

B.E.(with Credits)-Regular-Semester 2012 - Civil Engineering Sem IV
CE-406 - Building material & construction

P. Pages : 2

Time : Three Hours



GUG/W/16/3871

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. All questions are compulsory.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.

1. a) Explain the various types of Shallow foundation with a neat sketches. 8
- b) Enlist the various methods of determining a "bearing capacity" of soil. Described any one method in detail. 8

OR

2. a) Design a wall foundation for a brick wall of 40 cm thick and 3.2 m high above ground level. The wall carries a superimposed load of 110 kN/m run. The soil has a unit weight of 20 kN/m³, Angle of repose of 30° and safe bearing capacity of 160 kN/m³. The footing may have lime concrete base which has unit weight of 20 kN/m³ and modulus of rupture equal to 160 kN/m². Take unit weight of masonry as 20 kN/m³. Draw the designed foundation detail. 8
- b) What are the possible causes of failure of foundation? Give their remedial measures. 8
3. a) Define the following terms with reference to "Masonry". 4
- i) Quoins ii) Joint
- iii) Through stone iv) Coping
- b) Differentiate between Brick Masonry and Stone Masonry. 6
- c) Draw a typical plan showing alternate courses of 1 brick thick wall. 6

OR

4. a) Explain with sketches, various types of Joints used in stone masonry. 8
- b) Describe various types of Ashlar stone masonry used in Construction with a neat sketches. 8
5. a) Enumerate the requirement of good floors. 5
- b) Explain with reasons what type of floor finishing will be required for 8
- i) Dancing ball ii) Warehouse
- iii) Library iv) Grain store
- c) Enumerate various types of flooring materials. 3

OR

6. a) Define pitched roof. Enlist various types of pitched roof and explain any two. 8
- b) Explain the method of constructing "Terrazzo Flooring". 8

7. a) Define the following terms with reference to stairs. 6
i) Trend ii) Nosing
iii) Head room iv) Newel post
v) Baluster
- b) Briefly described various types of stairs with neat sketches. 10

OR

8. a) Write a note on location of doors and windows. 6
- b) Draw a neat sketches of the following and explain briefly. 6
i) Bay window.
ii) Clearstory window.
- c) Compare steel and timber windows. 4
9. a) Discuss the effects of dampness on structure? Described any one method to prevent the defects of dampness. 7
- b) Differentiate between plastering and pointing. 4
- c) Write a note on "White washing" and "Distempering". 5

OR

- 10 a) Define the term "Scaffolding". Explain "Double Scaffolding". 8
- b) Write a note on **any two**. 8
i) Underpinning.
ii) Defects in plastering.
iii) Requirement of Good oil paint.
iv) Raking shores.
