

B.E. / B.Tech. (Civil Engineering) Model Curriculum Semester-IV
PCC-CE401 - Building Construction

P. Pages : 2

Time : Three Hours



GUG/W/24/13715

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Retain the construction lines.
 5. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Explain various types of shallow foundation with help of sketches. 8
- b) Discuss the problems related to foundation on black cotton soil. What precautions to be taken while foundation on black cotton soil. 8

OR

2. a) Differentiate between load bearing and framed structure. 6
- b) Design a strip footing for a brick wall 30 cm thick and 3.3 m high above ground level. The wall carries a superimposed load of 125 kN per meter run. The soil has unit weight of 18kN/m^3 angle of repose of 30° and safe bearing capacity of 150kN/m^2 . The footing may have lean cement concrete base of proportion 1:4:8 which has unit weight of 23kN/m^3 and modulus of rupture for given concrete is equal to 245kN/m^2 . Unit weight of masonry is 19.5kN/m^3 . 10
3. a) Enlist various test carried out on bricks explain the procedure to find out compressive strength on bricks using IS recommendation. 8
- b) What are essential features of English bond? Draw a typical plan showing alternate courses of $1\frac{1}{2}$ thick brick wall in English bond. 8

OR

4. a) Describe following terms used in brick work. 8
- | | |
|----------------|---------------------|
| i) Closer | ii) Bull nose brick |
| iii) Brick bat | iv) Frog |
- b) What are the advantages & disadvantages of pre-cast construction? 8
5. a) Explain various types of joints provided in stone masonry with neat sketch. 8
- b) Classify various types of ashlar stone masonry illustrate each with neat sketch. 8

OR

6. a) What are the factors that affect choice of flooring materials? 8
- b) Write a note on: 8
- i) Lintel ii) Arch
7. a) Describe king-post roof truss with neat sketch. 8
- b) What are the types of forms of thermal insulation materials available in market? Explain slab or block insulation method. 8

OR

8. a) A stair hall of public building which measures $4.25\text{ m} \times 5.25\text{ m}$. The vertical distance between the floor is 3.9 m. Design suitable stair for the building and draw a sketch. 8
- b) Draw a elevation and section of Battened, ledged and framed doors? 4
- c) Describe Bay window with typical sketch. 4
9. a) What are the various conventional and modern techniques of damp proofing? 8
- b) Write a note on **any two** of the following. 8
- i) Pointing
- ii) Defects in plastering work
- iii) Scaffoldings

OR

10. a) What are types of wall paints? Write down stepwise procedure of colour washing. 8
- b) Explain following terms **any two**. 8
- i) underpinning
- ii) Formwork new techniques
- iii) Shoring
