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Roll No. :

320355(20)

B. E. (Third Semester) Examination, Nov.-Dec. 2021

(New Scheme)

(Civil Engg. Branch)

BUILDING MATERIALS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

***Note : Part (a) carrying 2 marks is compulsory.
Attempt any two from (b), (c) and (d) of each
unit and carry 7 marks each.***

Unit-I

1. (a) What are the factors affecting rate of hydration of cement?

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- (b) Explain purpose, significance and uses of the following test of cement :
- (i) Tensile test
 - (ii) Setting test
 - (iii) Soundness test
 - (iv) Normal consistency test
- (c) Explain hydration process of cement with schematic diagram. Define get water, dormant period and gel.
- (d) Discuss about application and classification of pozzolanas.

Unit-II

2. (a) Define modulus of elasticity of concrete.
- (b) Discuss the types of admixtures and their purpose in modern concrete.
- (c) Define durability of concrete. Enumerate and explain the factors affecting durability of concrete.
- (d) Explain the various factors affecting strength of green concrete.

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Unit-III

3. (a) Define Ceramics.
- (b) Write short note on :
- (i) Properties of ceramics
 - (ii) Method of shaping and forming of ceramic tiles
- (c) Discuss in brief the raw materials and their properties for manufacturing of ceramic tiles.
- (d) Differentiate between porcelain tiles and non-porcelain tiles.

Unit-IV

4. (a) Name some timber producing trees and also their relative market values.
- (b) Explain requirements of good preservative. Also explain any one method for preservation of timber.
- (c) Discuss types, sources and uses of various industrial wastes as of cost effective material in construction.
- (d) Explain types and uses of :
- (i) Plywood
 - (ii) Veneers
 - (iii) Hardboards

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Unit-V

5. (a) Define PVC.
- (b) What do you understand by composite material? Explain its types and uses.
- (c) Explain method of manufacturing and tests for suitability of tiles.
- (d) What are the various ingredients of paints and state the function of each of them?