BE – 028

V Semester B.E. (Civil) Degree Examination, January 2017
(2K11 Scheme)
CE-507 : DESIGN AND DRAWING – RCC

Time : 4 Hours Max. Marks : 100

***Instructions** : Answer **one** question from **each** Part.*
***Use** of IS 456-2000 Code is **permitted**.*

PART – A

1. Design a two way slab for floor 4 m × 5 m of simply supported on all four sides. Draw plan and section showing the details of reinforcement, use material M20 concrete and Fe-415 Steel. Live load 4 kN/m^2. **30**

OR

2. Design a RCC footing for a column of square section 400 mm × 400 mm to support an axial load of 1500 kN, safe bearing capacity of soil is 200 kN/m^2. Draw plan and section showing the details of reinforcement, use material M20 concrete and Fe-415 Steel. **30**

PART – B

3. Design a cantilever retaining wall to retain earth embankment 4 m high above ground level. The density of earth of 18 kN/m^3 and its angle of repose is 30°. The safe bearing capacity of the soil is 200 kN/m^2 and coefficient of friction between soil and concrete is 0.5. Draw plan and section showing the details of reinforcement, use material M20 concrete and Fe-415 Steel. **70**

OR

4. Design a combined footing for two reinforced concrete columns of size 300 mm × 300 mm, spacing of column 4 m, load transmitted on each column is 1200 kN. Safe bearing capacity of soil 200 kN/m^2. Draw plan and section showing the details of reinforcement, use material M20 concrete and Fe-415 Steel. **70**

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