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Question Paper Code: 41211

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2016

Second Semester

Civil Engineering

14UCE205 - CONSTRUCTION MATERIALS

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The moisture absorption of a good stone should be less than
(a) 1% (b) 5% (c) 10% (d) 15%
2. The red colour of the brick is due to
(a) Lime (b) Iron (c) Manganese (d) Silica
3. Loss on ignition in cement should not exceed
(a) 1% (b) 4% (c) 8% (d) 12%
4. The process of applying cement mortar under pressure through a nozzle is
(a) Pumping (b) Pressuring (c) Guniting (d) Shotcreting
5. The minimum water cement ratio to obtain workable concrete is
(a) 0.6 (b) 0.5 (c) 0.55 (d) 0.4
6. The ease of working concrete is
(a) Workability (b) Durability (c) Compaction (d) Vibration

7. Plywood is identified by
(a) Volume (b) Thickness (c) Weight (d) Area
8. Purpose of seasoning is
(a) Fire resistance (b) Removing Moisture
(c) Water proof (d) Noise absorbent
9. The property which a steel can withstand blows of hammer is
(a) Toughness (b) Hardness (c) Plasticity (d) Elasticity
10. The carbon content in mild steel is in the range of
(a) 0.1 - 0.2% (b) 0.15 - 0.30% (c) 1 - 1.5% (d) 2 - 4.5%

PART - B (5 x 2 = 10 Marks)

11. List out the classification of bricks based on its function.
12. Differentiate between initial and final setting time of cement.
13. Define workability.
14. Why seasoning is important for timber?
15. What are the alloys used for steel?

PART - C (5 x 16 = 80 Marks)

16. (a) List the criteria for selection of stone as a building material. (16)
- Or
- (b) (i) Explain about the various tests on bricks. (8)
- (ii) Compare stone and brick masonry. (8)
17. (a) (i) Draw and detail the procedure of crushing strength on aggregates. (8)
- (ii) How sands are classified based on their particle size? (8)
- Or
- (b) Detail the manufacturing process of cement. (16)

18. (a) (i) Discuss about the workability tests for fresh concrete. (8)
(ii) Write down the properties of hardened concrete. (8)

Or

- (b) (i) Detail about the rebound hammer test with a neat sketch. (8)
(ii) Compare IS method with ACI method. (8)

19. (a) Detail about the classification on timbers. (16)

Or

- (b) (i) Brief about the defects in timber. (8)
(ii) Why seasoning is necessary for timber. (8)

20. (a) Elaborate the manufacturing process of steel. (16)

Or

- (b) (i) Write down the market forms of steel. (8)
(ii) Write a note on anticorrosive measurement of steel. (8)
