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SEAT No. :

PA-1

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S.E. (Civil Engineering)

**201001 : BUILDING TECHNOLOGY AND ARCHITECTURAL  
PLANNING**

(2019 Pattern) (Semester - I)

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates :*

- 1) *Attempt Q1 or Q2 and Q3 or Q4.*
- 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)** Write short note on : Need of Construction Automation and its Benefits. [5]

b) Differentiate between : [5]

- i) English bond vs Flemish bond
- ii) Stone masonry vs brick masonry

c) Explain casting procedure for reinforced concrete columns. [5]

OR

**Q2) a)** Write short note on : Slip form work [5]

b) Differentiate between: [5]

- i) Formwork vs scaffolding
- ii) Underpinning vs formwork

c) List out types of building as per National Building. [5]

**Q3) a)** Illustrate shortly following Architectural principals. [5]

- i) Unity
- ii) Accentuation
- iii) Mass composition

**P.T.O.**

- b) Distinguish between : [5]
- i) Aspect vs Prospect
  - ii) Grouping vs Circulation
- c) On a plot size  $45\text{m} \times 55\text{m}$ , the shorter side is facing the main road. The side margins are as follows : Front margin - 5.5m, rear and side margins are all 2m; Earlier FSI allowed was 1.5. However, only ground storied construction after leaving the margins was built by the owner. Now, as per the new norms, FSI allowed is increased to 2.5. If 2 more storeys are proposed by the owner. Determine the additional area to be built on each floor. [5]

OR

- Q4) a) Illustrate shortly following Architectural principals. [5]
- i) Proportion
  - ii) Contrast
  - iii) Rhythm
- b) Distinguish between : [5]
- i) Building Planning principals and Building bye laws
  - ii) Built up area vs carpet area
- c) A plot owner proposed G + 1 construction with  $240\text{ m}^2$  construction on each floor, on a plot of size is  $20\text{m} \times 30\text{m}$ . If all margins are 2m and F.S.I. allowed - 1. Find : i) Ground coverage ii) FSI Consumed iii) Whether plan will be sanctioned or not. iv) If not, by how much amount the proposed area will be required to be minimize by the owner, so that the proposal will be sanctioned by the authorities. [5]

