

BCLE201L	CONSTRUCTION MATERIALS	L	T	P	C
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Pre-requisite	NIL	Syllabus version			
		1.0			
Course Objectives					
The objectives of this course is to : <ol style="list-style-type: none"> 1. Learn the various properties of building materials. 2. Acquire the knowledge on application of various materials such as bricks, stones, timber. 3. Use the various materials such as cement, aggregates, mortars and miscellaneous materials for construction. 					
Course Outcomes					
Upon completion of this course, the student will be able to : <ol style="list-style-type: none"> 1. Understand the various properties of building materials. 2. Classify stones and masonry construction. 3. Examine timber products and its applications. 4. Acquire the knowledge on various properties of cement, aggregates and mortars. 5. Analyse the various miscellaneous construction materials for its respective application. 					
Module: 1	Properties of Building Materials	4 hours			
Introduction-Physical and Mechanical properties of building materials-Bricks-Classification of bricks-Manufacturing process-Testing of bricks as per Indian Standards-Clay and its products.					
Module: 2	Stone and Masonry Construction	4 hours			
Classification of rocks-Characteristics of good building stones-Testing of stones-Artificial stones-Applications of stones-Stone Masonry-Brick Masonry.					
Module: 3	Timber and Timber Products	4 hours			
Classification of Trees-Structure of timber-Seasoning of timber-Defects in timber-Preservation-Process of timber-Testing of timbers as per Indian Standards-Variety properties of timber-Timber products and its applications.					
Module: 4	Cement and its properties	4 hours			
Portland cement-Chemical composition of raw materials-Manufacturing process of cement-Hydration of cement-Classification of cement-Testing of cement and its properties.					
Module: 5	Aggregates and aggregate properties	4 hours			
Classification of aggregates-Characteristics of aggregates-Variety properties of aggregates-Coarse aggregate-Testing of coarse aggregates as per Indian Standards-Fine aggregates-Testing of fine aggregates as per Indian Standards.					
Module: 6	Mortars and its applications	4 hours			
Introduction-Classification of Mortars-Properties-Lime mortar-Cement mortar-Selection of mortar-Testing of mortars-Applications.					
Module: 7	Miscellaneous Materials	4 hours			
Structures of ferrous metals-Classification of ferrous metals-Iron-Steel-Manufacturing process-Applications-Testing-various forms of steel sections-Aluminium-Uses-Properties-Copper-Uses-Properties-Ceramic materials-Classification of Ceramics-Manufacturing process of glass and its applications-Plastics and its applications-Rubber and its applications.					
Module: 8	Contemporary Issues	2 hours			
Total Lecture Hours					30 hours
Text Book(s)					
1	Varghese, P. C., Building Materials, 2015, Second Edition, PHI Learning Pvt. Ltd., New Delhi.				

Reference Books			
1	Edward Allen, Joseph Iano, Fundamental Building Materials, 2014, Sixth Edition, John Wiley & Sons inc.		
2	Rangwala, Building Construction, 2016, Charotar Publishers, India.		
3	IS 2386-1:1963 (R2016), Indian Standard Methods of test for Aggregates for concrete.		
Mode of Evaluation: CAT, Assignment, Quiz, FAT.			
Recommended by Board of Studies		24-02-2022	
Approved by Academic Council		No. 65	Date 17-03-2022