

Seat No. : _____

NN-114

December-2015

B. Arch., Sem.-I

AR-102 : Construction

Time : 3 Hours]

[Max. Marks : 100

- Instructions :**
- (1) Figures to the right indicate full marks.
 - (2) Assume suitable data, scale if necessary.
 - (3) Neat proportionate sketches are necessary to explain theories.
 - (4) All questions are compulsory.

1. (a) Draft plan and elevation of a brick masonry wall showing difference between English V/s Flemish Bond. (230 mm thick wall, Scale 1 : 10) **20**
- (b) Draw plan and elevation of wall showing coursed Rubble stone masonry. (Scale 1 : 10)

2. (a) Draft isometric of various types of bricks those are used in masonry construction. **20**

OR

Explain through sketches the construction process of spider web.

- (b) Explain through sketches the difference between load bearing and frame structure. Give examples to support.

OR

Explain through sketches any two types of Mud (Earth) construction techniques.

3. Attempt with proportionate neat sketches : (any **five**) **30**
 - (a) Explain in detail the process of constructing a brick masonry wall.
 - (b) 'Enclosure in Architecture' – Explain with sketches.
 - (c) With the help of neat sketches describe Bee hive.
 - (d) Explain any two types of nests in detail.
 - (e) Explain difference between frame structure V/s load bearing structure.
 - (f) Enlist and describe structural elements of building.
 - (g) Explain difference between 'Cave' and 'Stone Construction'.

4. Attempt with proportionate neat sketches : (any **five**) **15**
- (a) Describe any three flooring material supported with appropriate examples.
 - (b) Explain the use of Bamboo as construction material.
 - (c) Describe the criteria for selection of any construction material.
 - (d) Explain the basics of stone masonry construction.
 - (e) Evaluate Mud as construction material.
 - (f) Explain the differences between brick bats and brick closers.
 - (g) What is 'Through Stone' ?
5. State true or false : (any **eight**) **8**
- (a) Beam is a vertical component of building.
 - (b) Steel is naturally available material.
 - (c) Foundation is super structure.
 - (d) Plinth is first usable floor of building.
 - (e) Wall of 110 mm thickness can be constructed in stretcher bond.
 - (f) Granite is igneous category of stone.
 - (g) Plywood is engineered wood.
 - (h) Cave are manmade.
 - (i) Roof is upper most part of a building.
 - (j) Line-out, is a process carried out prior to commencement of construction.
6. Fill in the blanks : **7**
- (a) _____ and _____ are natural material for wall construction.
 - (b) _____ is visible part of building above ground.
 - (c) Brick sliced along width is termed as _____.
 - (d) _____ are provided in rubble masonry wall for strengthening.
 - (e) Tothing and _____ is provided during construction of brick masonry wall to ensure good bonding.
 - (f) _____ is horizontal and _____ is vertical mortar joint in brick masonry construction.
 - (g) _____ and _____ are faces of brick when kept in upright position.
- _____