

4003 - CONSTRUCTION MATERIALS									
Teaching Schedule Per Week			Progressive Assessment	Examination Schedule (Marks)					
Lectures	Practical	Credits		Theory		Practical Ex.		Total	
3	0	3	25	3Hrs	100	0		125	
Pre-requisite		Source	Semester	Theory	Test	Total	TW	PR	Gr Total
Nil		CVL		75	25	100	-	-	100

COURSE CONTENTS		Hrs	Mks
<b>1. BUILDING STONES</b>		6	12
Classification of rocks, characteristics of good building stones, common building stones and their uses. ( a specific reference to laterite stone). Dressing of stones.			
<b>2. BRICKS</b>		6	12
Brick earth and its constituents and their properties, outline of the manufacturing of bricks, classification and properties of bricks, testing of bricks as per IS 3495-1966, special bricks- refractory and fly-ash brick.			
<b>3. CLAY PRODUCT</b>		6	12
Tiles-types and tiles-Roofing tiles, pan tiles, Mangalore tiles and flat tiles. Characteristics of good tiles. Stone ware pipes – Types and uses. Porcelain-Glazed tiles, uses.			
<b>4. LIME</b>		2	6
Sources of lime stone – Calcination, slaking and hydraulicity. Classification of limes- quick and hydraulic. Properties and uses.			
<b>5. CEMENT</b>		6	12
Chemical composition of Portland cement. Outline of manufacturing process (only flow diagram). Function of chemical compounds. Setting and hardening of cement. Testing of cement as per I. S, fineness, consistency, setting time, strength and soundness. Types of cement.			
<b>6. SAND</b>		2	4
Source of pit and river. Characteristics.			
<b>7. MORTAR</b>		2	4
Types of mortar-Lime, cement and surkhi. Properties and uses.			
<b>8. TIMBER</b>		6	12
Sources and common varieties used for different works. Seasoning of timber. Defects in timber. Decay of woods and preservation. Wood products –Veneer, ply-wood, reconstructed sunmice, etc.			
<b>9. PLASTICS</b>		2	6
Classification, properties and uses in construction.			
<b>10. MATERIALS</b>		10	20
Asbestos, asphalt, bitumen, tar, glass, insulating materials, rubber, adhesives, P. V. C, G. I. Aluminium- their properties and uses.			
<b>Total</b>		48	100

**REFERENCE BOOKS**

1. Engineering Materials by P.D. Kulkarni.
2. Materials of Construction by Smith R. C. Andres.
3. Engineering Materials by Rangwala.
4. Civil Engineering Materials by Singbal & Deodhar.
5. Textbook of Engineering Materials by Agarwal B.K. & Arora.