

Total No. of Questions : 4]

SEAT No. :

P3329

[Total No. of Pages : 2

[5257]-1001

F.Y. B.Arch. (Semester - I)

**BUILDING TECHNOLOGY AND MATERIALS - I**

**(Revised 2015 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data if necessary.*
- 5) *Answer all questions from Section-I on Drawing Sheets, and from Section-II in Answer Book only.*

**SECTION - I**

**Q1)** Draw any one of the following : **[20]**

Draw T-junction for 1½ (one and half) brick thick English bond to a scale of 1:10.

- a) plans of alternate courses
- b) elevation of six courses
- c) isometric view of four courses

Label bats and closures used in both courses.

OR

Draw L-junction for one brick thick Double Flemish bond to a scale of 1:10.

- a) plans of alternate courses
- b) elevation of six courses
- c) isometric view of four courses

Label bats and closures used in both courses

**P.T.O.**

**Q2)** Write short note with sketch (any three) : **[15]**

- a) Explain random rubble masonry with sketches.
- b) Draw sketch of any 5 masonry tools and explain their uses.
- c) Draw any 03 types of coping in stone for parapet wall.
- d) Sketch and Explain any 05 types of special bricks.
- e) Draw a sketch of 450mm thick UCR wall in black cotton soil.
- f) Draw cross section of steps formation for plinth height 600.

### **SECTION - II**

**Q3)** Explain with sketch (any two) : **[20]**

- a) What is natural bed of stone? Write a note on geological classification of rocks.
- b) What is bulb of pressure? Explain its significance in building construction/ site investigation.
- c) Draw a neat sketch of segmental arch showing its components.
- d) Explain with sketches Load Transfer in a Load Bearing structure.

**Q4)** Explain any three : **[15]**

- a) What are causes of failure of foundation?
- b) What are advantages and limitations of Compressed Stabilized Earth Block.
- c) What is pointing? Write short note on any two types of pointing?
- d) Advantages and disadvantages of cement mortar.
- e) What is mortar? Explain function and qualities of good mortar.



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