

Subject Code: R13204/R13

Set No - 1

I B. Tech II Semester Supplementary Examinations Dec. - 2016

ENGINEERING CHEMISTRY

(Common 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

- (a) Write notes on break point chlorination.
(b) Explain the importance of electrochemical series.
(c) Discuss how organic surface coating control the corrosion of a metal.
(d) What are liquid crystals? Mention the types of thermotropic liquid crystals.
(e) Write notes on (i) physical properties of polymers (b) diesel knocking. [4+4+4+4+6]

PART-B

- (a) Explain any one method for separation of salts from salt water.
(b) Write the characteristics of potable water.
(c) Explain moving bed catalytic cracking process. [6+4+6]
- (a) What are conductometric titrations? Explain with example.
(b) Explain the working of concentration cell.
(c) How photovoltaic cell and solar reflectors works and mention their applications. [6+4+6]
- (a) What is corrosion? Explain electrochemical theory of corrosion.
(b) Explain impressed current cathodic protection of metal from corrosion.
(c) Explain preparation and applications of PVC and PE. [6+4+6]
- (a) Define calorific value, HCV and LCV.
(b) Write notes on CNG.
(c) What is tinning and electroless plating? How these process minimize the base metal from Corrosion? [6+4+6]
- (a) Explain preparation of CNTs by any one method and mention its applications.
(b) Write applications of green synthesis.
(c) What are boiler troubles? Explain how to minimize the problems that are obtained by caustic embrittlement. [6+4+6]
- (a) Discuss compounding of plastics.
(b) Write the engineering applications of elastomers.
(c) What is electrode potential? Explain the determination of single electrode potential. [6+4+6]

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