

Total No. of Questions : 8]

SEAT No. :

PB3601

[6261]-6

[Total No. of Pages : 3

S.E. (Civil Engineering)

**BUILDING TECHNOLOGY AND ARCHITECTURAL PLANNING
(2019 Pattern) (Semester - III) (201001)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 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 show: **[6]**
- i) Key stone
 - ii) Crown
 - iii) Springing line
- b) State the types of flat terraced roofing and explain any one of them. **[6]**
- c) Explain swing door with the help of a sketch. **[6]**

OR

- Q2) a)** Enlist various types of fixtures for doors and explain anyone with a neat sketch. **[6]**
- b) Enlist any four types of floor finishes and explain mosaic flooring. **[6]**
- c) Explain in brief, the following: **[6]**
- i) Timber Linter
 - ii) Stone lintel

- Q3) a)** Enlist various types of residential buildings and explain any one in detail. **[5]**
- b) Draw to a suitable scale developed plan of a single storey framed residential building with the following units-Living room- 3.5 × 5.2, bedroom- 3.0 × 3.0, Kitchen-3.2 × 3.0, W.C - 1.0×1.2, Bath - 1.2 × 2.1, Staircase: Rise = 0.16m & Tread = 0.27m, Width of each flight = 1.2m, Wall thickness 0.23 m (outer) & 0.15m (inner), Floor height 3.2m. Room sizes are in 'm'. **[12]**

OR

P.T.O.

- Q4)** a) Mention Functional requirements and dimensions of Twin bungalows. [6]
b) What do you understand by Leadership in Energy and Environmental Design (LEED)? [6]
c) Give the classification of residential building explain any two types in brief. [5]

- Q5)** a) Plan and draw to a scale of 1:50 or suitable, a primary school building with the following requirements: [12]

- i) Five classrooms - 50m²
- ii) Principals office - 26m²
- iii) Staff room - 30m²
- iv) Store room - 35m²
- v) Two toilet units separately for boys and girls - 15m² each
- vi) A hall - 200 m²

Passages and verandahs can be provided suitably. Provide a staircase by following the requirements.

- b) What are the salient features of engineering student's hostel building? [6]

OR

- Q6)** a) Draw a line plan of a Post Office using the following data: [12]

- i) Entrance and moving space - 30m²
- ii) Public dealing counters - Height 1.6m - 1.8m, width 0.7m - 0.95m
- iii) Post master's room - 15m²
- iv) Working area for other staff - 30m²
- v) Post-separation room - 30m²
- vi) Safe custody area for cash - 10m²
- vii) Cash transaction room - 12m²
- viii) Water room and toilet (separate for male and female) - 7.5m²

- b) What are the salient features of vegetable market building. [6]

- Q7)** a) What is TDR in construction? How does it work? Write a short note on land use zoning and mention the requirements of each. [6]
- b) What is fire escape and explain fire escape elements? [6]
- c) Elaborate need for earthquake resistant structures in relation with-loss of human life; property and infrastructure. [5]

OR

- Q8)** a) What is reverberation time and how is it calculated? [6]
- b) Explain in detail Concept of TDR, List of documents to be submitted to local authority? [6]
- c) What is fire escape and explain any one fire escape elements? [5]

