

Branch Name:	Civil engineering
Program Code:	ET401
Course Name:	Building Construction
Course Code:	2ET4010305
Pre-requisite Course:	---

COURSE OBJECTIVE:

The content should be taught and implemented with the aim to develop skills so that students are able to acquire following competencies:

- Understand different types of technology used in construction works.
- Students are able to appreciate various types of construction machineries, formworks and safety measures involved in construction works.
- Student should able to apply these concepts in actual construction practices.
- Provide procedural knowledge of the simple testing methods of different construction materials.

TEACHING AND EVALUATION SCHEME:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)			
Lecture	Tutorial	Practical	Credit	Theory		Practical	
				University Assessment	Continuous Assessment	University Assessment	Continuous assessment
3	-	2	4	60	40	20	30

DETAILS OF COURSE CONTENTS:

S. NO.	TOPIC	Total Hrs.	WEIGHTAGE
1	Foundations 1.1 Functions of various components of building and other Structures. 1.2 Classification and types of foundations. 1.3 Selection of the suitable type of foundation for Required Structure and as per situation. 1.4 Foundations in black cotton soil, loose soils etc. 1.5 Timbering in trenches. 1.6 Failures in foundation Precautions & remedial measures.	09	22
2	Masonry Work 2.1. Types of bond in masonry work and technical terms. 2.2. Brick and stone masonry. 2.3. Selection of suitable type of masonry. 2.4. Construction procedures. 2.5. Types of mortar used in masonry work.	11	22

3	Scaffolding and Centering: 3.1 Purpose & types of scaffolding and centering. 3.2 Suitability of scaffolding as per situations and type of structures. 3.3 Erection of centering for different component. 3.4 Formwork, its requirement & Formwork for slab, beam, column, stair.	05	14
4	Building Components : 4.1 Technical terms related with door and window. 4.2 Types of Doors & Windows, Ventilation, Purpose, Size, Location, Material. 4.3 Technical terms of roof, Types of roof 4.4 Terms & Components related to stair 4.5 Types of stair as per arrangement of steps 4.6 Plastering & pointing 4.7 Damp proof course. 4.8 Anti-termite measures and treatments 4.9 Plumbing and electrification- various types of fittings and laying procedure.	10	22
5	Construction Machinery & Safety Measures: 5.1 Purpose, & Machineries used for earthwork and for other construction works. 5.2 Their details, special features, suitable uses, specifications. 5.3 Importance of various Laws / Norms / Regulations / Acts for safety. 5.4 Precautions and precautionary Measures. 5.5 Post-accident procedures.	07	20

LIST OF PRACTICAL:

SR. No.	Experiment
1	Draw a various types sketches of Foundations, timbering in trenches
2	Draw a Brick and stone masonry work
3	Draw a Scaffolding works and centering
4	Draw a Different types of Damp Proof Course
5	Arrange field visit at construction site where the Excavation for foundation work are in progress
6	Arrange field visit at construction site where the Masonry work are in progress
7	Arrange field visit at construction site where the Concreting work are in progress
8	Arrange field visit at construction site where the Plastering and pointing work are in progress.
9	Exercise for layout using foundation plan of a given building on site.
10	Exercise for carrying out different types of masonry.

LIST OF REFERENCES:

Sr.no.	Title	Author
1	Building Construction	S. P. Arora and Bindra (Dhanpat Rai Publication, Delhi.)
2	Building Construction	Rangawala, S. C. (Charotar Publication, Anand)
3	Building Construction	Punmia B. C., and Jain A. K (Firewall Media)
4	Building Construction	Janardan Zha (Khanna Publication)
5	A to Z Building Construction	Mantri S (Satya Prakashan, New Delhi)

List of Open Source Software/learning website:

1. <http://www.nptel.iitm.ac.in/video>

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Understand different types of technology used in construction works.	2 Understanding
CLO2	Students are able to appreciate various types of construction machineries, formworks and safety measures involved in construction works.	1 Remembering 2 Understanding 3 Applying
CLO3	Student should be able to apply these concepts in actual construction practices.	2 Understanding 3 Applying
CLO4	Provide procedural knowledge of the simple testing methods of different construction materials,	3 Applying 5 Evaluating
CLO5	Identify components of building structures.	4 Analyzing
CLO6	Propose suitable type of foundation for building structures.	3 Applying, 5 Evaluating

Course Learning Outcomes	Program Outcomes(Po's)											
	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12
CLO1	H				M							
CLO2					M							
CLO3			M				M		L			
CLO4	H										M	
CLO5	M											
CLO6			M				L				H	

H: High, M: Medium, L: Low