

Scheme of Teaching and Examination

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

Effective from the Academic Year 2023-24

Department of Civil Engineering

III SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	MVJ22CV31	Strength of Materials	TD: CV PSB: CV	2	2	0	03	50	50	100	3
2	IPCC	MVJ22CV32	Engineering Survey	TD: CV PSB: CV	3	0	2	03	50	50	100	4
3	IPCC	MVJ22CV33	Fluid Mechanics and Hydraulics	TD: CV PSB: CV	3	0	2	03	50	50	100	4
4	PCC	MVJ22CV34	Transportation Engineering	TD: CV PSB: CV	3	0	0	03	50	50	100	3
5	PCCL	MVJ22CVL35	Computer-Aided Building Planning and Drawing	TD: CV PSB: CV	0	0	2	03	50	50	100	1
6	ESC	MVJ22CV36X	ESC/ETC/PLC	TD: CV PSB: CV	3	0	0	03	50	50	100	3
7	UHV	MVJ22SCR37	Social Connect and Responsibility	Any Department	0	0	2	01	100	---	100	1
8	AEC/ SEC	MVJ22A3YY1	Ability Enhancement Course (Level 1) /Skill Enhancement Course - III	TD and PSB: Concerned department	If the course is a Theory			02	50	50	100	2
					2	0	0					
					If a course is a laboratory							
					1	0	2					
9	MC	MVJ22NS39	National Service Scheme (NSS)	NSS coordinator	0	0	2	---	100	---	100	0
		MVJ22PE39	Physical Education (PE) (Sports and Athletics)	Physical Education Director								
		MVJ22YO39	Yoga	Yoga Teacher								
10	BSC	MVJ22MATDIP-1	Additional Mathematics – 1	TD: MA	1	2	0	03	50	50	100	0
Total					16/17	04	10/12	24	600	400	1000	21

PCC: Professional Core Course, **PCCL:** Professional Core Course laboratory, **UHV:** Universal Human Value Course, **MC:** Mandatory Course (Non-credit), **AEC:** Ability Enhancement Course, **SEC:** Skill Enhancement Course, **L:** Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. **K:** This letter in the course code indicates common to all the streams of Engineering. **ESC:** Engineering Science Course, **ETC:** Emerging Technology Course, **PLC:** Programming Language Course

Engineering Science Course (ESC/ETC/PLC)

MVJ22CV361	Rural, Urban Planning and Architecture	MVJ22CV363	Sustainable Design Concept for Building Services
MVJ22CV362	Geospatial Techniques in Practice	MVJ22CV364	Fire Safety in Buildings
Ability Enhancement Course – III – MVJ22AXYYL (X is Semester, YY is vertical Number, L is level of the vertical)			
MVJ22A3011	Idea Box - Innovation	MVJ22A3071	IoT – Connecting the world
MVJ22A3021	Tomorrow's Engineers – Engineering Solution to Societal Problems	MVJ22A3081	FSIPD –Ideas to Product
MVJ22A3031	Tinkering Lab – Experiment and Conceptualize	MVJ22A3091	Software Development - Code your ideas
MVJ22A3041	UAV – Develop Drones	MVJ22A3101	LabVIEW – Graphical Programming
MVJ22A3051	Astronomy – Explore the space	MVJ22A3111	CNC Programming – Advanced Manufacturing
MVJ22A3061	Robotics and Industrial Automation Lab – Design Robots	MVJ22A3121	NCC
<p>Professional Core Course (IPCC): Refers to Professional Core Course Theory Integrated with practical of the same course. Credit for IPCC can be 04 and its Teaching– Learning hours (L: T: P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./ B. Tech.) 2022-23 may please be referred.</p> <p>National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first Week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the Degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of Degree.</p>			

