

SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

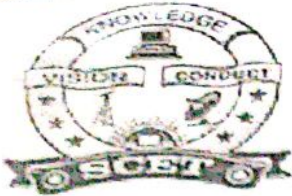
DEPARTMENT OF CIVIL ENGINEERING TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods /Week	Academic Year	Date of commencement of Semester
20CE1T01	BUILDING MATERIAL AND CONSTRUCTION	I	CIVIL ENGINEERING	07	2021-22	29/11/2021

COURSE OUTCOMES: Students are able to

1	reproduce knowledge towards civil engineering materials like stones, bricks, tiles in building construction (K1)
2	explain about stone masonry, wood in building construction (K2)
3	interpret the application of lime, cement and their importance in construction field (K2)
4	prepare building components like lintels, arches, vaults, stair cases (K3)
5	discuss various finishing's in building construction (K3)

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
I	Reproduce knowledge towards civil engineering materials like stones, bricks, tiles in building construction (K1)	1.1	UNIT- I-STONES, BRICKS AND TILES Properties of building stones - relation to their structural requirements	T1,R1	01	Chalk.& Talk, PPT, Active Learning & Tutorial
		1.2	Classification of stones - stone quarrying	T1,R1	01	
		1.3	Precautions in blasting, dressing of stone	T2,R1	01	
		1.4	Composition of good brick earth	T2,R1	01	
		1.5	Various methods of manufacturing of bricks	T1,R1	01	
		1.6	Characteristics of good tile – manufacturing methods	T1,R1	01	
		1.7	Types of tiles	T2,R1	01	
		1.8	Uses of materials like Aluminum, Gypsum-their quality	T1,R1	01	
		1.9	Uses of materials like Glass and Bituminous materials – their quality	T2,R1	01	
		1.10	Class test-I		01	
Total					10	



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II	Explain about stone masonry, wood in building construction (K2)	2.1	UNIT-II – MASONRY Types of masonry	T1,R1	01	Chalk & Talk, PPT, Active Learning & Tutorial
		2.2	English and Flemish bonds,	T1,R1	01	
		2.3	Rubble and Ashlar Masonry	T2,R1	01	
		2.4	Cavity and partition walls	T1,R1	01	
		2.5	WOOD: Structure – Properties	T2,R1	01	
		2.6	Seasoning of timber	T1,R1	01	
		2.7	Classification of various types of woods used in buildings	T2,R1	01	
		2.8	Defects in timber	T1,R1	01	
		2.9	Alternative materials for wood - Galvanized Iron, Fiver	T1,R1	01	
		2.10	Reinforced Plastics, Steel, Aluminum	T1,R1	01	
		2.11	Advanced techniques in masonry		01	
		2.11	Class test-II		01	
Total					12	
III	Interpret the application of lime, cement and their importance in construction field (K2)	3.1	UNIT-III-LIME AND CEMENT Lime: Various ingredients of lime	T2,R1	01	Chalk & Talk, PPT, Tutorial & Active learning
		3.2	Constituents of lime stone	T1,R1	01	
		3.3	Classification of lime	T2,R1	01	
		3.4	Various methods of manufacture of lime	T1,R1	01	
		3.5	Cement: Portland cement- Chemical Composition	T2,R1	01	
		3.6	Hydration, setting and fineness of cement	T1,R1	01	
		3.7	Various types of cement and their properties	T1,R1	01	
		3.8	Various field and laboratory tests for cement	T1,R1	01	
		3.9	Various ingredients of cement concrete and their importance	T2,R1	01	
		3.10	Various tests for concrete	T2,R1	01	
		3.11	Videos on different tests of cement		01	
		3.12	Class test-III		01	
Total					12	
IV	Discuss various finishing's in building construction (K3)	4.1	UNIT-IV-BUILDING COMPONENTS Lintels, arches	T1,R1	01	Chalk & Talk, PPT, Tutorial & Active learning
		4.2	Vaults, stair cases - types	T1,R1	01	
		4.3	Different types of floors- Concrete	T2,R1	01	
		4.4	Mosaic floors	T1,R1	01	
		4.5	Terrazzo floors	T2,R1	01	
		4.6	Pitched, flat roofs	T1,R1	01	
		4.7	Lean to roof, Coupled Roofs	T2,R1	01	



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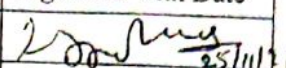
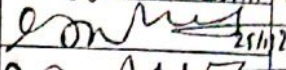
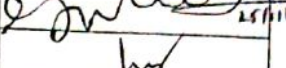

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Content beyond Syllabus		4.8	Trussed roofs	T1,R1	01	
		4.9	King and Queen post Trusses	T1,R1	01	
		4.10	R.C.C Roofs	T1,R1	01	
		4.11	Madras Terrace	T1,R1	01	
		4.12	Pre-fabricated roofs	T1,R1	01	
		4.13	New technique of pre fabrication		01	
		4.14	Class test-IV		01	
Total					14	
V	Prepare building components and various finishing's in building construction (K3)	UNIT-V- FINISHINGS				Chalk & Talk, PPT, Tutorial & Active learning
		5.1	Damp Proofing materials and uses	T1,R1	01	
		5.2	Water proofing materials and uses	T1,R1	01	
		5.3	Plastering Pointing	T2,R1	01	
		5.4	White washing and distempering	T1,R1	01	
		5.5	Paints: Constituents of a paint	T2,R1	01	
		5.6	Types of paints	T1,R1	01	
		5.7	Painting of new/old wood	T2,R1	01	
		5.8	Varnish	T1,R1	01	
		5.9	Form Works	T2,R1	01	
		5.10	Scaffoldings	T1,R1	01	
		5.11	Videos of building finishing		01	
5.12	Class test-V		01			
Total					12	
CUMULATIVE PROPOSED PERIODS					60	
Text Books:						
S.No	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION					
1	S.S. Bhavikatti/ "Building Materials"/ 1 st edition / Vikas Publications House private Ltd / /2014					
2	B.C. Punmia / "Building Materials" / 11 th edition / Laxmi Publications private ltd /2015					
3	B.C. Punmia / "Building Construction"/11 th edition / Laxmi Publications private ltd / 2015					
Reference Books:						
S.No	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION					
1	S.K.Duggal / "Building Materials" / 3 rd revised edition/ New Age International Publications / 2008					
2	P.C.Verghese/ "Building construction" /2 nd edition/ PHI Learning (P) Ltd/ 2016					
3	P.C.Verghese/ "Building Materials"/ 2 nd edition/ PHI learning (P) ltd/2015					
Web Details						
1	https://nptel.ac.in/courses/105/102/105102088/					
2	http://www.swarnandhra.ac.in/departments/civil					
3	https://en.wikipedia.org/wiki/List_of_building_materials					



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	Name	Signature with Date
i. Faculty	Dr M.S.V.K.V.PRASAD	 25/11/21
ii. Course Coordinator	Dr M.S.V.K.V.PRASAD	 25/11/21
iii. Module Coordinator	Dr M.S.V.K.V.PRASAD	 25/11/21
iv. Programme Coordinator	Prof. G. V. L. N. Murthy	


Principal