

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,
LONERE – RAIGAD - 402 103
End Semester Examination, May 2018**

Branch: B. Tech

Semester: II

Subject with Subject Code: Engineering Chemistry [CHM203]

Marks: 60

Date: 18 / 05 / 2018

Time: 3 Hrs.

Instructions to the Students:

1. Each question carries 12 marks.
2. Attempt any five questions of the following.
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 should mention it clearly

Q.1. Attempt Any Two questions of the following.

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|---|----|
| a) Explain Zeolite process of softening of water with its advantages and disadvantages. | 06 |
| b) What are the types of water and explain methods to remove temporary hardness? | 06 |
| c) Write note on: Dissolved Oxygen. | 06 |

Q. 2. a) State Phase rule equation. Explain the term Phase involved in it with examples.

06

b) Explain areas, curves, triple point and metastable curve of water system with phase diagram.

06

Q.3. a) Explain any two physical methods of concentrations of ore.

06

b) What is Smelting? Explain the process of isolation of metals by Pyrolysis.

06

Q.4. Attempt Any Two questions of the following.

a) What are the types of fuels and characteristics of good fuel?

06

b) Describe the process of determination of % of C, H and N in the coal.

06

c) How can you differentiate the Thick film and Extreme pressure lubrication with examples?

06

Q.5. a) What is Fermentation? Discuss how Invertase and Zymase brings the conversion of cane sugar to Ethyl alcohol.

06

b) Explain synthesis, physical-chemical properties and uses of Naphthalene.

06

Q.6. Attempt Any Two questions of the following.

a) What are the types of indicators? Explain Quinonoid theory of Acid Base Indicator.

06

b) Write note on: Conductometric Titrations.

06

c) Explain in detail Debye-Huckel theory of Strong electrolyte.

06