GANPAT UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

Programme	Diploma Engineering				Branch	CIVIL ENGINEERING		
Semester	III				Version	1.0.0.0		
Effective from Academic Year		2019-20			Effective for the batch Admitted in			June 2019
Subject code	1CI2305		Subject Name		BUILDING CONSTRUCTION			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	0	1	0	4	Theory	40	60	100
Hours	3	0	2	0	5	Practical	30	20	50

Pre-requisites:
Students have to know about two different parameter i.e. Engineering materials (1CI304) & various construction works techniques. Students have to learn subject civil engineering workshop (1ES103) for better understanding.

Course Learning Outcomes:
The course content should be taught and implemented with an aim to develop different skills leading to the achievement of the following competencies and course learning outcomes: CO1. To understand different types of technology used in construction works CO2. To apply their theoretical & graphical knowledge of various modern methods of building construction. CO3. To develop knowledge of various types of construction machineries, formworks and safety measures involved in construction works CO4. To implement theoretical knowledge in field work. CO5. To Verify theoretical knowledge to practical problem and make them able to work in area of research and development in research and development area.

Course Content				
Name of UNIT	Unit Content	Unit Learning Outcomes	Marks	Hrs
UNIT–1 INTRODUCTION	1.1 Introduction of various Civil Engineering structures. 1.2 Functions of various components of building and other structures.	1a. Describe various types of civil engineering structures 1b Develop concept of various types of components of building.	05	03
UNIT – 2 FOUNDATIONS	2.1 Classification and types of foundations. 2.2 Selection of the suitable type of foundation for required structure as per situation. 2.3 Foundations in black cotton soil, loose soils. 2.4 Failures in foundation Precautions & remedial measures.	2a. Know type of foundation and its suitability to different type of soil. 2b. Describe the failure of Foundation and remedial Measures.	08	06

UNIT – 3 MASONRY WORK	3.1 Types of Brick and stone masonry 3.2 Selection of suitable type of masonry 3.3 Construction procedures. 3.4 Types of mortar used in masonry work.	3a. List out the different types of brick and stone Masonry. 3b. Describe various Construction procedures.	06	05
UNIT – 4 CONCRETING	4.1 Production of concrete including batching, mixing, transporting, placing, compacting & curing 4.2 Properties of fresh concrete and hardened concrete. 4.3 Concreting in different situation 4.4 Types of special concrete.	4a.Learn about Various phases of concrete. 4b.Various types of Concrete in different situations.	06	05
UNIT – 5 SCAFFOLDING AND CENTERING	5.1 Purpose & types of scaffolding and centering 5.2 Suitability of scaffolding as per situations and type of structures 5.3 Erection of centering for different component.	5a. List out types of scaffolding and centering. 5b.Select the suitab scaffolding as per situation and types of structures	06	04
UNIT – 6 BUILDING COMPONENTS	6.1 Technical terms related with door and window 6.2 Doors & Windows-Types, Purpose, Size, Location, Material. 6.3 Ventilation & Cupboard 6.4 Technical terms related to roof 6.5 Types of roof & roof covering 6.6 Terms & Components related to stair 6.7 Requirements of an ideal stair 6.8 Types of stair as per arrangement of steps.	6a.Define various terms related with door and window. 6b.use of ventilation and cupboard in building. 6c.Devlop concept of roof with technical terms and types. 6d.classify types of stair with requirements of ideal stair.	07	05
UNIT – 7 BUILDING ITEMS	7.1 purpose & types of Plastering & Pointing 7.2 construction procedures of plastering & Pointing 7.3 Damp proof course (DPC) 7.4 Anti-termite measures and treatments. 7.5 Construction joints-need and materials used. 7.6 Purpose &construction procedures of Grouting. 7.7 advantages and disadvantage with specific situation & application of Grouting with Examples of specific uses of Grouting 7.8 Purpose& construction procedures of Guniting 7.9 advantages and disadvantages with Specific situations & application of Guniting.	7a.Classify various types of Building items including plastering and pointing. 7b. Learn about various construction activity like damp proof course (D.P.C) and anti termite Treatment. 7c. Develop concept of Grouting with procedure and application. 7d. Develop concept of Guniting with procedure and application.	08	08
UNIT – 8 CONSTRUCTION MACHINERY	8.1 Purpose with advantages and disadvantages of Machinery. 8.2 Machineries used for earthwork and for other construction works.	8a.Describe Introduction of construction machinery with its working ad features.	06	03

	8.3 Special features with suitable uses& specifications.			
UNIT – 9 MAINTENANCE OF BUILDING AND SAFETY MEASURES	9.1 Causes of failure of structures 9.2 Purpose and importance of building maintenance 9.3 Types of maintenance work 9.4 Preparation of report on maintenance work 9.5 Importance of various Laws / Norms /Regulations / Acts for safety. 9.6 Safety equipment & Safety measures during various construction phases. 9.7 Safety measures for demolition of building. 9.8 Precautions and precautionary Measures. 9.9 Post- accident procedures with examples.	9a.List the causes of failure of Structures. 9b. Describe concept about the maintenance work ,types and its remedial measures. 9c. Understand about the important laws/norms and act of safety. 9d. List the precautions and precautionary measures of safety.	08	06
		Total	60	45

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

List of Reference Books			
No	Title of Reference Books	Authors	Publication
1	Building Construction	B C Punamia	Laxmi Publications ,New Delhi
2	Building Construction	Shushil Kumar	Standard publishers, Delhi
3	Building Construction	Rangwala	Charotar publishing house (P) Ltd

Link of Learning Web Resource	
1	www.nptel.ac.in

PO & CO Mapping

Sr.No.	Name of PO	Description	Co1	Co2	Co3	Co4	Co5
1	PO 1	Acquire fundamental knowledge of mathematics, science, and civil engineering.	None	None	Slight	None	Slight
2	PO 2	Design and conduct experiments, as well as analyze and interpret data.	None	Slight	None	Slight	Moderate
3	PO 3	Use the techniques, skills, and modern engineering tools necessary for engineering practice	Slight	Moderate	Substanitial	None	Slight
4	PO 4	Function in multi-disciplinary teams and identify, formulate, and solve engineering problems.	None	Slight	None	None	Moderate
5	PO 5	Clear understanding of his duties and responsiblities as a civil engineer.	None	None	Slight	Slight	None
6	PO 6	Develop effective communication skill and provide leadership for professional development.	None	None	Slight	None	None
7	PO 7	Engage in life-long learning in civil engineering field and comprehend issues related to environment and sustainable development.	Slight	Slight	None	None	Slight
8	PO 8	Graduate will demonstrate knowledge of professional and ethical responsibilities.	Slight	None	Substantial	None	None
9	PO 9	Incorporate economics and business practice including project and risk management.	None	None	Slight	None	Slight
10	PO 10	Graduated are able to share their knowledge to the industries as well as society.	None	Slight	None	Slight	Moderate
11	PO 11	Graduated will be able to apply their skill and knowledge for the sustainble development of nation.	Moderate	Moderate	Slight	Moderate	Slight
12	PO 12	Graduated are able to learn to work with with the team and also with the inter discipliners.	Slight	Slight	None	None	None