

S-745

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S.E. (Civil) (Semester-IV) Examination, Dec. 2013

BUILDING DESIGN

Sub. Code :43589

Day and Date : Friday, 13 - 12 - 2013

Total Marks : 100

Time : 1.30 p.m. to 5.30 p.m.

- Instructions :
- 1) Q1 is compulsory
 - 2) Attempt any *three* questions from section II.
 - 3) Assume suitable data if necessary.

SECTION - I

- Q1) Design a Duplex Row house scheme having 4 houses in a row, each having a B.U.A.* of 110 m². The details of each individual row house are as follows:
- i) G.F. - B.U.A. area of approx. - 65 m² & F.F. area of approx. - 45 m².
 - ii) Divide the following units keeping principles of planning in mind on the G.F. & F.F. - Living Room, Kitchen, Dining, Study room, Master bedroom with attached toilet, Common toilet & a terrace.
 - iii) A staircase of min 0.9m width.
 - iv) A space for car parking.
 - v) Suitable size of Verandah and circulation spaces
- * A deviation of $\pm 20\%$ in B.U.A. is allowable.

Draw to a suitable scale:

- a) Key plan (G.F & F.F) of the entire row houses (all four row houses). [10]
- b) Detailed G.F & F.F Plan (of any one row house) with furniture layout for any one room. [25]
- c) Sectional Elevation showing staircase and bath. [15]

SECTION - II

- Q2) a) What are the different stages / certificates of obtaining clearance while constructing a new residence ? Write short notes on each stage. [9]

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- b) What are the Site Selection criteria's you will consider for Multiple Apartment scheme for Police Officers. [8]
- Q3) a) Name the various types of pipes used in a house drainage system, the different materials used in manufacturing, and their standard diameters. [9]
- b) What is Thermal Insulation ? Explain Conduction, Convection & Radiation. What are the advantages of thermal insulation [8]
- Q4) a) Explain the difference between plastering and pointing. Write in brief different types of pointing with neat sketches. [8]
- b) What are the constituents of a Paint ? Explain any three constituents in brief. [9]
- Q5) a) What are the conditions for good acoustics ? Explain importance of reverberation and sound absorption in designing for good acoustics. [9]
- b) Define Maintenance, Repairs and Rehabilitation of structures ? Explain the importance & need of each. [8]
- Q6) Write short notes on: (any three) [18]
- a) Orientation
- b) Various types of traps
- c) Electrification: Concealed & Open Wiring
- d) Systems of Mechanical Ventilation
