FirstRanker.com Firstranker's choice www.FirstRanker.com www.FirstRanker.com

Subject Code: R13204/R13 **Set No - 1**

I B. Tech II Semester Supplementary Examinations, April/May - 2017

ENGINEERING CHEMISTRY

(Com. to ECE, EEE, EIE, Bio-Tech., E Com E, Agri E)

Time: 3 hours **Max. Marks: 70**

Question Paper Consists of **Part-A** and **Part-B**
Answering the question in **Part-A** is Compulsory,
Three Questions should be answered from **Part-B**

*****

PART-A

1. (a) Explain boiler corrosion and how it can be minimized.
   (b) Write notes on (i) galvanic cells (ii) electroplating (iii) natural gas.
   (c) Write the engineering applications of fullerenes.
   (d) How is styrene butadiene rubber prepared? What are its applications?

[4+12+ 3+3]

PART-B

2. (a) Discuss the complexometric titration method for estimation of hardness of water.
   (b) Explain permutit process for softening of hard water.
   (c) What are the drawbacks of natural rubber? Explain how to overcome these drawbacks.

[6+4+6]

3. (a) What is meant by ion-selective electrode? Explain the working of glass electrode.
   (b) What are primary and secondary batteries? Give examples.
   (c) Explain fractional distillation of petroleum with a neat sketch.

[6+4+6]

4. (a) Explain the environmental factors that are affecting rate of corrosion.
   (b) Explain how sacrificial anodic process controls the base metal corrosion.
   (c) Explain setting and hardening of cement with proper chemical equations.

[6+4+6]

5. (a) How is Bakelite prepared? Mention its applications.
   (b) What is tacticity? Explain the significance of stereoregular polymers.
   (c) What are paints? Mention their constituents and functions.

[6+4+6]

6. (a) Explain proximate analysis of coal and its significance.
   (b) Write notes on petrol knocking.
   (c) Write notes on disinfection and sterilization.

[6+4+6]

7. (a) What are conducting polymers and explain p-type conducting polymers.
   (b) Explain any one method for preparation of carbon nanotubes.
   (c) Explain the working of fuel cell with example and mention its advantages.

[6+4+6]

*****

www.FirstRanker.com