

I B.TECH – EXAMINATIONS, JUNE - 2011
ENGINEERING CHEMISTRY
(MECHANICAL ENGINEERING)

Time: 3hours

Max.Marks:80

Answer any FIVE questions
All questions carry equal marks

- - -

1. Write a brief account on the following:
 - a) Dechlorination of water
 - b) Chemical reactions involved in lime-soda process
 - c) Internal conditioning methods of treatment of water. [5+5+6]

- 2.a) What are organic protective coatings?
 - b) Explain in brief about:
 - i) Metal Cladding
 - ii) Tinning.
 - c) What are the important constituents of paints? Write the functions of each constituent. [3+6+7]

- 3.a) Explain electro chemical theory of corrosion by taking corrosion of iron as an example.
 - b) Write a brief account of:
 - i) Liquid metal corrosion
 - ii) Sacrificial anodic protection. [8+8]

- 4.a) What is calorific value, HCV and LCV.
 - b) What is flue gas? How is it analyzed by Orsat's method? [6+10]

- 5.a) Distinguish thermo plastic and thermo setting polymers.
 - b) Write about the preparation, properties and uses of the following:
 - i) Poly urethane rubber
 - ii) Teflon
 - iii) Bakelite. [6+10]

- 6.a) Explain Fisher-Tropsch's process for the synthesis of petrol.
 - b) What are Octane and cetane numbers? What is their significance? [8+8]

- 7.a) Explain the manufacture of Portland cement.
 - b) Write the differences between dry and wet process. [10+6]

8. Write notes on the following:
 - a) Solid insulators
 - b) Emulsion paints
 - c) Applications of rocket fuels and explosives
 - d) Porosity and refractoriness. [16]

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