Reg. No. : | | | | | | | | | | |

Question Paper Code: 41211

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2015.

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. Marble is a
   (a) Sedimentary rock (b) Metamorphic rock (c) Igneous rock (d) Artificial rock

2. Efflorescence of bricks is caused by
   (a) Water (b) Oxygen (c) Salt (d) CO_2

3. Soundness test on cement is carried out using
   (a) Blaine's apparatus (b) Vicat's apparatus
   (c) Le Chatelier's apparatus (d) UTM

4. Aggregates that exhibit better interlocking effect in concrete
   (a) Rounded aggregate (b) Irregular aggregate
   (c) Angular aggregate (d) Flaky aggregate

5. In M20 grade of concrete, 20 refers to
   (a) Compressive strength (b) Tensile strength
   (c) Flexural strength (d) Slump

6. Rebound hammer test on concrete is used to determine

(a) Water absorption (b) Crack width

(c) Compressive strength (d) Tensile strength

7. Seasoning of timber is the process of

(a) Cutting timber (b) Drying timber

(c) Wetting timber (d) Painting timber

8. Plywood is specified by

(a) Volume (b) thickness (c) weight (d) none of the above

9. Cast iron contains carbon upto

(a) 8% (b) 10% (c) 7% (d) 5%

10. The temperature range for true annealing is

(a) 100-200°C (b) 300-400°C (c) 600-700°C (d) 700-1000°C

PART - B (5 x 2 = 10 Marks)

11. List out the stages in the manufacturing of bricks.

12. Define "Setting time of cement".

13. What are the ingredients of concrete?

14. Give the classification of timber.

15. What are the common heat treatment processes of steel?

PART - C (5 x 16 = 80 Marks)

16. (a) Explain about the criteria for selection of stones along with the characteristics to be considered. (16)

Or

(b) Describe about the various tests on bricks. (16)

17. (a) Discuss about the various types of cement. (16)

Or

(b) Explain about the following tests on aggregates

(1) Crushing Strength (8)

(2) Abrasion Resistance (8)

18. (a) Explain the various stages involved in the manufacturing of concrete. (16)

Or

(b) Give the step by step procedure for concrete mix design by IS method. (16)

19. (a) Explain the following

(1) Defects in timber (8)

(2) Seasoning and preservation of timber (8)

Or

(b) Write a short note on the following

(1) Plywood (4)

(2) Particle board (4)

(3) Gypsum board (4)

(4) PVC doors (4)

20. (a) Discuss about the following

(1) Mechanical treatment of steel (8)

(2) Heat treatment of steel (8)

Or

(b) Explain about the anticorrosive measures for steel. (16)

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