Code No: RR100104 **RR**

I B.Tech Year(RR) Supplementary Examinations, May/June 2010
APPLIED CHEMISTRY
(Civil Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What is corrosion? How is it different from erosion? Explain the term passivity with suitable examples. [8]
   (b) Give an account of the oxidation corrosion with relevant chemical equations involved. [8]
2. (a) (a) Give a brief account of cathodic protection method of preventing corrosion. [8]
   (b) Write a brief account on anodic coatings. [8]
3. Compare the following
   (a) Drying oils with semidrying oils [5]
   (b) Varnishes with emulsion paints [6]
   (c) Lacquers with enamels [5]
4. (a) What is natural rubber ?
   (b) How is crude rubber obtained from latex ?
   (c) Write a note on preparation and uses of buna-S rubber.
5. (a) Describe a method for estimating temporary hardness of water using Hehner's procedure. [8]
   (b) Outline the EDTA method for determining the permanent hardness of water. [8]
6. (a) What are the important sources of water ? [4]
   (b) Why is rain water the purest form of natural waters ? [2]
   (c) Calculate the temporary, permanent and total hardness in ppm units of a sample of water containing the following salts: [8]
   $Mg(HCO_3)_2$ = 14.6 mg/litre; $Ca(HCO_3)_2$ = 16.2 mg/litre; $MgCl_2$ = 9.5 mg/litre; $CaSO_4$ = 13.6 mg/litre; NaCl = 5.85 mg/litre; suspended impurities = 5.5 mg/litre.
7. (a) What are refractories ? How are they useful in metallurgical industries ? [8]
   (b) Write a note on various types of gaseous dielectrics. [8]
8. (a) What is Portland cement? Why is it so named? [8]
   (b) Explain the different ingredients of cement. [8]

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