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**B.E / B.Tech ( Full Time ) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013**

**Branch: Civil & Agri**

II- Semester

**CY 8251 - Chemistry for Civil & Agricultural Engineering**

(Regulation 2012)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. How are whitewares manufactured?
2. Explain the properties and uses of glass?
3. Explain the mechanism of electrochemical corrosion with suitable example?
4. List out any two application and uses of protective coatings?
5. Define adhesives with suitable example.
6. What is fiber reinforced composites? Give examples.
7. What are abrasives? Give two examples?
8. What are neutral refractories? What are their uses?
9. How do you determine fluoride by UV-Visible spectrophotometric method?
10. What is meant by reverse osmosis? How is it applied in the desalination of water?

**Part – B ( 5 x 16 = 80 marks)**

11. i) Define refractories and explain dimensional stability, thermal expansion and porosity of refractories. (8)  
ii) Discuss in detail acidic and basic refractories. (8)
12. a) i) Explain the types of cement? Describe the manufacture and properties of Portland cement. (8)  
ii) Describe the manufacture of gypsum plaster and explain their properties and uses (8)

**OR**

b) i) Write short note on properties of lime? How are stone ware and earthen ware manufactured? (8)

(ii) Write a note on the different types of glass and their uses. (8)

13. a) i) Discuss in detail the mechanism of both sacrificial anode and impressed current cathodic protection of steel. (8)

ii) Short note on (a) hot dipping, (b) metal cladding, (c) galvanizing and (d) tinning (8)

**OR**

b) (i) Write notes on soil, intergranular, stress and microbiological corrosion. (8)

ii) Give a detailed account on the various factors influencing the rate of corrosion? (8)

14. a) i) Briefly explain the physical and chemical factors influencing adhesive action. (8)

ii) Give the classification of adhesives and explain the synthetic adhesives (8)

**OR**

b) i) Give a brief note on classification and application of composites. (8)

ii) Define composites? What are the properties of fiber reinforced composites. (8)

15. a) i) What are the properties of water? Explain the determination of hardness of water by EDTA method. (8)

ii) Give a brief account of determination of Chromium and As by using UV-Visible Spectrophotometer. (8)

**OR**

b) i) Give an account of municipal water treatment processes. (8)

ii) Determining how Pb and Hg determined by AAS and ICP-AES. (8)

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