DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,
LONERE – RAIGAD – 402 103
Summer Supplementary Semester Examination, May – 2018

Branch: B. Tech. **Semester:** I

Subject with Subject Code: Engineering Chemistry (CHM103) **Marks:** 60

Date: 04 / 05 / 2018 **Time:** 3 Hrs.

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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.

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Q. 1.

a) Explain in detail ion exchange method for softening of hard water. **(6 M)**

b) Explain the determination of hardness of water by EDTA method. **(6 M)**

Q. 2.

a) State Gibb's phase rule. Explain terms involved in it with examples. **(6 M)**

b) Explain phase diagram of two component Silver-lead alloy system. **(6 M)**

Q. 3.

a) What do you mean by concentration of ore. Explain magnetic separation and froth floatation method of ore dressing. **(6 M)**

b) What is smelting? Explain reduction of ore by pyrolysis process. **(6 M)**

OR

b) Explain occurrence and types of ore. **(6 M)**

Q. 4.

a) How analysis of N and S in coal can be determined? **(6 M)**

OR

a) State characteristics of good fuel. **(6 M)**

b) Explain physical properties of lubricants. **(6 M)**

Q. 5.

a) Explain Haworth synthesis of Naphthalene. **(4 M)**

b) Explain physical and chemical properties of Pyridine. **(4 M)**

c) Write uses of Anthracene and Naphthalene. **(4 M)**

OR **(4 M)**

c) State Huckel's rule of aromaticity with different examples of aromatic compound.

Q.6.

a) Write a note on conductometric titration. **(6 M)**

b) What is transport number and how it can be determined by moving boundary method. **(6 M)**

OR

b) Explain asymmetric and electrophoretic effect of strong electrolyte as per Debye Huckel theory. **(6 M)**
