[6002]-101

S.E. (Civil)
BUILDING TECHNOLOGY AND ARCHITECTURAL PLANNING
(2019 Pattern) (Semester-III) (201001)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) *Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
2) *Figures to the right indicate full marks.*
3) *Draw neat figures wherever necessary.*
4) *Assume necessary data.*
5) *Use of scientific calculator is allowed.*

Q1) a) Draw a neat labeled sketch of semicircular-arch and explain. **[8]**

    i) Key stone

    ii) Crown

    iii) Springing line

    iv) Voussior.

  b) Explain Battened & Ledged Doors with sketch. **[5]**

  c) Write a short note on protective coatings, its necessity and types. **[5]**

OR

Q2) a) Draw the sketch of Window. **[8]**

    i) Bay window

    ii) Clerestorey Window

    iii) Pivoted window

    iv) Lantern window

  b) Enlist any four types of floor finishes and explain mosaic flooring. **[5]**

  c) Explain the procedure of Fixing door and window in detail? **[5]**

Q3) a) Write a short note on rating system for green building. **[4]**

  b) Draw the sketch of stair. **[8]**

    i) Helical stair

    ii) Spiral stair

    iii) Half turn geometrical stair

    iv) Three-Quarter-Turn stair.

  c) What are the fundamental requirements of residential building? **[5]**

OR

P.T.O.

Q4) a) What are the salient features of Green building? **[5]**

b) Plan a residential building having G+1 framed structure with the following requirements. Calculate the total built up area and give schedule of doors and windows. The external wall thickness is 230 mm and internal wall thickness is 150mm. **[12]**

(Refer Table). Indicate N-Line

Sr. No.	Type of Unit	No. of Units	Internal area of unit in sq m
1	Living room	1	20
2	Bedroom	2	14 each
3	Master bedroom with attached toilet	1	18
4	Kitchen	1	12
5	WC	1	1.2
6	Bath	1	2.8
7	Staircase	1	Use suitable Dimensions

Q5) a) It is proposed to construct a single-storied shopping complex with the following data: **[12]**

i) Entrance : 60 m²

ii) Big shops : 8 nos., 30 m² each.

iii) Small shops : 12 nos., 20 m² each

iv) Telephone booths : 4 nos. of suitable size.

v) Separate sanitary blocks for ladies and gents

vi) Staircase for future expansion.

vii) All passages 2.5 m wide.

viii) RCC framed structure.

ix) Assume additional data if necessary. Draw to a scale of 1 : 50 or suitable, line plan with north line.

b) Draw a line plan to a suitable scale for single story bank building. Built up area is limited to 200 m². **[6]**

OR

Q6) a) It is proposed to construct a bungalow for a Dean of Medical college the following are the requirements for accommodation: **[12]**

    i) A drawing hall-20 m²

    ii) Living room-30m²

    iii) Kitchen cum dining room-20 m²

    iv) Guest bedroom-20 m²

    v) Children's room-20 m²

    vi) Master bedroom-20 m² provide adequate verandahs, passages, sanitary units, staircase etc. The structure may be planned as G+1 RCC framed structure. Draw detailed ground floor plan.

   b) What are the salient features of vegetable market building? **[6]**

Q7) a) Write a short note on Maharashtra Regional and town planning (MRTP)Act. **[6]**

   b) Write a short note on. **[6]**

    i) Fire load

    ii) Earthquake resistance structure.

   c) Compare fire resisting properties of concrete and stone. **[5]**

OR

Q8) a) What is TDR in construction? How does it work? **[6]**

   b) What is reverberation time and how is it calculated? **[6]**

   c) Write a short note on 7/12 abstract, it's important and meaning of every term on it? **[5]**

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