Code: 13A51101 **R13**

B.Tech I Year (R13) Regular & Supplementary May/June 2015 Examinations

ENGINEERING CHEMISTRY

(Common to all branches)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

1 Answer the following: (10 x 02 = 20 Marks)

(a) Define corrosion.
(b) What is galvanic corrosion?
(c) Define addition polymerization.
(d) Give important applications of silicones.
(e) Define Calorific value.
(f) What is coke?
(g) What are refractories?
(h) Define pore point.
(i) What is meant by hardness of water?
(j) What is calgon?

PART – B

(Answer all five units, 5 x 10 = 50 Marks)

UNIT - I

2 Explain electrochemical theory of corrosion with mechanism and draw the diagram.

OR

3 Discuss the factors affecting the corrosion.

UNIT - II

4 (a) Distinguish between thermoplastics and Thermo settings.
(b) Discuss the preparation of Buna-S.

OR

5 (a) What is natural rubber?
(b) Discuss the compounding of rubber.

UNIT - III

6 Explain Otto-Hoffmann's byproduct oven process for manufacture of coke.

OR

7 (a) What is water gas? Give its composition. How is it prepared on a large scale?
(b) What are the uses of water gas?

UNIT - IV

8 Explain scale and sludge formation in boiler. How are they removed?

OR

9 What is the principle of EDTA method? Describe the estimation of hardness of water by EDTA method.

UNIT - V

10 Discuss the chemical and physical changes that occur during the hardening and setting of cement.

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OR

11 How are the refractory materials classified? Explain and give suitable examples.

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