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 2023-24

Department of Civil Engineering

IV SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week			Examination				Credit
					Theory Lectur	Tutorial	Practical/ Drawing	Duration in	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	MVJ22CV41	Analysis of Structures	TD: CV PSB: CV	3	0	0	03	50	50	100	3
2	PCC	MVJ22CV42	Water Supply and Waste water Engineering	TD: CV PSB: CV	3	0	0	03	50	50	100	3
3	IPCC	MVJ22CV43	Geotechnical Engineering	TD: CV PSB: CV	3	0	2	03	50	50	100	4
4	PCCL	MVJ22CVL44	Building Materials Testing Lab	TD: CV PSB: CV	0	0	2	03	50	50	100	1
5	ESC	MVJ22CV45X	ESC/ETC/PLC	TD: CV PSB: CV	3	0	0	03	50	50	100	3
6	AEC/ SEC	MVJ22A4YY2	Ability Enhancement Course (Level2) /Skill Enhancement Course- IV	TD and PSB: Concerned department	If the course is Theory			02	50	50	100	2
					2	0	0					
					If the course is a lab							
					1	0	2					
7	BSC	MVJ22BI47	Biology For Engineers	TD / PSB: BT, CHE	2	0	0	03	50	50	100	2
8	UHV	MVJ22UHV48	Universal human values course	Any Department	1	0	0	01	50	50	100	1
9	MC	MVJ22NS49	National Service Scheme (NSS)	NSS coordinator	0	0	2	---	100	---	100	0
		MVJ22PE49	Physical Education (PE) (Sports and Athletics)	Physical Education Director								
		MVJ22YO49	Yoga	Yoga Teacher								
10	BSC	MVJ22MATDIP-2	Additional Mathematics – 2	TD: MA	1	2	0	03	50	50	100	0
Total					17/18	02	6/8	24	550	450	1000	19

PCC: Professional Core Course, **PCCL:** Professional Core Course laboratory, **UHV:** Universal Human Value Course, **MC:** Mandatory Course (Non-credit), **AEC:** Ability Enhancement Course, **SEC:** Skill Enhancement Course, **L:** Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. **K :** This letter in the course code indicates common to all the stream of engineering.

Engineering Science Course (ESC/ETC/PLC)

MVJ22CV451	Building Information Modelling in Civil Engineering	MVJ22CV453	Concreting Techniques & Practices
MVJ22CV452	Construction Equipment, Plants and Machinery	MVJ22CV454	Watershed Management

Ability Enhancement Course / Skill Enhancement Course – IV - MVJ22AXYYL (X is Semester, YY is vertical Number, L is level of the vertical)

MVJ22A4012	Idea Box - Innovation	MVJ22A4072	IoT – Connecting the world
MVJ22A4022	Tomorrow's Engineers – Engineering Solution to Societal Problems	MVJ22A4082	FSIPD – Ideas to Product
MVJ22A4032	Tinkering Lab – Experiment and Conceptualize	MVJ22A4092	Software Development - Code your ideas
MVJ22A4042	UAV – Develop Drones	MVJ22A4102	LabVIEW – Graphical Programming
MVJ22A4052	Astronomy – Explore the space	MVJ22A4112	CNC Programming – Advanced Manufacturing
MVJ22A4062	Robotics and Industrial Automation Lab – Design Robots	MVJ22A4122	NCC

Professional Core Course (IPCC): Refers to Professional Core Course Theory Integrated with practical of the same course. Credit for IPCC can be 04 and its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./B.Tech.) 2022-23

National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first Week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the Degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the courses is mandatory for the award of Degree.

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Scheme of Teaching and Examination

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Effective from the Academic Year 2023-24

