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 Warananagar, Dist. Kolhapur

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S.E. (Civil) (Semester - IV) Examination, November - 2014

**BUILDING DESIGN**

Sub. Code : 43589

Day and Date : Saturday, 29 - 11 - 2014

Total Marks : 100

Time : 9.00 a.m. to 1.00 p.m.

- Instructions :
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Assume suitable data if necessary and mention it.

**SECTION - I**

Q1) a) List the various factors which deserve due consideration in selection of a site for a residential building. [5]

b) Illustrate the concept of Floor Space Index (FSI). [5]

OR

b) A G + 1 storied building is to be constructed on a rectangular plot of size 25m × 36m. The front and rear margins to be provided are 3m and side margins of 2.5m width. If the permissible FSI is 1.33, determine the area on each storey to consume full FSI. [5]

Q2) A residential bungalow (G + 1) is to be planned for a professional Architect with the following requirements :

- a) Living - 15 to 20 m<sup>2</sup>
- b) Office with independent entrance - 30 m<sup>2</sup>
- c) Kitchen - 10 to 12 m<sup>2</sup>
- d) Dining - 10 to 12 m<sup>2</sup>

P.T.O.

- e) Children Bed - 12 m<sup>2</sup>
- f) Guest Bed - 12 m<sup>2</sup> + Attached Toilet
- g) Master Bed - 15 m<sup>2</sup> + Attached Toilet
- h) Porch
- i) Sanitary block
- j) Size of the plot is 18m × 20m. A 9m side road is parallel to the shorter side of the plot on North side.

Draw to a suitable scale the following :

- i) Building Plans (Ground & First Floor) [25]
  - ii) Site Plan with Area Statement [5]
- Q3) a) Define the terms Maintenance, Repairs and Rehabilitation. [6]**

OR

Explain the importance of maintenance and repairs of a residential building.

- b) List various low cost building materials used in low cost Housing. [4]

### SECTION - II

- Q4) a) Explain various types of pipe system with neat sketch. [10]**
- b) Specify the material used for different types of pipes used in plumbing & their sizes. [6]
    - i) Soil pipe
    - ii) Waste water pipe
    - iii) Vent pipe
    - iv) Anti siphonage pipe
    - v) Water supply pipe
    - vi) Rain water pipe

- Q5) a) What is purpose of air conditioning? Explain components of air conditioning. [10]
- b) Mention general considerations of fire protection in building as per National building code of India. [6]

Q6) Write short notes on any three : [18]

- a) Rain water Harvesting
- b) Function of septic Tank
- c) Stack effect & wind effect
- d) Characteristics of a good paint
- e) Methods of Electrification / wiring system

