

B.E. Civil Engineering (Model Curriculum) Semester - IV
PCCCE401 - Building Construction

P. Pages : 2

Time : Three Hours



GUG/S/23/13715

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. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Explain various types of shallow foundation with the 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) Design the foundation for stone pillar 30cm×40cm carrying a superimposed load of 320kN at its top. The height of the pillar above ground level is 3.5m. Take unit weight of stone masonry as 22.5 kN/m^2 . Unit weight of soil is 19 kN/m^3 , angle of repose of 25° and safe bearing capacity is 160 kN/m^2 . The foundation concrete may be in 1:4:8 cement concrete having safe modulus of rupture 245 kN/m^2 . 10
- b) Differentiate between Load bearing structure and framed structures. 6
3. a) What are the requirement of good bricks? Write down procedure of determination of water absorption of bricks. 8
- b) What are the types of bond in brick work? Explain English bond with neat sketch. 8

OR

4. a) Describe following terms used in brickwork. 8
- i) Closer ii) Bull nose brick
iii) Brick bat iv) Frog
- b) What are the advantages and disadvantages of precast 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 the choice of flooring material? 8
- b) Write a note on- 8
- i) Lintel ii) Arch

7. a) Describe in brief various types of roof coverings used for Pitched roofs? 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 3.9m. 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) Write down stepwise procedure of distempering. 8
- b) What do you understand by scaffolding? Explain double scaffolding. 8
