

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course Code

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Third Semester B.E. Degree Examinations, January 2025

BUILDING MATERIALS AND CONSTRUCTION

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions choosing ONE full Question from each Module.

2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PI)</u>
<u>Module-1</u>			
1.	a. List all the causes for decay of stones and explain any eight.	10	(2 : 1 : 1.2.1)
	b. Explain all the qualities of good brick.	10	(2 : 1 : 1.2.1)
(OR)			
2.	a. List all the laboratory tests conducted on fine aggregate and explain sieve analysis and specific gravity tests on fine aggregate.	10	(2 : 1 : 1.2.1)
	b. Define fine aggregate and coarse aggregate. Discuss the importance of size, shape and texture of coarse aggregates.	10	(2 : 1 : 1.2.1)
<u>Module-2</u>			
3.	a. Explain isolated column footing and combined footing with neat sketches.	10	(2 : 2 : 1.2.1)
	b. List all the types of bonds. Explain the features of English bond with neat sketch.	08	(2 : 2 : 1.2.1)
	c. What is brick masonry and stone masonry?	02	(1 : 2 : 1.2.1)
(OR)			
4.	a. Differentiate between dry rubble masonry and coursed rubble masonry.	08	(2 : 2 : 1.2.1)
	b. List the types of walls. Explain any six advantages of cavity wall.	08	(2 : 2 : 1.2.1)
	c. Briefly explain Header bond with sketch.	04	(2 : 2 : 1.2.1)
<u>Module-3</u>			
5.	a. Explain the Queen post truss with neat labelled sketch.	08	(2 : 3 : 1.2.1)
	b. Describe stone lintel and timber lintel with neat sketches.	10	(2 : 3 : 1.2.1)
	c. Briefly explain any two elements of pitched roof.	02	(2 : 3 : 1.2.1)
(OR)			
6.	a. Explain the procedure for laying marble flooring.	08	(2 : 3 : 1.2.1)
	b. Define (i) Balcony and (ii) Chajja. Draw an arch and explain eight terminologies used.	12	(2 : 3 : 1.2.1)

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)

Module-4

7. a. Explain the following terms used in door: **10** (2 :4 : 1.2.1)
(i) Frame (ii) Shutter (iii) Style (iv) Head (v) Top rail (vi) Bottom rail
(vii) Lock rail (viii) Sash (ix) Rebate and (x) Cross rails.
- b. Briefly explain the features of collapsible steel door with neat sketch. **06** (2 :4 : 1.2.1)
- c. Give brief description of dog legged stair with sketch (plan view). **04** (2 :4 : 1.2.1)

(OR)

8. a. Discuss all the requirements of good stairs. **06** (2 :4 : 1.2.1)
- b. The inside dimensions of a staircase in a residential building are 2.00 m × 4.60 m. The height of floor is 3.30 m and the roof consists of RCC slab of 120 mm thickness. Design a proper layout of an RCC stair for this building. **10** (3 :4 : 1.2.1)
- c. Explain any four requirements of formwork. **04** (2 :4 : 1.2.1)

Module-5

9. a. Explain the procedure of painting for the following: **10** (2 :5 : 1.2.1)
(i) New wood work surface
(ii) New iron work
- b. Mention all the damp proofing methods and discuss any two of them in detail. **10** (2 :5 : 1.2.1)

(OR)

- 10 a. List all the defects occurred in plastering and describe any six. **08** (2 :5 : 1.2.1)
- b. Discuss the various defects caused by dampness to building. **08** (2 :5 : 1.2.1)
- c. Explain flush pointing with sketch. **04** (2 :5 : 1.2.1)

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