

MVJ College of Engineering, Whitefield, Bangalore 560067  
 An Autonomous Institution, Affiliated to VTU, Belagavi  
**Scheme of Teaching and Examination**  
 Outcome Based Education (OBE) and Choice Based Credit System (CBCS)  
 Effective from the Academic Year 2022-23  
 Department of Civil Engineering – M.Tech Structural Engineering  
 Semester I

S. No	Course		Course Title	Teaching Department	Teaching hours/week				Examination				Credits
					Theory	Practical / Seminar	Tutorial / Skill Development Activity	Self-Study Component	Duration in Hours	CIE Marks	SEE Marks	Total marks	
	Type	Code			L	P	T	S					
1	BSC	MVJ22MPG11	Advanced Mathematical Methods	Mathematics	3	0	0	0	3	50	50	100	3
2	IPCC	MVJ22CSE12	Special Concrete and Laboratory	Civil Engineering	3	2	0	0	3	50	50	100	4
3	PCC	MVJ22CSE13	Advanced Design of RC Structures	Civil Engineering	3	0	2	0	3	50	50	100	4
4	PCC	MVJ22CSE14	Mechanics of Deformable Bodies	Civil Engineering	2	0	2	0	3	50	50	100	3
5	PCC	MVJ22CSE15	Structural Dynamics	Civil Engineering	2	0	2	0	3	50	50	100	3
6	MCC	MVJ22IPR16	Research Methodology and IPR	Civil Engineering	3	0	0	0	3	50	50	100	3
7	PCCL	MVJ22CSEL17	Structural Software Lab-I	Civil Engineering	1	2	0	0	3	50	50	100	2
8	AUD/AEC	MVJ22CSE18	Health monitoring of Structures (online)	Civil Engineering	Classes and evaluation procedures are as per the policy of the online course providers							PP	
<b>Total</b>					<b>17</b>	<b>4</b>	<b>6</b>	<b>-</b>	<b>-</b>	<b>350</b>	<b>350</b>	<b>700</b>	<b>22</b>

Note: BSC-Basic Science Courses, PCC: Professional core. IPCC-Integrated Professional Core Courses, MCC- Mandatory Credit Course, AUD/AEC –Audit Course / Ability Enhancement Course(A pass in AUD/AEC is mandatory for the award of the degree), 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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 Semester II

S. No	Course		Course Title	Teaching Department	Teaching hours/week				Examination				Credits
					Theory	Practical / Seminar	Tutorial / Skill Development Activity	Self-Study Component	Duration in Hours	CIE Marks	SEE Marks	Total marks	
	Type	Code			L	P	T	S					
1	PCC	MVJ22CSE21	Advanced Design of Steel Structures	Civil Engineering	2	0	2	0	3	50	50	100	3
2	IPCC	MVJ22CSE22	Finite Element Method and Laboratory	Civil Engineering	3	2	0	0	3	50	50	100	4
3	PEC	MVJ22CSE23X	Professional elective -1	Civil Engineering	2	0	2	0	3	50	50	100	3
4	PEC	MVJ22CSE24X	Professional elective -2	Civil Engineering	2	0	2	0	3	50	50	100	3
5	MPC	MVJ22CSE25	Mini Project with seminar	Civil Engineering	0	4	2	0	-	100	-	100	3
6	PCCL	MVJ22CSEL26	Structural Software Lab-2	Civil Engineering	1	2	0	0	3	50	50	100	2
7	AUD/AEC	MVJ22CSE27	Challenges in Construction and Management (Online)	Civil Engineering	Classes and evaluation procedures are as per the policy of the online course providers							PP	
<b>Total</b>					<b>10</b>	<b>8</b>	<b>8</b>	<b>-</b>	<b>-</b>	<b>350</b>	<b>250</b>	<b>600</b>	<b>18</b>

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).

Professional Elective -1		Professional Elective -2	
MVJ22CSE231	Advanced Design of Pre-stressed Concrete Structures	MVJ22CSE241	Stability of Structures
MVJ22CSE232	Earthquake Resistant Structures	MVJ22CSE242	Design of High Rise Structures
MVJ22CSE233	Design of Precast & Composite Structures	MVJ22CSE243	Repair and Rehabilitation of Structures
MVJ22CSE234	Reliability Analysis of Structures	MVJ22CSE244	Structural Health Monitoring

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 Semester III

S. No	Course		Course Title	Teaching Department	Teaching hours/week				Examination				Credits
					Theory	Practical / Seminar	Tutorial / Skill Development Activity	Self-Study Component	Duration in Hours	CIE Marks	SEE Marks	Total marks	
	Type	Code			L	P	T	S					
1	PCC	MVJ22CSE31	Design Concepts of Sub Structures	Civil Engineering	3	0	2	0	3	50	50	100	4
2	PEC	MVJ22CSE32X	Professional elective -3	Civil Engineering	3	0	0	0	3	50	50	100	3
3	OEC	MVJ22CSE33X	Open elective Courses-1	Civil Engineering	3	0	0	0	3	50	50	100	3
4	PROJ	MVJ22CSEP34	Project Work phase -1	Civil Engineering	0	6	0	0	-	100	-	100	3
5	SP	MVJ22CSES35	Societal Project	Civil Engineering	0	6	0	0	-	100	-	100	3
6	INT	MVJ22CSEI36	Internship	Industry	(6 weeks Internship Completed during the intervening vacation of II and III semesters.)				3	50	50	100	6
<b>Total</b>					<b>9</b>	<b>12</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>400</b>	<b>200</b>	<b>600</b>	<b>22</b>

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)

Professional Elective -3		Open Elective Courses-1	
MVJ22CSE321	Design of Concrete Bridges	MVJ22CSE331	Sustainable Concepts in Civil Engineering
MVJ22CSE322	Design of Industrial Structures	MVJ22CSE332	Remote Sensing and GIS in Engineering
MVJ22CSE323	Theory of Plates and Shells	MVJ22CSE333	Occupational Health and Safety
MVJ22CSE324	Fracture Mechanics applied to concrete		

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 Semester IV

S. No	Course		Course Title	Teaching Department	Teaching hours/week				Examination			Credits	
					Theory	Practical / Field work	Tutorial / Skill Development Activity	Self-Study Component	Duration in Hours	CIE Marks	SEE Marks		Total marks
	L	P			T	S							
1	PROJ	MVJ22CSEP41	Project work phase -2	Civil Engineering	-	8	-	-	3	100	100	200	18
<b>Total</b>					-	<b>8</b>	-	-	-	<b>100</b>	<b>100</b>	<b>200</b>	<b>18</b>

**Note:**

**1. Project Work 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 and 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.