

B.Tech I Year (R13) Supplementary Examinations December/January 2015/2016

**ENGINEERING CHEMISTRY**

(Common to all branches)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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

- (a) What is meant by the term passivity?
- (b) What is impressed current cathodic protection?
- (c) What are the applications of polyacetylene?
- (d) What is the Vulcanization of rubber?
- (e) What is refining of petroleum oil?
- (f) Give composition of producer gas.
- (g) What is meant by flash point?
- (h) Explain porosity property in refractory.
- (i) Define boiler corrosion.
- (j) What are the units of hardness?

**PART – B**

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

**UNIT - I**

- 2 (a) What is electroplating? Explain electroplating of copper with neat sketch.
- (b) Distinguish electro plating and electroless plating.

**OR**

- 3 (a) What is meant by Rechargeable batteries?
- (b) Explain Ni – Cd batteries and working.

**UNIT - II**

4 Give preparation and applications of the following:

- (a) PVC.
- (b) Buna – N.
- (c) Polyurethane.

**OR**

- 5 (a) Write a note on Liquid crystals.
- (b) Distinguish between thermoplastics and thermosetting plastics.

**UNIT - III**

6 Describe the manufacture of gasoline by Fischer – Troph's method.

**OR**

7 Explain flue gas analysis by using Orsat's apparatus with diagram.

**UNIT - IV**

8 Describe Ion-exchange of process for demineralization of water with neat sketch.

**OR**

9 Explain the following boiler troubles:

- (a) Scales and sludges.
- (b) Priming and foaming.
- (c) Caustic embrittlement.

**UNIT - V**

10 Describe the wet process of Portland cement manufacture.

**OR**

11 Discuss the Mechanism of different types of lubrication.

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