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B.Tech. III Semester (Main/Back) Examination Dec. - 2016

Civil Engineering

3CE4A Construction Technology

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 26

**Instructions to Candidates:**

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.) Units of quantities used/calculated must be stated clearly.*

**Unit - I**

1. a) What is the significance of bonding in brick - work masonry construction? Differentiate stone masonry and brick masonry construction. (8)
- b) Define sharing and give name of different types of sharing. Describe any two of the sharing with neat sketches, which are most commonly used. (8)

**OR**

1. a) Enumerate structural component of a building. Describe in brief the basic requirement of building component in design and construction of a building. (12)
- b) Enumerate different type of rubble stone masonry. Describe in brief the construction of walls, with curved square rubble masonry. (4)

**Unit - II**

2. a) What are the possible causes of dampness in building? Explain with neat sketches, how damp proofing is done in building. (8)
- b) Differentiate between any four of the following :
  - i) Arches and lintels
  - ii) Extrados and Intrados
  - iii) Abutment and piers
  - iv) Spandrel and Haunch
  - v) Skewback and springing points(4×2=8)

**OR**

2. a) What are the objectives of a partition wall? Describe in brief different types of partition wall used in building, giving suitability of each. (8)
- b) What are the requirements of a staircase in residential and public building? Draw a section through R.C.C staircase showing tread, rise, baluster, newel post, handrail and landings. (8)

**Unit - III**

3. a) What is the difference between fabrication and erection work? How does fabrication of steel superstructure reduce project implementation time? (8)
- b) Enumerate different types of flooring used for ground floor construction. Discuss the factors affecting the selection of ground floor construction. (8)

**OR**

3. a) Define the following terms used in pitched roof construction and show in diagram :-
- i) Pitch of a roof
  - ii) Spars
  - iii) Purlin
  - iv) Battens
  - v) Principal rafter
  - vi) Eaves
  - vii) Cleat (9)
- b) Differentiate between the following with neat sketches :
- i) King post roof truss and queen post roof truss
  - ii) Couple roof and purlin roof (7)

**Unit - IV**

4. a) Enumerate the different types of Earth moving equipment. Explain in brief the function of scraper and how do you calculate the output of scraper? (7)
- b) Differentiate between the following :
- i) Pneumatic tyre roller and sheep foot roller.
  - ii) Drop hammer and diesel hammer
  - iii) Hauling equipment and Hoisting equipment. (3×3=9)

**OR**

4. a) Discuss the construction and function of a asphalt batch hot mix plant, giving special attention on screening, weighing and mixing units. (10)
- b) What are the differences between Dewatering equipment and pumping equipment. (6)

**Unit - V**

5. a) What are the difference between machines and manual labour. (6)
- b) Discuss the advantages of preventive maintenance of equipment. (4)
- c) What are the main reasons and policy for replacement of equipment in construction industry. (6)

**OR**

5. a) What is the use of Break - even point theory? Explain the methods, which are used for the determination of break even value. (6)
- b) What factors would you keep in mind, while planning the equipment for a project? [rtuonline.com](http://rtuonline.com) (5)
- c) Discuss the factors affecting the selection of equipment in construction project for better and speedy execution. (5)