Department of Civil Engineering

V SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week			Examination			Credits	
					Theory	Tutorial	Practical/ Drawing	Duration in	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	HSMS	MVJ22CV51	Construction Management and Entrepreneurship	TD: CV PSB: CV	3	0	0	03	50	50	100	3
2	IPCC	MVJ22CV52	Engineering Geology and Geo-informatics	TD: CV PSB: CV	3	0	2	03	50	50	100	4
3	IPCC	MVJ22CV53	Concrete Technology	TD: CV PSB: CV	3	0	2	03	50	50	100	4
4	PCCL	MVJ22CVL54	Environmental Engineering Lab	TD: CV PSB: CV	0	0	2	03	50	50	100	1
5	PEC	MVJ22CV55x	Professional Elective Course	TD: CV PSB: CV	3	0	0	03	50	50	100	3
6	PROJ	MVJ22CVP56	Mini Project	TD: CV PSB: CV	0	0	4	03	100		100	2
7	AEC	MVJ22RMI57	Research Methodology and IPR	TD and PSB: Concerned department	2	2	0	02	50	50	100	3
8	MC	MVJ22ENV58	Environmental Studies	TD: CV PSB: CV	2	0	0	02	50	50	100	2
9	MC	MVJ22NS59	National Service Scheme (NSS)	NSS coordinator	0	0	2	---	100	---	100	0
		MVJ22PE59	Physical Education (PE) (Sports and Athletics)	Physical Education Director								
		MVJ22YO59	Yoga	Yoga Teacher								
Total					16	02	12	22	550	350	900	22

Professional Elective Course

MVJ22CV551	Numerical Methods in Civil Engineering	MVJ22CV553	Solid Waste Management
MVJ22CV552	Occupational Safety and Health Monitoring	MVJ22CV554	Remote Sensing and GIS

PCC: Professional Core Course, **PCCL:** Professional Core Course laboratory, **UHV:** Universal Human Value Course, **MC:** Mandatory Course (Non-credit), **AEC:** Ability Enhancement Course, **SEC:** Skill Enhancement Course, **L:** Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. **K :** The letter in the course code indicates common to all the stream of Engineering. **PROJ:** Project /Mini Project. **PEC:** Professional Elective Course

Professional Core Course (IPCC): Refers to Professional Core Course Theory Integrated with practicals of the same course. Credit for IPCC can be 04 and its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./B.Tech.) 2022-23

National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first Week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the Degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of Degree.

Mini-project work: Mini Project is a laboratory-oriented/hands on course that will provide a platform to students to enhance their practical knowledge and skills by the development of small systems/applications etc. Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two faculty members of the Department, one of them being the Guide. The CIE marks awarded for the Mini-project work shall be based on the evaluation of the project report, project presentation skill, and question and answer session in the ratio of 50:25:25. The marks awarded for the project report shall be the same for all the batches mates.

(ii) Interdisciplinary: Continuous Internal Evaluation shall be group-wise at the college level with the participation of all the guides of the project.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of the project report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

No SEE component for Mini-Project.

Professional Elective Courses (PEC): A professional elective (PEC) course is intended to enhance the depth and breadth of educational experience in the Engineering and Technology curriculum. Multidisciplinary courses that are added supplement the latest trend and advanced technology in the selected stream of Engineering. Each group will provide an option to select one course. The minimum number of students' strengths for offering a professional elective is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.

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Department of Civil Engineering

VI SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week			Examination				Credits
					Theory	Tutorial	Practical/ Drawing	Duration	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	IPCC	MVJ22CV61	Design of RCC Structures	TD: CV PSB: CV	3	0	2	03	50	50	100	4
2	PCC	MVJ22CV62	Irrigation Engineering and Hydraulic Structures	TD: CV PSB: CV	3	0	0	03	50	50	100	3
3	PEC	MVJ22CV63x	Professional Elective Course	TD: CV PSB: CV	3	0	0	03	50	50	100	3
4	OEC	MVJ22CV64x	Open Elective Course	TD and PSB: Concerned department	3	0	0	03	50	50	100	3
5	PROJ	MVJ22CVP65	Major Project Phase I	TD: CV PSB: CV	0	0	4	03	100	--	100	2
6	PCCL	MVJ22CVL66	Software Application Lab	TD: CV PSB: CV	0	0	2	03	50	50	100	1
7	AEC/ SDC	MVJ22A6YY3	Ability Enhancement Course (Level 3) /Skill Development Course V	TD and PSB: Concerned department	If the course is offered as a Theory			01	50	50	100	2
					2	0	0					
					If course is offered as a practical							
					1	0	2					
8	MC	MVJ22NS68	National Service Scheme (NSS)	NSS coordinator	0	0	2	---	100	---	100	0
		MVJ22PE68	Physical Education (PE) (Sports and Athletics)	Physical Education Director								
		MVJ22YO68	Yoga	Yoga Teacher								
Total					13	00	10/12	19	500	300	800	18
Professional Elective Course												
MVJ22CV631	Design of Bridges			MVJ22CV633	Applied Geotechnical Engineering							
MVJ22CV632	Design of form work and scaffolding			MVJ22CV634	Design and Construction of Highway Pavements							
Open Elective Course												
MVJ22CV641	Water conservation and Rainwater Harvesting			MVJ22CV643	Integrated Waste Management for a Smart City							
MVJ22CV642	Geographic Information Systems			MVJ22CV644	Sustainable Development Goals							

