

Reg. No. :

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S 4803

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Annual Pattern — First Year

Civil Engineering

CE 1X01 — CONSTRUCTION MATERIALS

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Draw sketches wherever necessary.

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is meant by efflorescence effect in bricks?
2. Mention two merits of concrete hollow blocks.
3. Name two artificial aggregates obtained from industries.
4. What is meant by bulking of sand?
5. Mention two advantages of ready mix concrete.
6. Differentiate between the terms segregation and bleeding in concrete.
7. What is meant by Veneer?
8. Write the constituents of paints.
9. Write two applications of fibre glass reinforced plastics.
10. What are refractories? Mention two of their properties.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Write the criteria for selection of stones as building material. (8)
(ii) Discuss the various field tests conducted to assess the quality of bricks. (8)

Or

- (b) (i) Discuss the process of manufacture of clay bricks. (10)
(ii) Write a note on light weight concrete blocks. (6)
12. (a) Explain the manufacturing process of cement giving their applications. (16)

Or

- (b) (i) Discuss the various properties of cement. (6)
(ii) Briefly discuss the various tests on coarse aggregates. (10)
13. (a) (i) What is high strength concrete? Discuss the various methods of its production. (10)
(ii) Briefly explain any two tests on hardened concrete. (6)

Or

- (b) (i) Explain the procedure of concrete mix design using IS method. (10)
(ii) What is meant by workability of concrete? List the factors affecting it. (6)
14. (a) (i) Write the applications of : Aluminium and Plywood. (3 + 3)
(ii) What is meant by seasoning of timber write its purpose? Discuss any of its two methods. (10)

Or

- (b) Write notes on :
- (i) Paints
 - (ii) Thermocole
 - (iii) Distempers
 - (iv) Industrial Timber (4 × 4 = 16)

15. (a) (i) What are geo-synthetics? Write a note on geosynthetics for civil engineering applications. (10)
- (ii) What is a Composite? Mention the applications of laminar composites. (6)

Or

- (b) Write notes on :
- (i) Ceramics
- (ii) Glass
- (iii) Fibre glass reinforced plastics
- (iv) Sealants for joints. (4 × 4 = 16)
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