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**Third Semester B.E. Degree Examination, Feb./Mar. 2022**  
**Building Materials and Construction**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

**Module-1**

- 1 a. List out and explain briefly the various application of stones as a building materials. (08 Marks)
- b. Write a note on following terms with respect to coarse aggregate : (08 Marks)
- i) Grading ii) Elongation Index iii) Flakiness Index iv) Crushing Strength.
- c. Mention few qualities of a Good Brick. (04 Marks)

**OR**

- 2 a. Write the classification of bricks with respect to different criteria and explain briefly. (10 Marks)
- b. Briefly explain about the different types of Mortars and highlight their salient features. (10 Marks)

**Module-2**

- 3 a. With the help of a neat sketches, explain classification of pile foundation and the situations in which pile foundations are preferred. (10 Marks)
- b. Explain with sketches, various types of Joints in Stone Masonry. (10 Marks)

**OR**

- 4 a. Define Shallow and Deep Foundation. Explain with neat sketches. (10 Marks)
- b. Make a Comparison between English bond and Flemish bond, with neat sketches. (10 Marks)

**Module-3**

- 5 a. Draw a neat sketch of an Arch and label various technical terms and explain. (10 Marks)
- b. Sketch a King post roof truss with timber, provided with tile roofing. Name various components of the truss. (06 Marks)
- c. Neatly sketch any 4 different types of Arches. (04 Marks)

**OR**

- 6 a. Sketch an RCC lintel for window in bricks masonry. Show arrangements of steel bars in it. (06 Marks)
- b. Explain the functions of Chejja , Canopy and Balcony. (06 Marks)
- c. Explain briefly with sketches : (08 Marks)
- i) Pitched roofs ii) Flat roofs.

**Module-4**

- 7 a. Mention the classification of Doors and Windows. (06 Marks)
- b. Draw a neat labeled sketch of a Half paneled and Half glazed door. (04 Marks)
- c. Stair hall of a public building is 6m long and 1.5m wide in plan. Vertical distance from flooring of ground floor to top level of flooring of first floor is 4.5m. Design a staircase with three flights. Sketch the staircase plan and show details. (10 Marks)

OR

- 8 a. Write a short note on Collapsible steel door and Bay window. (08 Marks)  
b. Explain the following with neat sketches :  
i) Brick layers scaffolding.  
ii) Masons Scaffolding.  
iii) Cantilever or Needle scaffolding. (12 Marks)

**Module-5**

- 9 a. Describe the procedure for application of paint on wooden surface and on newly cement plastered surface. (10 Marks)  
b. Discuss the cause and effect of dampness in a building. (10 Marks)

OR

- 10 a. Discuss and explain defect in Plastering. (10 Marks)  
b. Describe the types of Paints available in market and their Specific usage. (10 Marks)

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