

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

P. Pages : 2

Time : Three Hours



GUG/W/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) Discuss the various causes of failure of foundation and their remedial measures. **8**
- b) Explain the plate load test method to determine the bearing capacity of soil. **8**

OR

2. a) Explain strap footing with neat sketch. **6**
- b) Design a strip footing for a brick wall 30cm thick and 3.3m high above ground level. The wall carries a superimposed load of 125 KN per meter run. The soil has unit weight of 18 KN/m³. Angle of repose of 30° and safe bearing capacity of 150 KN/m². The footing may have lean cement concrete base of proportion 1:4:8 which has unit weight of 23 KN/m³ and modulus of rupture for given concrete is equal to 245 KN/m². Unit weight of masonry is 19.5 KN/m³. **10**
3. a) Enlist the various test to be carried out on bricks. Explain the procedure to find out compressive strength of brick with IS code recommendation. **8**
- b) What are the 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) Write a note on following. **8**
- i) Cavity wall.
- ii) Brick nogging.
- b) Explain various precast members used in construction and advantages of it. **8**
5. a) What is mean by dressing of stones? Explain varieties of finishes obtained by dressing of stones. **8**
- b) Describe various types of lintels? **8**

OR

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| 6. | a) | What are the different types of flooring tiles? Explain the procedure to carried out tiled flooring. | 8 |
| | b) | What are the different types of floor finishes? Explain it. | 8 |
| 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

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| 8. | a) | A stair hall of public building which measures 4.25m x 5.25m. The vertical distance between the floor is 3.9m. Design suitable stair for the building and draw a sketch. | 10 |
| | b) | What are the different types of doors. Explain any one. | 6 |
| 9. | a) | What are the various conventional and modern techniques of damp proofing? | 8 |
| | b) | Differentiate between plastering and pointing. | 4 |
| | c) | What are the defects in plastering? | 4 |

OR

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| 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. | |
