9.5.14 (FN)

Roll No. | | | | | | | | | | |

B.E / B.Tech (Part Time) DEGREE END SEMESTER EXAMINATIONS, APR / MAY 2014

B.E CIVIL ENGINEERING PROGRAMME

First Semester

PTCY8101 – CHEMISTRY FOR CIVIL ENGINEERING

(Regulation 2013)

Time: 3 Hours | Answer ALL Questions | Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Write a brief note on white portland cement.
2. What is concrete? Give any two of its uses.
3. Define pilling bedworth rule.
4. Give any two differences between dry corrosion and wet corrosion.
5. What is an adhesive? Give an example.
6. List the constituents present in a composite material.
7. What is a grinding wheel? Why are they used?
8. Give any two requisites for a refractory material.
9. Write a brief note on BOD.
10. What is meant by hardness in water? How is it expressed?

Part – B (5 x 16 = 80 marks)

11. (i) Discuss in detail the various physical factors influencing adhesive action. (8)

    (ii) What are composites? Write short notes on fiber reinforced composites. (8)

12. a) (i) What is Portland cement? Explain the reactions involved during setting and hardening of cement. (8)

    (ii) What is a 'ceramic' material? Write short notes on whiteware products. (8)

    (OR)

    b) (i) Write short notes on gypsum plasters. (8)

    (ii) What is glass? Write short notes on any four types of glasses. (8)

13. a) (i) Discuss briefly about the design and selection of materials for controlling corrosion. (8)

(ii) What are protective coatings? Explain how galvanizing can protect base metal such as iron from corrosion. (8)

(OR)

b) (i) What is concentration cell corrosion? Explain differential aeration corrosion with a specific example. (8)

(ii) What is meant by cathodic protection? Explain how metals are protected by sacrificial anodic method. (8)

14. a) (i) Write short notes on any two properties of refractories. (8)

(ii) Discuss the preparation, properties and uses of silica bricks. (8)

(OR)

b) (i) Explain the steps involved in the manufacture of refractories. (8)

(ii) Write short notes on the preparation, properties and uses of fire clay bricks. (8)

15. a) (i) What is disinfection? Explain how municipal water can be treated by this method. (8)

(ii) What is reverse osmosis? Explain with a neat diagram, how this method is used for the desalination of water. (8)

(OR)

b) (i) Explain with a neat diagram the softening of water by ion exchange method. (8)

(ii) What is coagulation? Write short notes on chemical coagulants used in water treatment. (8)

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