Total No. of Questions : 4]

SEAT No. :

P1329

[Total No. of Pages : 2

[5157] -1001
First Year B. Arch. (Semester - I)
BUILDING TECHNOLOGY AND MATERIALS -I
(2015 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) *Answers to the two sections should be written in separate books.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data, if necessary.*
5) *All questions are compulsory.*

SECTION -I

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

a) Draw to a scale of 1:10, 315 mm thick Rat trap bond masonary showing.

i) Plans of alternate courses.

ii) Elevation upto six courses.

OR

b) Draw to a scale of 1:10, 450 mm thick square rubble masonary for a length upto 2000mm and upto a height of 1500mm showing suitable coping showing.

i) Plan of one course.

ii) Elevation.

iii) Section assuming foundation depth of 600mm from ground level.

Q2) Answer any three out of five: **[15]**

a) Show with sketch a typical standard size brick with its dimensions and annotation.

b) Describe limitations/restriction of openings in a load bearing structure.

c) Name and sketch any three structural element of a building.

d) Explain with sketch. Concept of load transfer in an arch.

e) Draw sketches of alternate courses of one brick thick wall (230mm thick) in Flemish bond.

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SECTION -II

Q3) Answer any two out of three: **[20]**

a) Explain with sketches the construction of entrance steps for a plinth height of 750mm.

b) Explain with sketches showing alternate courses in 'T' junction of $1\frac{1}{2}$ Brick thick walls (350mm thick) in English bond.

c) Explain with sketches difference between English and Flemish bond and their advantages/disadvantages over other.

Q4) Answer any three out of five: **[15]**

a) Classification of rocks.
b) Stabilized mud block.
c) Explain importance of sand in cement mortar.
d) Explain difference between Handmade bricks and Machine made bricks.
e) Explain the concept of 'S' and 'P' waves in earthquakes.

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