KUMARAGURU
college of technology
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Register Number: …….

B.E DEGREE EXAMINATIONS: DEC 2014

(Regulation 2013)

Second Semester

CIVIL ENGINEERING

U13CET201**:** Construction Materials

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which of the following is an unstratified rock?
   a) Sandstone b) Limestone
   c) Shale d) Granite
2. Basic refractory brick consists of _____ bricks.
3. The best application of pozzolona in cement concrete is in
   a) dams b) bridges
   c) RCC slabs d) domes
4. The lime that sets on absorbing CO_2 from atmosphere is……..
5. Ultrasonic pulse velocity method is used to determine
   a) Compressive strength of concrete b) Impact resistance of concrete
   c) Quality of concrete d) Tensile strength of concrete
6. A cube of concrete as compared to cylinder of concrete is expected to have compressive strength……..
7. The drawback of electric seasoning of timber is
   a) Checks b) Splitting
   c) Cracks d) Reduced strength
8. Casein paints are used over……..
9. Crown glass is an example of
   a) soda – lime glass b) lead glass
   c) boro – silicate glass d) sheet glass
10. Dextrin adhesive is made from ……..

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. What is glazing? Mention two materials that are glazed.
12. How are rocks classified on the basis of its physical characteristics?
13. Give three classification of lime based on percentage of calcium oxide and clayey impurities in it.
14. Define bulking of sand. How does it affect concrete mix?
15. What is curing? What is its significance?
16. List four factors affecting workability of concrete.
17. Mention the defects in timber.
18. What are the various ingredients of paints?
19. Define composite materials with an example.
20. What is meant by annealing? List the three classifications of glasses according to their constituents.

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. Illustrate with a neat sketch the manufacturing of cement by wet process.

22. a) (i) How are bricks classified on their physical and mechanical properties? (8)
    (ii) Explain the tests conducted on bricks. (6)

(OR)

    b) (i) What are the characteristics of good building stone? (6)
    (ii) Discuss the three important types of rocks and their formations. (8)

23. a) (i) Give the strength test conducted for concrete in detail. (6)
    (ii) Explain the tests that are performed in fresh concrete. (8)

(OR)

    b) (i) Explain the principles of mix design. (4)
    (ii) Describe in detail the procedure for mix design as per IS method. (10)

24.	a)	(i)	What are the various ingredients of paints? State the functions of each of them.	(8)
		(ii)	Why are the steel structures painted? Describe the procedure of painting an old structure.	(6)
			(OR)	
	b)	(i)	Define seasoning of timber. How is seasoning done in large scale?	(10)
		(ii)	What are the characteristics of a good timber?	(4)
25.	a)	(i)	Describe the application of glass in building industry.	(6)
		(ii)	Give the classification of ceramic materials and describe three mechanical properties of ceramic phases.	(8)
			(OR)	
	b)	(i)	What are geosynthetics? How are they classified?	(4)
		(ii)	Briefly describe the applications of geosynthetics in building and construction industry.	(10)

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