

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**  
**End Semester Examination – Winter 2018**

**Course: F. Y.B. Tech.**  
**Subject: Engineering Chemistry**  
**Date: 14/12/2018**

**Duration: 3 Hr.**

**Sem: I**  
**Subject code: CHM1202**  
**Marks: 60**

**Instructions to the Students:**

1. Each question carries 12 marks.
2. All questions are compulsory.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and mention it clearly in the answer.

|   | (CO) | Marks        |
|---|------|--------------|
| <b>Q.1</b> Solve Any Two of the following.  |      | <b>2 X 6</b> |
| a) Explain in detail Hot lime Soda process with its advantages and disadvantages.   | 01   |              |
| b) Explain the determination of Dissolve Oxygen by Winkler's Method.  | 01   |              |
| c) What is Hardness of water and Explain the determination of hardness of water by EDTA method?   | 01   |              |
| <b>Q.2</b> Solve Any Two of the following.  |      | <b>2 X 6</b> |
| a) Explain the term Component with suitable examples in Phase Rule equation.  | 02   |              |
| b) Describe in detail Phase Diagram of Water system.  | 02   |              |
| c) Explain Phase Diagram of two component alloy system.   | 02   |              |
| <b>Q.3</b> Solve Any One of the following.  |      | <b>12</b>    |
| a) What are the types of ores and explain the reduction of ore by Pyrolysis?  | 03   |              |
| b) Explain Physical methods of concentration of ore.  | 03   |              |
| <b>Q.4</b> Solve Any Two of the following.  |      | <b>2 X 6</b> |
| a) Explain different types of Coal with their characteristics and uses.   | 04   |              |
| b) Write a note on: Types of Lubricant.   | 04   |              |
| c) Explain Proximate analysis of Coal.  | 04   |              |
| <b>Q.5</b> Solve Any One of the following.  |      | <b>12</b>    |
| a) Explain Debye-Huckel theory of strong electrolyte.   | 05   |              |
| b) What is Cell Constant and Explain the method of Conductometric titration with example of Strong acid -Strong base and Weak acid-Strong base. | 05   |              |

End

