

MVJ College of Engineering

Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2024-25

Outcome Based Education (OBE) and Choice Based Credit System (CBCS)

Effective from the academic year 2024-25

Department of Civil Engineering – M. Tech Structural Engineering Semester – I

I SEMESTER (Core Courses related to main Engineering Stream)												
S. No	Course Type	Course Code	Course Title	Teaching Department	Teaching Hours per Week			Examination				Credits
					Theory	Practical/Seminar	Tutorial/SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	P	T/S DA					
1	IPCC	MVJCSE11	Numerical methods and Optimization Techniques	Mathematics	03	02	00	03	50	50	100	4
2	PCC	MVJCSE12	Mechanics of Deformable Bodies	Civil	03	00	00	03	50	50	100	3
3	PCC	MVJCSE13	Structural Dynamics and Earthquake Engineering	Civil	03	00	00	03	50	50	100	3
4	PCC	MVJCSE14	Advanced Design of RC Structures	Civil	03	00	00	03	50	50	100	3
5	PCC	MVJCSE15	Repair and Rehabilitation of Structures	Civil	03	00	00	03	50	50	100	3
6	PCCL	MVJCSEL16	Structural Engineering Lab	Civil	01	02	00	03	50	50	100	2
7	AUD / AEC	MVJCSE17	Research Methodology and IPR (Online)		Online courses (online.vtu.ac.in)							PP
									300	300	600	18

Note: PCC: Professional core courses, PEC Professional Elective Courses, IPCC-Integrated Professional Core Courses. MPS-Mini Project With Seminar. AUD/AEC: Audit Courses / Ability Enhancement Courses (Mandatory), PCCL-Professional Core Course lab. L-Lecture, P-Practical, T/SDA-Tutorial / Skill Development Activities (Hours are for Interaction between faculty and students) PP/NP-Passed / Not Passed (Only for non-Credit Course)

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Department of Civil Engineering – M. Tech Structural Engineering Semester – II

II SEMESTER (Core Courses related to main Engineering Stream)												
S. No	Course	Course Code	Course Title	Teaching Department	Teaching Hours per Week			Examination			Credits	
					Theory	Practical/Seminar	Tutorial/SDA	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	P	T/SDA					
1	PCC	MVJCSE21	Advanced Design of Steel Structures	Civil Engineering	03	00	02	03	50	50	100	4
2	IPCC	MVJCSE22	Building Information Modelling	Civil Engineering	03	02	00	03	50	50	100	4
3	PCC	MVJCSE23	Finite Element Method and Laboratory	Civil Engineering	03	00	00	03	50	50	100	3
4	PEC	MVJCSE24x	Professional Elective 1	Civil Engineering	03	00	00	03	50	50	100	3
5	PEC	MVJCSE25x	Professional Elective 2	Civil Engineering	03	00	00	03	50	50	100	3
6	MPC	MVJCSE26	Mini Project with Seminar	Civil Engineering	03	00	00	03	50	50	100	3
7	PCCL	MVJCSEL16	Structural Software Lab	Civil Engineering	01	02	00	03	50	50	100	2
8	AUD / AEC	MVJCSE17	Online MOOC Course		Online courses							PP
									350	350	700	22

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Professional Elective-1		Professional Elective-2	
Course Code	Course Title	Course Code	Course Title
MVJCSE241	Advanced Design of Pre -Stressed Concrete Structures	MVJCSE251	Design of High Rise Structures
MVJCSE 242	Composite and smart materials	MVJCSE252	Structural Health Monitoring
MVJCSE243	Non-Destructive testing for CivilEngineering	MVJCSE253	Stability of Structures
MVJCSE244	Reliability Analysis of Structures	MVJCSE254	Design of Concrete Bridges

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Department of civil Engineering – M. Tech Structural Engineering

Semester – III

III SEMESTER (Core Courses related to main Engineering Stream)												
S. No	Course	Course Code	Course Title	Teaching Department	Teaching Hours per Week			Examination			Credits	
					Theory	Practical/Seminar	Tutorial/SDA	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	P	T/SDA					
1	PCC	MVJCSE31	Design Concepts of Sub Structures	Civil Engineering	03	00	02	03	50	50	100	4
2	PEC	MVJCSE32x	Professional Elective 3	Civil Engineering	03	00	00	03	50	50	100	3
3	PEC	MVJCSE33x	Professional Elective 4	Civil Engineering I	03	00	00	03	50	50	100	3
4	PROJ	MVJCSEP34	Major Project Phase I	Civil Engineering	03	02	00	03	50	50	100	3
5	SP	MVJCSES35	Societal Project	Civil Engineering	03	00	00	03	50	50	100	3
6	INT	MVJCSEI36	Internship	Civil Engineering	01	02	00	03	50	50	100	6
									300	300	600	22

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Professional Elective-3		Professional Elective-4	
Course Code	Course Title	Course Code	Course Title
MVJCSE321	Design of Industrial Structures	MVJCSE251	Theory of Plates and Shells
MVJCSE322	Design of Pre-cast and Composite Structures	MVJCSE252	Artificial Intelligence and Applications in Civil Engineering
MVJCSE323	DPR Preparation	MVJCSE253	Fracture Mechanics
MVJCSE324	Advanced Concrete Technology	MVJCSE254	Construction Methods and Equipment

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Department of civil Engineering – M. Tech Structural Engineering

Semester – IV

IV SEMESTER (Core Courses related to main Engineering Stream)

S. No	Course	CourseCode	Course Title	Teaching Department	Teaching Hours perWeek			Examination			Credits	
					Theory	Practical/Seminar	Tutorial/SDA	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	P	T/SDA					
1	PROJ	MVJCSEP41	Major Project Phase II	Civil Engineering	00	08	00	03	100	100	200	18
									100	100	200	18

Major Project Phase-2:

Students in consultation with the guide/co-guide (if any) in disciplinary project or guides/co-guides (if any) of all departments in case of multidisciplinary projects, shall continue to work of Project Work phase -1 to complete the Project work. Each student/batch of students shall prepare project document, and present a seminar.

CIE marks shall be awarded by a committee comprising of HoD as Chairman, all Guide/s and co-guide/s (if any) and a senior faculty of the concerned departments. The CIE marks awarded for project work phase -2, shall be based on the evaluation of Project Report. Project Presentation skill, and performance in the Question & Answer session in the ratio of 50:25:25.

SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check shall be as per the University norms.