Ability Enhancement Course / Skill Enhancement Course – VI - MVJ22AXYYL (X is Semester, YY is vertical Number, L is level of the vertical)			
MVJ22A6013	Idea Box - Innovation	MVJ22A6073	IoT – Connecting the world
MVJ22A6023	Tomorrow's Engineers – Engineering Solution to Societal Problems	MVJ22A6083	FSIPD –Ideas to Product
MVJ22A6033	Tinkering Lab – Experiment and Conceptualize	MVJ22A6093	Software Development - Code your ideas
MVJ22A6043	UAV – Develop Drones	MVJ22A6103	LabVIEW – Graphical Programming
MVJ22A6053	Astronomy – Explore the space	MVJ22A6113	CNC Programming – Advanced Manufacturing
MVJ22A6063	Robotics and Industrial Automation Lab – Design Robots	MVJ22A6123	NCC
<p>PCC: Professional Core Course, PCCL: Professional Core Course laboratory, UHV: Universal Human Value Course, MC: Mandatory Course (Non-credit), AEC: Ability Enhancement Course, SEC: Skill Enhancement Course, L: Lecture, T: Tutorial, P: Practical S= SDA: Skill Development Activity, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation. K : The letter in the course code indicates common to all the stream of Engineering. PROJ: Project /Mini Project. PEC: Professional Elective Course. PROJ: Project Phase -I, OEC: Open Elective Course</p>			
<p>Professional Core Course (IPCC): Refers to Professional Core Course Theory Integrated with practicals of the same course. Credit for IPCC can be 04 and its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./B.Tech.) 2022-23.</p> <p>National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first Week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the Degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of Degree.</p>			
<p>Professional Elective Courses (PEC): A professional elective (PEC) course is intended to enhance the depth and breadth of educational experience in the Engineering and Technology curriculum. Multidisciplinary courses that are added supplement the latest trend and advanced technology in the selected stream of Engineering. Each group will provide an option to select one course. The minimum number of students' strengths for offering professional electives is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.</p>			
<p>Open Elective Courses: Students belonging to a particular stream of Engineering and Technology are not entitled to the open electives offered by their parent Department. However, they can opt for an elective offered by other Departments, provided they satisfy the prerequisite condition if any. Registration to open electives shall be documented under the guidance of the Program Coordinator/ Advisor/Mentor. The minimum numbers of students' strength for offering Open Elective Course is 10. However, this condition shall not be applicable to class where the admission to the program is less than 10.</p>			
<p>Project Phase-I : Students have to discuss with the mentor /guide and with their help he/she has to complete the literature survey and prepare the report and finally define the problem statement for the project work.</p>			

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Scheme of Teaching and Examination

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Effective from the Academic Year 2022-23

Department of Civil Engineering

VII SEMESTER (Swappable VII and VIII SEMESTER)

Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week			Examination				Credits
					Theory	Tutorial	Practical/ Drawing	Duration	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	IPCC	MVJ22CV71	Design of Steel Structures	TD: CV PSB: CV	3	0	2	03	50	50	100	4
2	PCC	MVJ22CV72	Estimation and Contract Management	TD: CV PSB: CV	3	2	0	03	50	50	100	4
3	PCC	MVJ22CV73	Prestressed Concrete	TD: CV PSB: CV	3	2	0	03	50	50	100	4
4	PEC	MVJ22CV74x	Professional Elective Course	TD: CV PSB: CV	3	0	0	03	50	50	100	3
5	OEC	MVJ22CV75x	Open Elective Course	TD and PSB: Concerned department	3	0	0	03	50	50	100	3
6	PROJ	MVJ22CVP76	Major Project Phase-II	TD: CV PSB: CV	0	0	12	03	100	100	200	6
Total					15	04	14	18	350	350	700	24

