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Question Paper Code: 41125

B.E. / B.Tech. DEGREE EXAMINATION, NOV 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)

- Marble is a
 - Sedimentary rock
 - Metamorphic rock
 - Igneous rock
 - Artificial rock
- Excess of alumina in the clay
 - makes the brick brittle and weak
 - makes the brick crack and warp on drying
 - changes colour of the brick from red to yellow
 - improves impermeability and durability of the brick
- Soundness test on cement is carried out using
 - Blaine's apparatus
 - Vicat's apparatus
 - Le Chatelier's apparatus
 - UTM
- Vicat's apparatus is used to determine the
 - initial setting time of cement
 - final setting time of cement
 - normal consistency of cement
 - all the above
- In M20 grade of concrete, 20 refers to

- (a) Compressive strength (b) Tensile strength
(c) Flexural strength (d) Slump
6. The slump test of concrete is used to measure its
(a) workability (b) tensile and compressive strength
(c) impact value (d) homogeneity
7. Seasoning of timber is the process of
(a) Cutting timber (b) Drying timber
(c) Wetting timber (d) Painting timber
8. Seasoning of timber
(a) increases the weight of timber (b) improves strength properties of timber
(c) does not give dimensional stability (d) all the above
9. Cast iron contains carbon upto
(a) 8% (b) 10% (c) 7% (d) 5%
10. Which of following section is/are used in the fabrication of trusses, column, beam etc?
(a) L section (b) I section
(c) Channel section (d) All the above

PART - B (5 x 2 = 10 Marks)

11. What are types of stone masonry?
12. Define "Setting time of cement".
13. What are the ingredients of concrete?
14. What is timber?
15. What is the objective of heat treatment 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) Explain the characteristic of a good building stone. (16)

17. (a) Explain the step by step methods involved in manufacture of cement by wet process. (16)

Or

(b) (i) What is the importance of aggregate grading? (8)

(ii) Write the procedure for determine aggregate crushing value. (8)

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

Or

(b) Explain the procedure of IS method of concrete mix design. (16)

19. (a) Brief about various defects in timber. (16)

Or

(b) What is meant by seasoning of timber? Brief about natural and artificial seasoning. (16)

20. (a) Give the properties and uses of cast iron and mild steel. (16)

Or

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