

3E1624

Roll No. _____

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

Civil Engg.

3CE4 Construction Technology

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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)