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Register Number:

Name of the Candidate:

B.Sc. DEGREE EXAMINATION December 2014

(CONSTRUCTION MANAGEMENT)

(FIFTH SEMESTER)

520: DESIGN CONCEPT OF STRUCTURES

Time: Three hours

Maximum: 75 marks

Answer ONE FULL question from each UNIT

(5 × 15 = 75)

UNIT-I

1. A coal bunker is to be design to store 250kN of coal having a unit weight of 8kN/m³. The bunker should be square with 3m sides. Use M25 grade concrete and Fe415 steel. Design side walls and hopper bottom of bunker.
(OR)
2. Design a section of a plate girder to carry a udl of 1000kN over a span of 10m. A full lateral support is provided to the compression flange.

UNIT-II

3. Explain the step by step procedure for the design of a small span bridge culvert.
(OR)
4. Explain about various classifications of bridges with neat sketches.

UNIT-III

5. Discuss about “strong column-weak beam” concept in detail.
(OR)
6. Draw ductile reinforcement detailing of a beam column joint and explain the details.

UNIT-IV

7. Design a rectangular water tank of size 5m×4m×3m deep resting on firm ground. Use M25 concrete and Fe415 steel.
(OR)
8. Explain the design procedure for steel circular water tank.

UNIT-V

9. Discuss the various factors involved in the design steel truss bridges.
(OR)
10. Explain the design concept of a counter fort retaining wall.
