

For Lecture's in **B. Tech. Civil Engineering IIIrd Semester**

Course No.	Title of the Course	Course Structure	
HM-251A	Introduction to Civil Engineering	L-T-P	2-0-0
COURSE OUTCOMES (CO)			
CO1	Students will be able to study about various disciplines of civil engineering.		
CO2	Students will be able to study about National Planning for Construction and Infrastructure Development and modern surveying techniques.		
CO3	Students will be able to study the basics of various building materials and contract management.		
CO4	Students will be able to study about Environmental, hydraulics and water resource engineering.		
UNIT NO`	Topics To Be Covered	Lecture Nos	
	Introduction to HM-251A Introduction to Civil Engineering (Co, PO, Syllabus)	1.	
I	What is Civil Engineering/ Infrastructure? Basics of Engineering and Civil Engineering	2.	
	Broad disciplines of Civil Engineering	3.	
	Importance of Civil Engineering, Possiblescopes for a career	4.	
	Early constructions and developments over time; Ancient monuments & Modern marvels	5.	
	Development of various materials of construction and methods of construction	6.	
	Works of Eminent civil engineers	7.	
	Types of buildings, tall structures	8.	
	various types of bridges	9.	
	Water retaining structures; Other structural systems	10.	
	Experimental Stress Analysis; Wind tunnel studies	11.	
	Revision	12.	
II	Position of construction industry vis-à-vis other industries	13.	
	five year plan outlays for construction	14.	
	current budgets for infrastructure works	15.	
	Traditional surveying techniques	16.	
	Total Stations	17.	
	Development of Digital Terrain Models	18.	
	GPS, LIDAR	19.	
	Revision	20.	
III	Stones, bricks	21.	
	mortars, Plain concrete	22.	
	Reinforced & Prestressed Concrete	23.	
	Construction Chemicals	24.	
	Structural Steel, High Tensile Steel, Carbon Composites	25.	
	Plastics in Construction	26.	
	3D printing; Recycling of Construction & Demolition wastes	27.	
	Temporary Structures in Construction	28.	
	Construction Methods for various types of Structures	29.	
	Major Construction equipment; Automation & Robotics in Construction	30.	
	Modern Project management Systems; Advent of Lean Construction	31.	

	Importance of Contracts Management	32.
	Revision	33.
	Three Hinged Arches	34.
IV	Water treatment systems	35.
	Effluent treatment systems	36.
	Solid waste management	37.
	Sustainability in Construction	38.
	Fundamentals of fluid flow	39.
	basics of water supply systems	40.
	Underground Structures	41.
	Underground Structures Multipurposereservoir projects	42.
	Revision	43.

Sr. No.	Course Coordination Committee	Name	Contact No	E Mail Id
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