shall be attempted section wise at one place.

1. Write short answer of the following :

2×5=10

(a) What are the limitations of zeolite exchangers?

EY-70**(1)****PTO**

- (b) Gross calorific Value is higher than Net calorific value.
- (c) What is meant by passivity of metals?
- (d) Raw rubber is vulcanized before use.
- (e) Define Biological Oxygen Demand.
2. (a) What are the disadvantages of Lime Soda Process? 10
- (b) Write Short note on sedimentation.

OR

- (a) What do you know about Softening of water? Discuss all chemical reactions of lime soda process of hardness removal.
- (b) Write short note on Chlorination.
3. (a) How good quality coke can be manufactured by Behives Oven Process? 10
- (b) Write short note on Proximate coal analysis.

OR

EY-70

(2)

AJEET SONI

- (a) Why thick lubricating oils show higher viscosity Index? 10
- (b) How a lubricant works? Clearly mention the mechanism of Thick film lubrication.

4. (a) What are the important thermodynamic functions? Write a note on free energy. 3
- (b) Discuss the various atmospheric factors which influence electrochemical corrosion. 7

OR

- (a) What do you know about the differential aeration theory of corrosion? Explain. 10
- (b) What is the working principle of fuel cell? What are the merits of a fuel cell?
5. (a) Write a critical note on Thermo-plast and Thermoset plastics. 10
- (b) Explain the following properties of Lubricants (any two).
- (i) Viscosity Index
 - (ii) Oiliness

(iii) Steam Emulsification Number

OR

- (a) Write a brief note on Nylon.
- (b) Explain with help of the block diagram and chemical changes occurs in Rotary Kiln.
6. (a) Write a note on Photochemical Smog.
- (b) What is the Lambert's Beer's law? Explain.

OR

- (a) What is the major cause of Land pollution? Summarise as an effective note.
- (b) Write Short Dissolved Oxygen.

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