



**SEMESTER EXAMINATIONS: JUNE 2015**

(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. .... is the building material which is useful in reducing the dead load of masonry in building
  - a) Clay brick
  - b) Mortar
  - c) Concrete block
  - d) Stone
2. The process of brick burning in India is done most with \_\_\_\_\_
3. The product C-S-H gel represents the calcium silicate hydrate also known as .....
  - a) Induction
  - b) Tobermorite
  - c) Bound
  - d) gel
4. Quick lime coming out of the kiln is also known as .....
5. High alumina cement is produced by fusing together a mixture of .....
  - a) Limestone and bauxite
  - b) Limestone, bauxite and gypsum
  - c) Limestone, gypsum and clay
  - d) Limestone, gypsum, bauxite, clay
6. .... is an oil to which the base is mixed
7. OPC should have the surface area not less than (in  $\text{mm}^2/\text{g} \times 10^2$ ) .....
  - a) 3000
  - b) 2250
  - c) 3250
  - d) 4000
8. The tensile strength of glass may be .....
9. Seasoning of timber is required to .....
  - a) soften the timber
  - b) Harden the timber
  - c) Straightening the timber
  - d) Remove sap from the timber
10. Y - alloy is an alloy of aluminum and .....

**PART B (10 x 2 = 20 Marks)**

**(Not more than 40 words)**

11. Calculate the value of coefficient of hardness, if the initial weight of stone is 500gm and after 1000 revolution at the speed of 28rpm, its weight is 497gm.
12. Name the bricks and its constituent in Basic and Neutral refractory brick.
13. Differentiate between wet and hardened concrete.
14. Define Pigment Volume concentration.
15. Generalize the purpose of adding gypsum while manufacturing cement.
16. Classify different types of varnishes
17. Write short notes on High strength concrete
18. What are the characteristics of good oil paints?
19. Draw the flow diagram for the extraction of Aluminum
20. Write notes on Geosynthetics

**PART C (5 x 14 = 70 Marks)**

**(Not more than 400 words)**

**Q.No. 21 is Compulsory**

21. Describe the good qualities of first class building bricks and its manufacturing process
  
22. a) Write Short notes on
  - a)Compressive strength of blocks (4)
  - b)Drying shrinkage of blocks (4)
  - c)Water absorption of block (4)
  - d)Moisture movement of blocks (2)
  
- (OR)**
- b) Briefly explain the laboratory tests that are usually carried out to determine the quality of stones
  
23. a) State the conditions under which you will recommend the following cements. Give the reasons.
  - a)Puzzolana cement (3)
  - b)Low heat Portland cement (3)
  - c)High alumina cement (3)

d)Rapid hardening cement (3)

e)Quick setting cement (2)

**(OR)**

b) Explain in detail about the manufacturing process of concrete with its properties

24. a) What are the different types of paints used in building construction

**(OR)**

b) What are seasoning and preservation of timber? Describe the commonly used methods of

a)Seasoning (9)

b) Preservation of timber (5)

25. a) (i) Describe the manufacturing process of glass. (10)

(ii) What are the constituents of glass. (4)

**(OR)**

b) Write short notes on

Flyash (8)

Geosynthetics (6)

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