

**III Year-I Semester
(20CE5767) Construction Materials**

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
30	70	100	3	-	-	3

Pre- Requisites: Fundamentals of Building materials

Course Objectives:

Students will have

- To study the physical properties of construction materials which include Rocks, Stones, Bricks, Lime, Pozzolanas, Cement, Ceramic Products, Timber
- To study the uses of construction materials which include Mortar, Concrete, Glass, Metals and alloys, Plastics, Fiberrein forced plastics, Glass reinforced plastics.
- To study about foundations, masonry structures, partitions and proofing materials
- To study about floors, doors, Hollow Block and Ferro Cement Constructions Stairs, Floors and flooring, Roof, Weathering course, Introduction to prefabricated elements.
- TostudyaboutPointing,Plastering,finishes,PaintsandVarnishes,onwoodproduct washing, distempering on Plastic productswashing,distempering,Termiteproofing,Scaffolding,Shoring, underpinning and Form work

UNIT-I:

Physical Properties of Materials, Rocks and Stones, Lime and Pozzolanas, Cement, Ceramic Products, Timber and Timber Products.

UNIT-II:

Mortar, Concrete, Glass, Metals and alloys, Plastics, Fiber Reinforced Plastics, Glass reinforced plastics.

UNIT-III:

Foundation, Stone Masonry, Brick Masonry, Water Proofing and Damp Proofing material, Advanced water proofing systems – Types of Partitions walls, Load bearing walls.

UNIT-IV:

Doors, Windows and ventilators, Hollow Block and Ferro Cement Constructions, Stairs, Floors and flooring, Roof, Weathering course, Introduction to prefabricated elements.

UNIT-V:

Pointing, Plastering, External and Internal Finishes, Paints and Varnishes, White washing, Color washing and distempering, Termite proofing, Scaffolding, Shoring and under pinning, Form work.

Course Outcomes:

S.No	Course Outcomes	BTL
1	Describe the physical properties of construction materials.	L2
2	Explain the usage of construction materials.	L2
3	Describe construction practices of masonry, water proofing and foundation works.	L2
4	Describe about doors, windows, ventilators, floors, stairs, roofs etc. and prefabricated elements.	L2
5	Describe about finishing works, scaffolding, shoring, under pinning and form work	L2

Text Books:

1. P.C.Varghese, “Building Materials”, Prentice-Hall of India(P) Ltd., .
2. S.K.Duggal, “Building Materials”, New Age International (P) Ltd.
3. S.C.Rangwala, “Building Materials”,Charotar Publishing House,.

Reference Books:

1. Dr. B.C. Punmia, “Building Construction”, Laxmi Publications (p) Ltd New Delhi.
2. Ashok Kumar Jain, “Building Construction”, Laxmi Publications (p) Ltd Chennai.
3. IS2185 Part I & II PWD & CPWD Specifications