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[5559]-101

S.E. (Civil) (First Semester) EXAMINATION, 2019
BUILDING TECHNOLOGY AND MATERIALS
(2015 PATTERN)

Time : Two Hours

Maximum Marks : 50

Instructions to the candidates:

- 1) Neat diagrams must be drawn wherever necessary.
- 2) Figures to the right side indicate full marks.
- 3) Use of electronic pocket calculator is allowed
- 4) Assume Suitable data if necessary
- 5) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8

- Q 1) a) What precautions need to be taken for foundations near existing adjacent old structures? [6]
- b) Write the circumstances under which the following provisions are made [3+3]
- i) Composite masonry
 - ii) Reinforced Brick Masonry

OR

- Q 2) a) What are the specifications of bricks as per IS? [6]
- b) Make a list of checks that should be carried out on formwork : [3X2=6]
- (i) Before concreting
 - (ii) During concreting
 - (iii) After concreting.

P.T.O.

- Q 3) a) State any three flooring materials. State the advantages and limitations of each [3+2+2]
b) Draw a detailed sketch of door and show the following terms : [6]
(i) Horn, (ii) Hold fast, (iii) Meeting style, (iv) Lock rail, (v) Mullion, (vi) Panel

OR

- Q.4) a) Draw a labelled sketch of semi-circular arch and indicate the following: [7]
(i) Springing line, (ii) Key stone, (iii) Voussoir, (iv) Rise, (v) Extrados
(vi) Spandril (vii) Intrados.
b) Draw neat sketch and state the circumstances under which each of the following [6]
is adopted :
(i) Dome (ii) Shell roof

- Q.5) a) State the requirements of good stair with respect to: (i) Pitch (ii) Head room (iii) [2 x 3]
Rise and Tread
b) Differentiate between the following : [3+3]
(i) Plastering and painting, (ii) Distempers and paints.

OR

- Q.6) a) Discuss with sketches any two types of staircases generally used, indicating their [3+3]
suitability for specific use.
b) Enlist various types of plasters and mention the requirements of a good plaster. [3+3]
- Q.7) a) What are the outstanding qualities of glass as a building material? Discuss [3+2+2]
various varieties of glass and their use in building industry.
b) Explain what do you understand by: [3+3]
i) fire proof construction ii) Safety on construction site

OR

- Q.8) a) State seven important precautions to avoid accidents due to storage or handling of materials on construction site. [7]
- b) Explain what do you understand by: [3+3]
- (i) wall claddings (ii) Eco-friendly materials, and also mention the materials used for both