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G.R. No.

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**Ans: Discuss any 6 failures- 1 mark each**

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 |

Ans: Explain- 1 mark each

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

Ans: Discuss any 6 requirements- 1 mark each**OR**

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

Ans: Characteristics of each type. 2 marks each.

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

Ans: Merits- 3 marks. Demerits- 3 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 |

Ans: Definition of each- 1 mark each

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

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

Ans: Definition each- 1 mark each

OR

b) Differentiate between

- a. Swinging doors and rolling doors
- b. Pivoted window and Projected windows

[4 marks]

Ans: 2 marks for each Differentiation

Q. 5) a) Describe briefly the meaning of the following terms: Paints and Varnishes and also explain their merits and demerits

[6 marks]

Ans: Describe 1 mark, Merit - 1 mark, Demerit -1 mark

b) What are fire resisting materials used in construction?

[4 marks]

Ans: Discuss any 2 fire resisting materials- 2 marks each

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]

Ans: Requirement of each-1 mark each

OR

Q.6) a) Describe method of painting in detail. Explain defects in painting

[6 marks]

Ans: Method of painting- 3 marks. Defects- 3 marks

b) State four types of stair cases with suitability of each.

[4 marks]

Ans: Enlist -2 marks. Suitability of each -2 marks

c) Write a note on "Modern materials in plaster"

[4 marks]

Ans: Note -4 marks

Q.7) a) Enlist and explain the different types pipes used on site.

[6 marks]

Ans: Enlist- 2 marks. Explain- 4 marks

b) Write a note on Structural 3-D Printing

[4 marks]

Ans: Note- Concept, use- 2 marks each

c) What are the properties and uses of gypsum?

[4 marks]

Ans: Properties - 2 marks. Uses- 2 marks

OR

Q.8) a) "Eco friendly construction is the need of the day" Explain

[6 marks]

Ans: Explain the concept- 6 marks

b) Explain polymers and their use in construction.

[4 marks]

Ans: Explain concept- 2 marks. Uses- 2 marks

c) Explain addition and alteration

[4 marks]

Ans: Explain addition- 2 marks. Alteration - 2 marks