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 **Reg. No. :**

**Question Paper Code: 42015**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

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. A stone is rejected if it absorbs water more than

 (a) 5 % (b) 10 % (c) 15 % (d) 20 %

3. Loss on ignition in cement should not exceed

 (a) 1% (b) 4% (c) 8% (d) 12%

4. Bulking of sand is caused due to

 (a) surface moisture (b) air voids (c) viscosity (d) clay content

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 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. Plywood is specified by

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

9. With a percentage increase of carbon in steel, decreases its

 (a) strength (b) hardness (c) brittleness (d) ductility

10. Cast iron contains carbon upto

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

PART - B (5 x 2 = 10 Marks)

11. What are types of stone masonry?

12. What is meant by hydration of cement? What is its importance?

13. Define workability.

14. What is timber?

15. Enumerate the various market forms of steel.

PART - C (5 x 16 = 80 Marks)

16. (a) Briefly explain the tests conducted on bricks for their suitability for construction work. (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) Detail the manufacturing process of cement. (16)

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

Or

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

19. (a) What are the characteristics of good timber? What is the object of seasoning it? Explain briefly the different methods of seasoning timber. (16)

 Or

(b) Detail about the classification on timbers. (16)

20. (a) Describe the types of hot rolled steel sections and cold formed steel sections. (16)

Or

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