

10001 / 01AR01: Building Materials and Construction - I

P. Pages : 2

Time : Four Hours

**AR - 1833**

Max. Marks : 80

- Notes :
1. All question carry marks as indicated.
 2. Answer **four** question.
 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 of pen Blue/Black ink/refill only for writing the answer book.

1. a) Define the term: 6
 - i) Foundation.
 - ii) Corbel.
 - iii) Coping.
- b) What is meant by the term "Bearing capacity" of soil why it is to be studied before construction of foundation and suggest any three methods used for increasing the bearing power of soil.? 8
- c) Draw sectional elevation of a building showing different elements from foundation to roof? 6

OR

2. a) Describe with neat sketches:- 9
 - i) Plinth and plinth filling materials.
 - ii) King closer and Queen closer.
 - iii) Through stone.
- b) Draw neat sketch of stepped footing foundation for stone masonry wall and masonry pier? 6
- c) What do you know about the term "D.P.C". Why it is to be provided. Explain with sketch? 5
3. a) Describe with the help of neat sketches Header bond and stretcher bond used in brick masonry? 6
- b) Draw to a suitable scale plan and elevation of a alternate courses of one brick thick wall in English bond? 9
- b) State the harmful ingredient in brick earth and state their effects? 5

OR

4. a) Describe with the help of neat sketches the rubble masonry and their types? 8
- b) Describe with neat sketches the various methods adopted for Dressing of stone? 6

- c) Draw neat sketches of the following. 6
 i) Half bat and Bevelled Bat.
 ii) Throating and weathering.
 iii) Table joint and Rebeated joint.
5. a) State the Qualities of good bricks? 5
 b) Why preservation of stone is to be carried out and suggest the methods of preservation of stone? 8
 c) Compare brick work with stone work? 7

OR

6. a) Describe with neat sketches: 8
 i) Rat-trap bond.
 ii) Single Flemish bond.
- b) Describe with neat sketch the stone relieving Arch state it's advantages? 5
 c) Draw neat sketch of a segmental stone Arch and define it's component parts? 7
7. a) Describe with neat sketches mud as a building materials? 5
 b) State the points to be consider while supervising the stone work. 6
 c) Explain with neat sketches"
 i) Quarrying of stone. 9
 ii) Bull -nose and Cow-nose brick.
 iii) Clay products.

OR

8. a) State the physical properties and uses of stone? 5
 b) Describe with neat sketches the decorative brick work and brick Jali work? 6
 c) Describe with neat sketches: 9
 i) Brick Arches.
 ii) R.C.C Lintel.
 iii) Table molding of bricks.
