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B.E. / B.Tech.(Full Time) DEGREE END SEMESTER EXAMINATIONS, May 2012.

CIVIL ENGINEERING BRANCH

SECOND SEMESTER

CY 9161- CHEMSITRY FOR CIVIL ENGINEERS

(Common to Civil, Geoinformatics and Agriculture & Irrigation Engineering)

(REGULATIONS -2008)

Time: 3 Hr

Maximum Marks: 100

Instructions: 1.....

2.....

Answer ALL Questions.

Part- A (10 x 2 = 20 marks)

1. What is meant by desalination?
2. Explain: Calgon conditioning.
3. Name the monomers used in making polystyrene and thermocole
4. What is meant by functionality? Give an example.
5. Write in brief about water repellent paint.
6. Why does a steel pipe in a larger copper tank corrode causing rapid destruction?
7. What are the applications of silica cement?
8. Give any two applications of metal matrix composites?
9. Write in brief about urea formaldehyde resin adhesive
10. Name any two adhesive used for bonding wooden surfaces, plywoods, laminates etc?

Part - B (5 x 16 = 80 marks)

11. (i) What are adhesives? How is adhesive strength developed (8)
ii) What are the chemical factors influencing the adhesive action of an adhesive(8)
12. a) (i)What are the problems of using hard water in boilers. Explain (8)
ii) Describe the external treatment of water by zeolite method. What are the limitations of this method (8)

(or)

- b) (i) Describe the demineralization process of treating water. Mention the advantages of this method. (8)
- (ii) Explain the various steps for the purification of water for municipal supply? (8)
13. a) (i) What are the differences between thermoplastic and thermosetting resins with two examples? (8)
- (ii) Give preparation, properties and uses of TEFLON and epoxy resins (8)

(or)

- b) (i) What are the disadvantages of natural rubber? Explain the process of vulcanization of rubber. (8)
- (ii) Give Preparation, properties and uses of PMMA and poly propylene? (8)

14. a) (i) What are paints? What are the constituents of paint? Mention their functions with example. (8)
- (ii) Write in detail about galvanic corrosion and differential aeration corrosion (8)

(or)

- b) (i) Explain the mechanism of dry corrosion. Explain the role of oxide film in dry corrosion. (8)
- (ii) Discuss in detail about the factors influencing corrosion. (8)

15. a) (i) Explain the setting and hardening of cement with chemical reactions involved. (8)
- (ii) What are polymer matrix composites? Give its properties and uses. (8)

(or)

- b) (i) What is lime? Give its preparation, properties and uses. (8)
- (ii) What are refractories? How they are classified? What are the important properties of refractories? (8)
