DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE
Supplementary Examination – Summer 2022

Course: B.Tech **Sem: I / II**
Subject: Engineering Chemistry **Subject code: BTBS 102/ BTBS 202**
Marks: 60 **Date:** **Duration:** **Hr.**

Instructions to the Students:
1. All the questions are compulsory.
2. Draw neat diagram wherever necessary.
3. Figure to right indicates full mark.

		(Level/CO)	Marks
Q.1	**Solve Any Two of the following.**		
A)	Explain in detail Hot Lime-Soda process of softening of water with its advantages and disadvantages.	2	6
B)	Discuss the term Dissolve Oxygen (DO). How it can be determined by Winkler's / Iodometric Method?	2	6
C)	Discuss disadvantages of hard water in Domestic and Industrial use.	1	6
Q.2	**Solve Any Two of the following.**		
A)	Explain the term Component and Degrees of freedom involved in Phase rule equation with examples.	1	6
B)	Explain in detail Phase diagram of one component Water system.	2	6
C)	Explain Phase Diagram of two component Ag-Pb alloy system.	2	6
Q.3	**Solve Any Two of the following.**		
A)	Define corrosion and discuss methods to minimize the rate of corrosion.	2	6
B)	Write a note on Galvanic corrosion.	1	6
C)	Describe hydrogen evolution mechanism involved in electrochemical corrosion.	2	6
Q.4	**Solve Any Two of the following.**		
A)	What is Coal? Discuss various types of coal.	1	6
B)	Explain how percentage of Nitrogen and Sulphur can be estimated from the coal sample.	2	6
C)	Discuss any three physical properties of Lubricant.	2	6
Q.5	**Solve Any Two of the following.**		
A)	Write Nernst equation and how it is applied for the calculation of half-cell potential?	2	6
B)	Write a note on H_2O_2 fuel cell with its applications.	2	6
C)	Explain Conductometric titration with any two examples.	1	6