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U218-116 (ESE)

DECEMBER 2018/ENDSEM

S. Y. B. TECH. (CIVIL ENGINEERING) (SEMESTER - I)

COURSE NAME: BUILDING MATERIALS AND CONSTRUCTION

COURSE CODE: CVUA21176

(PATTERN 2017)

Time: [2 Hours]

[Max. Marks: 50]

(*) Instructions to candidates:

- 1) Answer Q.1, Q.2, Q.3, Q.4, Q.5 OR Q.6, Q.7 OR Q.8
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

Q.1) a) Discuss the causes of failure of foundations [6 marks]

OR

b) Explain the following terms in masonry [6 marks]

- | | | |
|---------------------|-------------------|------------------|
| 1. Bevelled closure | 2. Bat | 3. King closure |
| 4. Queen closure | 5. Mitred Closure | 6. Through stone |

Q.2) a) Discuss the requirements of a good formwork [6 marks]

OR

b) State the characteristics of hollow blocks, solid blocks and cellular light weight concrete blocks. [6 marks]

Q.3) a) State relative merits and demerits of concrete floor [6 marks]

OR

b) Define the following terms in relation to pitched roof

- | | | |
|--------------------|----------------|-------------|
| a. Pitch of a roof | b. Ridge | c. Boarding |
| d. Post plate | e. Hip Rafters | f. Eaves |
- [6 marks]

Q.4) a) Define the following terms in relation to doors and windows

- | | | | |
|----------|---------|-----------|------------|
| a. Stile | b. Jamb | C. Rebate | d. Mullion |
|----------|---------|-----------|------------|

OR

b) Differentiate between

- | | |
|---|-----------|
| a. Swinging doors and rolling doors | [4 marks] |
| b. Pivoted window and Projected windows | [4 marks] |

- Q. 5) a) Describe briefly the meaning of the following terms: Paints and Varnishes and also explain their merits and demerits [6 marks]
b) What are fire resisting materials used in construction? [4 marks]
c) State the requirements of a good stair with reference to: Headroom, No. of steps in flight, Rise and tread, Width of stair [4 marks]

OR

- Q.6) a) Describe method of painting in detail. Explain defects in painting [6 marks]
b) State four types of stair cases with suitability of each. [4 marks]
c) Write a note on "Modern materials in plaster" [4 marks]
- Q.7) a) Enlist and explain the different types of pipes used on site. [6 marks]
b) Write a note on Structural 3-D Printing [4 marks]
c) What are the properties and uses of gypsum? [4 marks]

OR

- Q.8) a) "Eco friendly construction is the need of the day" Explain [6 marks]
b) Explain polymers and their use in construction. [4 marks]
c) Explain addition and alteration [4 marks]
