

Reg. No. :

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 41125

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

- For one cubic metre of brick masonry, number of bricks required, is
(a) 400 (b) 425 (c) 450 (d) 500
- A stone is rejected if it absorbs water more than
(a) 5 % (b) 10 % (c) 15 % (d) 20 %
- The commonly used raw material in the manufacture of cement is
(a) slate (b) sand stone (c) lime stone (d) basalt
- Bulking of sand is caused due to
(a) surface moisture (b) air voids (c) viscosity (d) clay content
- Vicat's apparatus is used to perform
(a) fineness test (b) soundness test
(c) consistency test (d) compressive strength test
- The slump test of concrete is used to measure its
(a) workability (b) tensile and compressive strength
(c) impact value (d) homogeneity

7. The moisture content in timber for frame work should not exceed
(a) 5% (b) 10% (c) 15% (d) 20%
8. Teak wood suitable for
(a) sports articles (b) furniture (c) railway sleepers (d) all the above
9. With a percentage increase of carbon in steel, decreases its
(a) strength (b) hardness (c) brittleness (d) ductility
10. The value of poisson's ratio for steel within the elastic region ranges from
(a) 0.17 to 0.25 (b) 0.25 to 0.33
(c) 0.33 to 0.41 (d) 0.41 to 0.49

PART - B (5 x 2 = 10 Marks)

11. What are the defects in brick masonry?
12. What is meant by hydration of cement? What is its importance?
13. When RMC is recommended?
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) What are the simple field tests that you can carry out to determine the suitability of stone to determine quality of stones. (16)
17. (a) Construct a flow diagram for dry and wet process of manufacture of cement with brief explanation. (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 in detail the various factors affecting workability of concrete. (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) What is meant by preservation of timber? Describe briefly the various methods adopted for the preservation of timber. (16)

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

Or

(b) Explain the manufacturing process and civil engineering applications of steel. (16)
