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CT-405/BC&M/4th Sem/2018/M

**BUILDING CONSTRUCTION AND
MAINTENANCE AND CIVIL
ENGINEERING DRAWING**

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

The question paper consists of two parts :
Part-A and Part-B. Both are compulsory.

PART – A

Marks – 25

1. Answer the following questions : 10
- (i) Define masonry.
 - (ii) What is unbonded wall ?
 - (iii) What is quoins ?

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(iv) What are the characteristics of first class brick ?

(v) Define frog.

(vi) What is the use of granolithic finish ?

(vii) Define pitched roofs.

(viii) Why gable window and dormer windows are provided in a building.

(ix) Define battened and ledged doors.

(x) How putlog is different from transoms ?

2. State whether the following statements are true or false. If false, write the correct one : $1 \times 5 = 5$

(i) All formwork shall be removed with vibration or shock.

(ii) The soil which is located immediately below the base of the foundation is called the sub soil.

(iii) End bearing piles transfers load by means of skin friction.

(iv) Pressure grouting consist of forcing cement grout under pressure over the exposed surfaces.

(v) Provision of DPC accelerates the entry of moisture in the building.

3. Fill in the blanks : $1 \times 5 = 5$

(i) If the columns carry unequal load, ——— foundation is provided.

(ii) The hearting of each of the thicker walls consists entirely of ———.

(iii) The ——— bond is the most commonly used bond, for all wall thicknesses.

(iv) Semi-elliptical and Florentine arches are ——— centred arches.

(v) ——— is an unbroken series of steps between landings.

4. Match the following : $1 \times 5 = 5$

(i) Well foundation	(a) Nosing
(ii) Stairs	(b) King post
(iii) Scaffolding	(c) Steining
(iv) DPC	(d) Standards
(v) Roof truss	(e) Mastic asphalt

PART - B

Marks - 45

Answer any five questions. 9×5=45

5. (a) Explain the methods of improving safe bearing pressure of soils. 5
- (b) Discuss the causes of settlement of foundation. 4
6. (a) Make a comparison between English bond and Flemish bond. 4
- (b) How the bearing of a lintel is adapted? 3
- (c) State the major problems associated with ground floor and upper floors. 2
7. (a) Discuss the various modes of failure of an arch. What are the remedies? 6
- (b) How segmental, semi-circular and pointed arch differ from each other? 3

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8. (a) Plan a stair case for a residential building in which the vertical distance between each floor is 3.36m. The size of the stair hall is limited to 4.5×3m. 6

- (b) What are the basic requirements of a roof? 3
9. (a) What do you understand by scaffolding? 2
- (b) At what circumstances cantilever scaffolding is used? 3
- (c) What are the various types of loads coming on a structure? Distinguish between live loads and dead loads. 4
10. (a) What are the various causes of dampness in buildings? 4
- (b) State the general principles that should be kept in mind while providing D.P.C. 3
- (c) Give the Indian standard specification for (i) cleaning and treatment of forms (ii) stripping time of formwork. 2

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11. (a) Define floor area ratio. How covered area, carpet area and plinth areas are calculated in a building? 5

(c) What are the common defects which occur in plastering? 4