Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

AY 2023-24

Course Information	
Programme	B. Tech. (Other than Civil Engg.)
Class, Semester	Third Year, Semester II
Course Code	
Course Name	Building Planning and Construction
Desired Requisites:	

Teaching Scheme		**Examination Scheme (Marks)**			
Lecture	3 Hrs/week	**MSE**	**ISE**	**ESE**	**Total**
Tutorial		30	20	50	100
		Credits: 3			

Course Objectives	
1	To impart Necessary knowledge and concepts in Building Planning and functional design.
2	To impart Necessary knowledge and concepts in the utilization of building materials, their properties and their applications in construction of building.

Course Outcomes (CO) with Bloom's Taxonomy Level		
At the end of the course, the students will be able to,		
CO1	Grasp the principles of planning, building bye laws to apply in the planning of residential/public buildings in relation to functional planning.	Understand
CO2	Classify the various components and their relationships in buildings and identify the materials and building services to be adopted for different buildings.	Apply

Module	**Module Contents**	**Hours**
I	**Site, Building and Building Drawings** Categories of buildings, Types of Residential buildings, Site selection, Factors influencing selection of site, guidelines for planning and drawing of buildings, Positions of various building components, types of drawings and relevant scales.	6
II	**Principles of Building Planning and Building Bye laws** Principles of planning: Aspects, prospect, Privacy, Furniture, Roominess, Grouping, Circulation, Sanitation, Lighting, Ventilation, Flexibility, Elegance, Sanitation, Economy. Bye laws: Minimum plot size, building frontage, open spaces, standard dimensions in buildings, Provision for light & ventilation, FSI, Height of Building.	7
III	**Planning concepts in Buildings** Requirements in different types of buildings, Integrated approach to planning in various aspects like aesthetics, landscape, interior, etc. Guidelines for planning & drawing residential and public buildings.	6
IV	**Components of building** Sub structure, Foundations, Bearing Capacity of Soils, Types of Shallow and Deep foundations, Conditions for their applications, masonry, Bonds, Doors, Windows, Staircases, Roofs and Floors, Flooring and their Applications	7
V	**Construction Materials** Types, Engineering properties and Uses of Bricks, Stones, Aggregate, Lime, Cement, Steel, Aluminium, PVC, Glass. Concrete: Ingredients, Preparation, Properties of concrete, Types of concrete and their applications	7

VI	**Building Services and Finishes** Plumbing services for water supply, plumbing services for drainage, symbols, Electrification, symbols of electrical fixtures, Types of Plastering and Pointing, Defects, Paints and Varnishes Types, Application, Methodology on various surfaces, Defects.	7

Textbooks	
1	R.K.Rajput S. 'Building Materials' S. Chand Publications.
2	Bindra and Arora, "Building Construction", Dhanpat Rai and Sons
3	Kumarswamy and Kameshwar Rao., "Building Planning and Design," Tata McGraw Hill Pvt. ltd, 1995.
4	Civil Engineering Drawing - V. B. Sikka, S. K. Kataria and Sons.

References	
1	Punmia, Jain, Jain, "Building Construction", Laxmi Publications ltd. 2005
2	Mantri Institute's 'The A to Z of Practical Building Construction and its Management' Mantri Institute of Devp. and Research. Pune, 1994.
3	Building drawing with Integrated approach – Shah, Kale & Patki, Tata Mc Graw Hill Pub.
4	National Building Code of India and SP- 7.

Useful Links	
1	https://www.youtube.com/watch?v=pYLKA4YQMyI&list=PL46yD-wnVQqxZ8f-_g1PZaFjJIxnJWyFE
2	https://www.youtube.com/watch?v=4kLXfCGB_RI&list=PL46yD-wnVQqxZ8f-_g1PZaFjJIxnJWyFE&index=5
3	https://www.youtube.com/watch?v=2tb1heySCx0
4	https://www.youtube.com/watch?v=Y0Y8zuETHOQ

CO-PO Mapping

	Programme Outcomes (PO)												**PSO**	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2													
CO2	2												1	

Assessment

The assessment is based on MSE, ISE and ESE.
MSE shall be typically on modules 1 to 3.
ISE shall be taken throughout the semester in the form of teacher's assessment. Mode of assessment can be field visit, assignments etc. and is expected to map at least one higher order PO.
ESE shall be on all modules with around 40% weightage on modules 1 to 3 and 60% weightage on modules 4 to 6.
For passing a theory course, Min. 40% marks in (MSE+ISE+ESE) are needed and Min. 40% marks in ESE are needed. (ESE shall be a separate head of passing)