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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2013

COMMON TO Civil / Geoinformatics / Agriculture

Semester II

CY 9161 – Chemistry for Civil Engineering

(Regulation 2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. How Phosphate conditioning method is used in softening of water?
2. What are the essential requirements for drinking water?
3. Differentiate addition polymerization from condensation polymerization.
4. What is meant by vulcanization of rubber?
5. Write any four differences between chemical and electrochemical corrosion.
6. State Pilling-Bedworth's rule
7. Define the term " Fiber Reinforced Plastics(FRP)"
8. Write the preparation of carborundum
9. What are the chemical factors influencing adhesive action?
10. Write about the preparation of epoxy resins.

Part – B (5 x 16 = 80 marks)

11. Discuss in detail about (a) Electro dialysis method (b) Reverse osmosis method (16)
12. a) i) Write about the mechanism of free radical polymerization (8)
ii) Distinguish between thermosetting and thermoplastic resins (8)
OR
b) Write the preparation, properties and applications of the following
i) PMMA ii) Polyesters (8 + 8)
13. a) i) Explain the factors influencing corrosions (10)
ii) Discuss about the sacrificial anodic protection method (6)
OR
b) i) List out the corrosion control methods against corrosion of materials. (8)
ii) Explain in detail about Fire retardant paints and Water repellent paints (8)
14. a) i) How the silica bricks are prepared? Explain their properties and uses (8)
ii) What are the compositions of cement? How does setting and hardening of cement occur? (8)
OR
b) i) Write in detail about Portland cement and Waterproof cement (8)
ii) How is ceramic matrix composites (CMC) are prepared and explain their properties and applications (8)

15. a) i) Write the equation for phenol formaldehyde resins preparations and explain their properties and uses (8)
ii) What are the general steps involved in bonding process of adhesives? (8)

OR

- b) i) Define the term specific adhesion and explain how an adhesive strength can be developed? (8)