GANPAT UNIVERSITY									
FACULTY OF ARCHITECTURE DEISGN & PLANNING									
Programme	Bachelor of Architecture					Branch/Spec.	INSTITUTE OF ARCHITECTURE		
Semester	IV					Version	2.0.0.0		
Effective from Academic Year		2020-21				Effective for the batch Admitted in			June 2019
Subject code	2IVA02BMC		Subject Name			Building Materials and Construction - IV			
Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	-	2	2	6	Theory	40	60	100
Hours	2	-	2	2	6	Practical	-	-	-

Objective:

- The primary focus is on materials, their properties and applications, and their intrinsic relationship to structural systems and environmental performance.
- Students will develop application based understanding of: the relationship of materiality to construction systems and techniques.
- Understanding "RCC and Steel" as a building material and its application in a building along with its techniques used in different forms and joinery details of construction.

Learning Outcome:

LO1: Understanding Steel and basic constituent elements of RCC- Cement, aggregates, sand and steel etc. as different building materials and their application in a building

LO2: Recognizing RCC and Steel as a contemporary building materials and it's evolution with time.

LO3: Understanding application of RCC and Steel in different parts of a building and construction techniques and joinery details.

CONTENT & TEACHING UNITS

Unit	Content	HRS
1	Introduction todifferent building materials like steel and constituent elements of RCC - Cement, aggregates, sand and steel etc., their types, propertiestensile and compressive strength, weakness, propertiesand their application in a building	12
2	Sensitizing students withdifferent metals used for building construction, properties and behavior of material in different conditions, their standard sizes, sections, and use of it in construction.	12
3	Understanding Precast and cast-in-situ RCC, pre-stressed, pre-tensioning and post-tensioning of concreteconstruction. Formwork, Shuttering, Shoring, Shuttering- their techniques and use in building.	18
4	Learning typical RCC foundation;construction techniques in precast and cast-in-situ of different horizontal bands like-DPC, Sills, lintels, beams along with vertical elements like columns, walls and staircase, different types of slabs, floors and roofs	24
5	Understanding construction of different types of steel structures and their elements like foundation, floors, columns, beams, staircase and roofs/ trusses made from steel along with its joinery detail.	18
6	Recognizing different joints in a building like construction joints, expansion/	12

	contraction joints- its use and construction details.	
Text Books		
1	NA	
Reference Books		
1	Construction of Building Vol.-I- R.Berry	
2	Building Construction Metric Vol.-I to IV- W.B.Mckay	
3	Construction Technology Vol.-I-Chudley	
4	Building Construction Illustrated-FransisD.K.Ching.	
5	Fundamentals of Building Construction - Allen Edward	
6	Steel and beyond -LeCuyer	