

UNIT I

Chapter 1 : Overview of Construction Materials

1-1 to 1-22

Syllabus :

Scope of construction materials in Building Construction, Transportation Engineering, Environmental Engineering, Irrigation Engineering (applications only).

Selection of materials for different civil engineering structures on the basis of strength, durability, Eco friendly and economy.

Broad classification of materials - Sources of materials, Natural, Artificial - special, finishing and recycled.

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UNIT II

Chapter 2 : Natural Construction Material 2-1 to 2-39

Syllabus :

Requirements of good building stone; general characteristics of stone; quarrying and dressing methods and tools for stone.

Structure of timber, general properties of good timber, seasoning, preservation and defects in timber and uses, use of bamboo in construction.

Asphalt, bitumen and tar used in construction, properties and their uses.
 Properties of lime, its types and uses.
 Types of soil and its suitability in construction.
 Properties of sand and uses.
 Classification of coarse aggregate according to sizes and its uses.

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**UNIT IV****Chapter 4 : Special Construction Materials 4-1 to 4-29****Syllabus :**

Types of material and suitability in construction works of following materials : Water proofing, Termite proofing; Thermal and sound insulating materials.

Fibers - Types - Jute, Glass, Plastic Asbestos Fibers, (only uses).

Geopolymer cement : Geo-cement : properties, uses and applications.

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Lime Mortar, Cement Mortar, Special Mortars and their uses as plastering material.

Constituents and uses of POP (Plaster of Paris), POP finishing boards, sizes and uses.

Paints-Oil Paints, Distempers and Varnishes with their uses (situations where used).

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Industrial waste materials- Fly ash, Blast furnace slag, Granite and marble polishing waste and their uses.

Agro waste materials - Rice husk, Bagasse, coir fibres and their uses.

Special processed construction materials; Geosynthetic, Ferrocete, Artificial timber, Artificial sand and their uses.

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