

AU - 2483

First Semester B. Arch. (CGS) Examination

BUILDING MATERIALS AND CONSTRUCTION

Paper – 01 AR 01

(USC – 10001)

P. Pages : 3

Time : Four Hours]

[Max. Marks : 80

- Note :** (1) All questions carry marks as indicated.
(2) Answer **Four** questions.
(3) Due credit will be given to neatness and adequate dimensions.
(4) Assume suitable data wherever necessary.
(5) Illustrate your answer wherever necessary with the help of neat sketches.
(6) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (a) What do you know about the term "Foundation" ? What are its objects ? State the importance of bearing capacity of soil while laying foundations on different types of soil. 7
- (b) Draw neat sketch of simple foundation used for a load bearing brick wall and explain how it is distributing load on larger area. 7
- (c) Define the terms :—
 - (i) Plinth
 - (ii) Throating and weathering
 - (iii) Corbel. 6

OR

2. (a) Define the term "Bearing power" of soil and explain the various methods used for increasing the bearing power of soil in loose soil. 8
- (b) Compare Brick masonry with stone masonry and state their advantages and disadvantages. 6
- (c) Explain with neat sketches :—
 - (i) Cramped joint and Table joint in stone masonry

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(ii) Parapet

(iii) Cornice.

6

3. (a) Describe the process of burning of bricks in Clamp. 6
- (b) State the important qualities of good bricks. 6
- (c) Draw to a suitable scale Plan, Elevation and Section of alternate courses of one brick thick wall in English bond. 8

OR

4. (a) Describe with neat sketches the header bond and stretcher bond used in brick masonry. 7
 - (b) Compare ground moulding of brick with table moulding. 6
 - (c) What is meant by "Rat - trap" bond ? Under which circumstances it is adopted? State its advantages and disadvantages. 7
5. (a) Explain with neat sketches :—
 - (i) Queen closure
 - (ii) Mitred closure
 - (iii) D.P. C. 6
 - (b) Describe with neat sketches the various methods adopted for preservation of stone. 7
 - (c) What do you know about Rubble masonry and Ashlar masonry ? How they are further classified ? 7

OR

6. (a) State the harmful ingredients in brick earth and state their effects. 6
- (b) Describe with neat sketches the different types of dressing of stone surfaces. 7
- (c) Draw simple type of foundation for stone masonry pier and show how they are distributing load on foundation soil. 7

7. Describe with neat sketches any **Four** of the following :—

- (i) Clay products
- (ii) Plinth filling material.
- (iii) Process of quarrying of stone
- iv) Types of brick bats.
- (v) Decorative brick and jali work
- (vi) Standard brick with frog and dimension
- (vii) Flemish bond in brick masonry.

20

OR

- 8. (a) Describe with neat sketches "Mud as a building material". 7
- (b) Explain with neat sketches the various types of materials used for Lintels. 6
- (c) Explain with neat sketches the Brick and Stone arche's. 7

