

Total No. of Questions : 4]

SEAT No. :

P267

[Total No. of Pages : 2

[5257]-4001

S.Y. B.Arch. (Semester - IV)

**BUILDING TECHNOLOGY AND MATERIALS - IV**  
**(2015 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Answer to Section - I to be drawn on drawing Sheet only.*
- 3) *Answer to Section - II to be written on answer sheet only*
- 4) *Draw neat labelled sketches wherever necessary.*
- 5) *Assume suitable data wherever necessary.*
- 6) *Figures on right of each question indicate full marks.*

**SECTION - I**

**Q1)** The R.C.C. slab is to be constructed for the clear span of  $3 \times 4$  m, supported on the RCC beams of size  $230 \times 450$  on all four sides . Draw following details to the scale of 1:20

- a) Draw sectional elevation and sectional plan showing all necessary RCC elements. **[10]**
- b) Show the details of reinforcement. **[10]**

OR

An simple, doglegged RCC stair to be constructed for the clear height of 3.00m in a residential building. Draw the following details to the scale of 1:20.(Assume the necessary data)

- a) Draw plan & sectional elevation & through the stair case, showing section through mid landing along with the supporting beams detail. **[10]**
- b) Label all the elements in section ,along with the reinforcement details.[10]

*P.T.O.*

**Q2)** Answer the following with neat sketches (Any three) : **[15]**

- a) Draw the RCC beams and column junction, for continuous beams along both sides of column.
- b) What are Elevators & Escalators? Draw & label the important parts of it.
- c) What is a Bay window? Discuss it with the sketch.
- d) What is tanking to the basement? Discuss with the sketch.

### **SECTION - II**

**Q3)** Answer any two with the help of sketches. **[20]**

- a) What is Light weight concrete? Explain its applications.
- b) What is precast construction? How are the different elements are connected?
- c) What is ferrocement and its applications in building industry?
- d) How is basement water proofing done? Discuss any two methods with sketches.

**Q4)** Write short notes on any three of the following : **[15]**

- a) What are the different materials used for construction of metal windows? Discuss its advantages & disadvantages.
- b) What is a balcony? Discuss a bracket beam.
- c) What is Light weight concrete? Explain its applications.
- d) What are admixtures? Name those used in R M C.
- e) Explain the Battery of lifts & planning norms governing it.