Professional Elective Course

MVJ22CV741	Intelligent Transport Systems	MVJ22CV744	Ground Improvement and Reinforced Earth
MVJ22CV742	Precast Members - Systems & Construction	MVJ22CV745	Design and Execution of Pile Foundations
MVJ22CV743	Earthquake Resistant Structures	MVJ22CV746	Retrofitting and Rehabilitation of Structures

Open Elective Course

MVJ22CV751	Road Safety Engineering	MVJ22CV753	Energy Efficiency, Acoustics And Day lighting In Building
MVJ22CV752	Conservation of Natural Resources	MVJ22CV754	Environmental Protection and Management

PCC: Professional Core Course, **PCCL:** Professional Core Course laboratory, **PEC:** Professional Elective Course, **OEC:** Open Elective Course **PR:** Project Work, **L:** Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. **TD-** Teaching Department, **PSB:** Paper Setting department, **OEC:** Open Elective Course, **PEC:** Professional Elective Course. **PROJ:** Project work.

Note: VII and VIII semesters of IV years of the program

- (1) Institutions can swap the VII and VIII Semester Schemes of Teaching and Examinations to accommodate research internships/ industry internships after the VI semester.
- (2) Credits earned for the courses of VII and VIII Semester Scheme of Teaching and Examinations shall be counted against the corresponding semesters whether the VII or VIII semesters is completed during the beginning of the IV year or the later part of IV years of the program.

Professional Elective Courses (PEC): A professional elective (PEC) course is intended to enhance the depth and breadth of educational experience in the Engineering and Technology curriculum. Multidisciplinary courses that are added supplement the latest trend and advanced technology in the selected stream of Engineering. Each group will provide an option to select one course. The minimum number of students' strengths for offering professional electives is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.

Open Elective Courses:

Students belonging to a particular stream of Engineering and Technology are not entitled to the open electives offered by their parent Department. However, they can opt for an elective offered by other Departments, provided they satisfy the prerequisite condition if any. Registration to open electives shall be documented under the guidance of the Program Coordinator/ Advisor/Mentor. The minimum numbers of students' strength for offering Open Elective Course is 10. However, this condition shall not be applicable to class where the admission to the program is less than 10.

PROJECT WORK (21CVP75): The objective of the Project work is

- (i) To encourage independent learning and the innovative attitude of the students.
- (ii) To develop interactive attitude, communication skills, organization, time management, and presentation skills.
- (iii) To impart flexibility and adaptability.
- (iv) To inspire team working.
- (v) To expand intellectual capacity, credibility, judgment and intuition.
- (vi) To adhere to punctuality, setting and meeting deadlines.
- (vii) To install responsibilities to oneself and others.
- (viii) To train students to present the topic of project work in a seminar without any fear, face the audience confidently, enhance communication skills, involve in group discussion to present and exchange ideas.

CIE procedure for Project Work:

(1) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work, shall be based on the evaluation of the project work Report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(2) Interdisciplinary: Continuous Internal Evaluation shall be group-wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work, shall be based on the evaluation of project work Report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE procedure for Project Work: SEE for project work will be conducted by the two examiners appointed by the University. The SEE marks awarded for the project work shall be based on the evaluation of project work Report, project presentation skill, and question and answer session in the ratio 50:25:25.

