

(For Reference only)

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V Semester B.Arch. (CBCS 2015 Scheme) Examination
MATERIALS AND METHODS IN BUILDING CONSTRUCTION - V

*Time: 04 Hours**Maximum Marks: 100***Instructions for Candidates**

1. All questions carry equal marks
2. Answer total FIVE Full questions, taking ONE Full question from each Module
3. Assume suitable data/scale if required
4. Draw neat sketches wherever necessary

Q. No.	Module 1	Marks
1	A North Light Truss system with Lattice Girder is required for a building of size 19.5M x 39.5M. Draw the following: (i) Roof Plan – 1: 100 (ii) Sectional View showing North Light Truss – 1: 50 (iii) Glazing Detail – 1: 10 (iv) Gutter Detail – 1: 10	07 07 03 03
OR		
2	Provide following construction details of Tubular Truss for a building of size 16.0M x 24.0M: (i) Sectional Elevation of Tubular Truss – 1: 50 (ii) Metal Sheet Roof Fixing Detail – 1: 5 (iii) Gutter Detail – 1: 5 (iv) Ridge Cap Detail – 1: 5	08 04 04 04
Module 2		
3	A Pre-Engineered Building is proposed for an industrial building of 18.0M x 36.0M x 6.0M (height at Eave). Provide the following details: (i) Roof Plan – 1:100 (ii) Section showing Portal Frame – 1: 100 (iii) Section showing fixing of Roofing – 1: 10 (iv) Section showing fixing of Siding – 1: 10	07 07 03 03
OR		
4	Provide construction details including reinforcement for a Multi-Bay Barrel Vault Roof of 16.0M x 24.0M x 4.5M height: (i) Roof Plan – 1: 100 (ii) Section – 1: 50 (iii) Detail at Gutter – 1: 10 (iv) Detail at Diaphragm – 1: 10	06 06 04 04
Module 3		
5	Write short notes with explanatory sketches on construction of: (i) Geodesic Dome showing connector details and glazing details (ii) Hyperbolic Paraboloid Shell Roof with reinforcement details	10 10
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6	A building of size 20.0M x 30.0M x 6.0M height is to be roofed with RCC Folded Plate. Provide the following construction details: (i) Roof Plan – 1: 100 (ii) Section – 1: 100 (iii) Gutter Detail – 1: 10 (iv) Skylight Detail – 1: 10	07 07 03 03
Module 4		
7	Explain the construction of a Space Frame for an exhibition area of size 16.0M x 24.0M, with the following drawings: (i) Roof Plan – 1: 100 (ii) Partial Section – 1: 50 (iii) Connector Detail – 1: 5 (iv) Fixing Detail at Support – 1: 5	07 07 03 03
OR		
8	a) Explain the principle of Pneumatic Structures with sketches? Enumerate construction details? b) What are different types of Tensile Roofs? Enumerate construction details with sketches.	10 10
Module 5		
9	a) Explain the properties of Thermo Plastics? Enumerate any five types of Thermo Plastics? b) What are some unique properties of Gypsum? Enumerate any five types of Construction Admixtures?	10 10
OR		
10	a) What are Sealants? Explain its functions? Where are they used in the Building Industry? b) Enumerate in detail any five types of Water Proofing methods.	10 10