

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**  
**End Semester Examination – Winter 2022**

**Course: B. Tech**

**Subject: Engineering Chemistry**

**Marks: 60**

**Date: 23.03.23**

**Sem: I**

**Subject code: BTBS102**

**Duration: 3 Hr.**

**Instructions to the Students:**

1. All the questions are compulsory.
2. Draw a neat diagram wherever necessary
3. Figures to right indicates full marks

		(Level /CO)	Marks
<b>Q.1 Solve Any TWO of the following.</b>			
A)	Explain determination of Dissolved Oxygen (DO) in water by Winkler's/Iodometric method.	2	06
B)	Discuss disadvantages of hard water in Domestic and Industrial use.	1	06
C)	Explain in detail Hot Lime-Soda process of softening of water with its advantages and disadvantages.	2	06
<b>Q.2 Solve Any TWO of the following.</b>			
A)	Explain the Phase diagram of one component Water system.	2	06
B)	Discuss the term Phase & Degree of freedom involved in Phase Rule equation with examples.	1	06
C)	Explain Phase diagram of two component Ag-Pb alloy system.	2	06
<b>Q.3 Solve Any TWO of the following.</b>			
A)	Describe in brief Direct (Dry) chemical corrosion.	1	06
B)	Discuss Hydrogen evolution mechanism involved in electrochemical corrosion.	2	06
C)	Explain any one method to minimize the rate of corrosion.	2	06
<b>Q.4 Solve Any TWO of the following.</b>			
A)	What is Coal? Explain various types of coal.	1	06
B)	Explain Proximate analysis of coal.	2	06
C)	Describe in brief solid, semi-solid & liquid lubricants.	2	06
<b>Q.5 Solve Any TWO of the following.</b>			
A)	Write a note on conductometric titrations with suitable examples.	1	06
B)	Describe Ostwald's theory of Acid-Base indicator.	2	06
C)	Discuss H <sub>2</sub> -O <sub>2</sub> Fuel cell with its advantages.	2	06

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