

Ref. No.: Ex/Arch/T/111/2024(S)

B.Arch. Examination, 2024
Supplementary Exam (1st Year, 1st Semester)
Materials & Methods of Construction-I

Time: 3 hrs

Maximum Marks: 100

Note: Questions 1 is Compulsory.

Answer any 5 from remaining questions

Q1. A (Fill in the Blanks)

10 marks

1. The best veneer is obtained from _____ tree.
2. The type of brick used to remove vertical joints in brick masonry is _____.
3. The dimensions of Modular Size bricks is _____.
4. Whitish crystalline substances which appears on the surface due to presence of salts in plaster making materials and also in bricks is known as _____.
5. The Brick Bond with air gap inside is called _____ bond.
6. The parent rock of marble is _____.
7. The chief constituent of Silicious rock is _____.
8. _____ provides red colour to the bricks.
9. Gypsum is added to control the _____ of cement.
10. The ability of a material to withstand prolonged action of high temperature without melting or losing shape is known as _____.

B Write short notes on : Any 5 (2 marks each)

10 marks

- i. Function of Silica and Alumina in Brick earth preparation
- ii. Types of Lateral Loads.
- iii. Soundness Test of Cement
- iv. Tangential Sawing
- v. Natural Bed of Stone
- vi. Block Board and Lamin Board

C. Briefly explain 3 physical and 2 thermal properties of building materials and their importance in construction.

(5 marks)

Q2. Differentiate between:(Any 5-Make necessary sketches) (3 marks each) (15 marks)

- i. First Class Bricks & Fourth Class Bricks
- ii. Bulls Trench Kiln and Hoffmann's Kiln
- iii. Wet Rot and Dry Rot in Timber
- iv. Rapid Hardening cement and Low Heat Portland cement
- v. U-value and R-value of a material
- vi. Queen closer and king closer

Q3. Briefly explain the properties of granite, sandstone, Marble, slate & limestone and based on the properties explain their uses in construction.

(15 marks)

Q4. Explain the advantages of Portland Pozzolanic Cement or Portland Slag Cement over Ordinary Portland Cement.

(15 marks)

[Turn over

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Q5. Explain 5 types of cement based on the quantity and composition of Alite, Belite, Celite & Felite (or Bogue Compounds) used in construction (15 marks)

- 06. i. What is seasoning in timber?** (3 marks)
ii. Give Advantages of seasoning. (5 marks)
iii. Briefly explain the process of kiln seasoning. (7 marks)

Q7. Draw the Plans, Elevation and Isometric view of stopped end of One Brick Thick Wall in Rat Trap Bond. Take Size of the Brick as- 250mm x 125mm x 75mm, Scale:1:10 (15 marks)

OR

Draw the Plans, Elevation and Isometric view of T- Joint of One Brick Thick Wall in Flemish Bond. Take Size of the Brick as- 250mm x 125mm x 75mm, Scale:1:10 (15 marks)

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