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**Question Paper Code : 25049**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Third Semester

Civil Engineering

CE 8391 — CONSTRUCTION MATERIALS

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are Refractory bricks? Where are they commonly used?
2. What are the different classifications of bricks?
3. What are called as bogue compounds?
4. What is meant by Grade C-43 cement? What are the main active cementing compounds in ordinary Portland cement?
5. What is meant by grade of concrete? What is the lowest grade of concrete allowed for structural works in buildings?
6. What precautions would you take in curing PPC concrete?
7. What are the standard size of bars as per IS Code?
8. What are exterior paints? Explain their use in buildings.
9. What are the different types of adhesives?
10. What are the characteristics of good floor tile?

PART B — (5 × 13 = 65 marks)

11. (a) Explain the various methods for the preservation of stone work.

Or

- (b) Describe with sketches the manufacture of bricks by Hoffman's kiln.

12. (a) Explain the hydration process of cement.

Or

(b) Explain the following test with sketches

(i) Abrasion Resistance test on coarse aggregate. (7)

(ii) Soundness test on cement. (6)

13. (a) What is compaction of concrete? Explain the different compaction process of concrete.

Or

(b) What is meant by curing of concrete? Explain the different curing process of concrete.

14. (a) Explain the preservative treatments available for timber.

Or

(b) Explain the different types of paints used in building construction?

15. (a) Explain the different types of glass with its application in buildings?

Or

(b) Explain the classification of Geo Synthetics and its uses.

PART C — (1 × 15 = 15 marks)

(Application/ Design/ Analysis/ Evaluation /Creativity / Case study questions)

16. (a) Determine the shape test on coarse aggregate with suitable sketches.

Or

(b) What is meant by bitumen 80/100 penetration and explain its various applications in construction.