

3E1624

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B.Tech. III Semester (Main) Examination - 2014

Civil Engg.

3CE4 Construction Technology

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 24

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) Discuss the functional requirements of Buildings which deserve due consideration in their design and construction (8)
- b) What is the significance of bonding in brickwork? Explain with the neat sketches the difference between English bond & single Flemish and double Flemish brick bonds. (8)

OR

- 1 a) Define prefabrication mentioning its advantages and disadvantages. (6)
- b) Discuss briefly, what type of foundation would you propose for a multi-storeyed office building in
 - i) Very soft soil
 - ii) Black cotton soil (6)
- c) Where would you recommend Ashlar and Rubble masonry & why? (4)

Unit - II

2. a) What are the various possible causes of dampness in buildings? Explain with sketches how damp proofing is done in buildings? (8)
- b) Differentiate between any four of the following: (2×4=8)
- Arches and Lintels
 - Extrados and Intrados
 - Abutment and piers
 - Crown and key
 - Skew back and Springing points.

OR

2. a) What are different types of stairs used in buildings? Which of them will be most suitable for a public building? Describe with neat sketch the construction of a dog-legged stair connecting two floors of a building. (8)
- b) What are the objectives of a partition wall? Discuss in brief different types of partition walls used in buildings giving suitability of each. (8)

Unit - III

3. a) What is the difference between fabrication and erection work? How does fabrication of steel superstructures reduce project implementation time? (8)
- b) Explain with neat sketch, the construction of a concrete floor giving its merits and demerits. (8)

OR

3. a) What are the relative advantages and disadvantages of flat roofs over other types of roofs? (5)
- b) Discuss the alternative arrangements of slopes and drain outlets to drain off rain water from flat roofs. (5)
- c) Describe at least four types of modern floor finishing, with their specifications (6)

Unit - IV

4. a) Enumerate different types of heavy earth moving equipments. Explain with neat line diagram the function of a power shovel and how do you calculate its output? (7)

- b) Differentiate between the following
- i) Hauling equipments and Hoisting Equipments
 - ii) Derrick cranes and mobile cranes
 - iii) Pneumatic tyre roller and sheep foot roller (9)

OR

4. a) Discuss the need and application of Aggregate Mixing plant. (6)
- b) Discuss the construction and functioning of a Asphalt Batch Hot mix plant, giving special attention on screening, weighing and mixing units. (10)

Unit - V

5. a) What factors would you keep in your mind while planning the equipments for a project? (5)
- b) Discuss the factors affecting the selection of equipment in construction projects for better and speedy execution. (5)
- c) Discuss the advantages of using Machines V/s Manual labour. (6)

OR

5. a) Discuss the functions and advantages of preventive maintenance of equipments (5)
- b) Discuss the factors which affect the cost of owning and operating construction equipment (5)
- c) What are the main reasons and policy for the replacement of equipments in construction industry? (6)
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