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Department of Civil Engineering

Semester VIII

VIII SEMESTER (Swappable VII and VIII SEMESTER)

Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week			Examination				Credits
					Theory	Tutorial	Practical/ Drawing	Duration	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PEC	MVJ22CV81x	Professional Elective (Online Courses)	TD: CV PSB: CV	3	0	0	03	50	50	100	3
2	OEC	MVJ22CV82x	Open Elective (Online Courses)	TD and PSB: Concerned department	3	0	0	01	50	50	100	3
3	INT	MVJ22CVI83	Internship (Industry/Research) (14 - 20 Weeks)	TD: CV PSB: CV	0	0	20	03	100	100	200	10
Total					06	0	20	07	200	200	400	16

Professional Elective Course (Online courses)

MVJ22CV811	Deep Excavation and Tunnels	MVJ22CV815	Project Management and finance
MVJ22CV812	Pre-engineered Buildings	MVJ22CV816	Metro and Seaports Engineering
MVJ22CV813	AI and Analytics for Structural Health Monitoring	MVJ22CV817	Advanced Concrete Technology
MVJ22CV814	Data Analytics for Civil Engineers	MVJ22CV818	Problem Solving with PYTHON

Open Elective Courses (Online Courses)

MVJ22CV821	Energy Conservation in Buildings	MVJ22CV823	Green Buildings
MVJ22CV822	Occupational Health and Safety	MVJ22CV824	Integrated Building Services

L: Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. **TD-** Teaching Department, **PSB:** Paper Setting department, **OEC:** Open Elective Course, **PEC:** Professional Elective Course. **PROJ:** Project work, **INT:** Industry Internship / Research Internship / Rural Internship

Note: VII and VIII semesters of IV years of the program Swapping Facility

- Institutions can swap VII and VIII Semester Scheme of Teaching and Examinations to accommodate research internships/ industry internships/Rural Internship after the VI semester.

- Credits earned for the courses of VII and VIII Semester Scheme of Teaching and Examinations shall be counted against the corresponding semesters whether VII or VIII semester is completed during the beginning of IV year or later part of IV year of the program.

Elucidation:

At the beginning of IV years of the program i.e., after VI semester, VII semester classwork and VIII semester **Research Internship /Industrial Internship / Rural Internship** shall be permitted to be operated simultaneously by the University so that students have ample opportunity for an internship. In other words, a good percentage of the class shall attend VII semester classwork and a similar percentage of others shall attend to Research Internship or Industrial Internship or Rural Internship.

Research/Industrial /Rural Internship shall be carried out at an Industry, NGO, MSME, Innovation center, Incubation center, Start-up, center of Excellence (CoE), Study Centre established in the parent institute and /or at reputed research organizations/institutes.

The mandatory Research internship /Industry internship / Rural Internship is for 14 to 20 Weeks. The internship shall be considered as a head of passing and shall be considered for the award of a Degree. Those, who do not take up/complete the internship shall be declared to fail and shall have to complete it during the subsequent University examination after satisfying the internship requirements.

Research internship: A research internship is intended to offer the flavor of current research going on in the research field. It helps students get familiarized with the field and imparts the skill required for carrying out research.

Industry internship: Is an extended period of work experience undertaken by students to supplement their Degree for professional development. It also helps them learn to overcome unexpected obstacles and successfully navigate organizations, perspectives, and cultures. Dealing with contingencies helps students recognize, appreciate, and adapt to organizational realities by tempering their knowledge with practical constraints.

Rural Internship: Rural development internship is an initiative of Unnat Bharat Abhiyan Cell, RGIT in association with AICTE to involve students of all departments studying in different academic years for exploring various opportunities in techno-social fields, to connect and work with Rural India for their upliftment.

The faculty coordinator or mentor has to monitor the student's internship progress and interact with them to guide for the successful completion of the internship. The students are permitted to carry out the internship anywhere in India or abroad. University shall not bear any expenses incurred in respect of the internship.

With the consent of the internal guide and Principal of the Institution, students shall be allowed to carry out the internship at their hometown (**within or outside the state or abroad**), provided favorable facilities are available for the internship and the student remains regularly in contact with the internal guide. **University shall not bear any cost involved in carrying out the internship by students.** However, students can receive any financial assistance extended by the organization.

Professional Elective /Open Elective Course: These are ONLINE courses suggested by the respective Board of Studies. Details of these courses shall be made available for students on the VTU web portal.