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Roll No. : .....

**B020315(020)**

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

**(AICTE Scheme)**

**(Civil Engg Branch)**

**BUILDING MATERIALS**

***Time Allowed : Three hours***

***Maximum Marks : 100***

***Minimum Pass Marks : ~~33~~ 35***

***Note : Attempt all questions. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d).***

**Unit-I**

1. (a) What is IS Code for Ennore sand? 4

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- (b) What are Bogue compounds and their functions?  
What is their role in hydration mechanism in cement? 8
- (c) What is fineness modulus of aggregate and what is its unit? Explain abrasion test and impact test of aggregates. 8
- (d) What are Natural Pozzolonas? What are the types of pozzolans and their characteristics? 8

**Unit-II**

2. (a) What is True Slump? 4
- (b) How can you test the quality of fresh and hardened concrete? 8
- (c) Write short notes on : 8
- (i) EC of concrete
  - (ii) Yield strength of concrete
  - (iii) Flexural strength of concrete
  - (iv) Creep of concrete
- (d) What are the variables in proportioning of concrete mix? What are the criteria that must be used when designing a concrete mix? 8

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**Unit-III**

3. (a) What is low cost construction materials? 4
- (b) What are the characteristics of : 8
- (i) Particle Board
  - (ii) Plywood
- (c) Which materials waste can be used in construction industry and how? 8
- (d) What is form work and what are requirements of good form work? 8

**Unit-IV**

4. (a) Which type of varnish is used on hardwood substances to hide grain defects? 4
- (i) Wax Polish
  - (ii) Asphalt Varnish
  - (iii) Flat Varnish
  - (iv) French Polish
- (b) What material is Bitumen? What products are made from bitumen? 8

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- (c) How Distempering is different from painting? Which one is better distemper or emulsion and how? 8
- (d) What is the full form of PVC with respect to paint? What are the different ingredients of paint? 8

### Unit-V

5. (a) What is Structural Steel? 4
- (b) What is Aluminium and its alloys? Write down its properties, uses and advantages. 8
- (c) What is glass their types and their uses in civil engineering? 8
- (d) Write short notes on : 8
- (i) Ceramics
  - (ii) Types of tiles
  - (iii) Refractories
  - (iv) Uses of PVC