

Government College of Engineering, Karad

(An Autonomous Institute of Govt. of Maharashtra)



Department of Civil Engineering

B.Tech Civil Curriculum Structure

Academic Year: 2023-24

Institute Vision
To emerge as a technical Institute of national repute driven by excellence in imparting value based education and innovation in research to face the Global needs of profession.
Institute Mission
To create professionally competent engineers driven with the sense of responsibility towards nature and society.
Department Vision
To educate civil engineers having value based excellence with innovative approach towards research that will help to face global challenges of this profession.
Department Mission
To promote excellence by imparting quality education in civil engineering and encouraging creativity, critical thinking and discipline along with sensitivity towards society and environment.

Programme Educational Objectives (PEO):

PEO1	Graduates of the program will have technical expertise and imbibe leadership and ethical qualities to design and execute Civil Engineering projects.
PEO2	Graduates of the program will have qualities of life-long learning, team work with effective communication for successful implementation of Civil engineering projects.
PEO3	Graduates of the program will have able to effectively manage projects globally by inculcating necessary management skills.
PEO4	Graduates of the program will develop sensitivity towards environment and society for sustainable development and effective disaster management.

Programme Outcomes (PO):

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO):

PSO1	The students will demonstrate ability to acquire in depth knowledge to practice in the field of Civil Engineering profession globally.
PSO2	The student will demonstrate the ability to apply the knowledge in desired form in respective specialization of Civil Engineering.

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Civil Engineering

Proposed Scheme of Instructions: First Year B. Tech. in Civil Engineering

Semester – I (w.e.f. 2023-24)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	BSC	CE3101	Applied Physics	3	--	--	3	3	20	20	60	100
2	BSC	CE3102	Applied Mathematics - I	3	1	--	4	4	20	20	60	100
3	ESC	CE3103	Basics of Civil Engineering	3	--	--	3	3	20	20	60	100
4	ESC	CE3104	Engineering Graphics	3	--	--	3	3	20	20	60	100
5	ESC	CE3105	Design Thinking	1	--	2	3	2	-	50	-	50
6	BSC	CE3106	Applied Physics Lab	--	--	2	2	1	-	25	25	50
7	ESC	CE3107	Engineering Graphics Lab	--	--	2	2	1	-	50	-	50
8	HSSM	CE3108	Professional Communication Skills	1	--	2	3	2	-	50	25	75
9	VSEC	CE3109	Civil Workshop	--	--	4	4	2	-	100	25	125
10	CCA	CE3110	Yoga	--	--	2	2	1	-	50	-	50
			Total	14	1	14	29	22	80	405	315	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	08	09	-	-	-	02	02	-	01
Cumulative Sum	08	09	-	-	-	02	02	-	01

PROGRESSIVE TOTAL CREDITS: 00+22 =22

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Civil Engineering

Proposed Scheme of Instructions: First Year B. Tech. in Civil Engineering

Semester – II (w.e.f. 2023-24)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	BSC	CE3201	Applied Mathematics - II	3	1	--	4	4	20	20	60	100
2	BSC	CE3202	Applied Chemistry	3	--	--	3	3	20	20	60	100
3	ESC	CE3203	Programming for problem solving	3	--	--	3	3	20	20	60	100
4	PCC	CE3204	Engineering Mechanics	3	1	--	4	4	20	20	60	100
5	HSSM	CE3205	Indian Knowledge Systems (MOOC)	-	-	-	-	2	-	-	100	100
6	BSC	CE3206	Applied Chemistry Lab	-	-	2	2	1	-	25	25	50
7	ESC	CE3207	Programming for problem solving Lab	--	--	2	2	1	-	50	-	50
8	PCC	CE3208	Engineering Mechanics Lab	--	--	2	2	1	-	50	25	75
9	VSEC	CE3209	Experiential Learning Lab	--	--	4	4	2	-	50	25	75
10	CCA	CE3210	NCC/NSS/CSP/E-Cell	--	--	2	2	1	-	50	-	50
			Total	12	2	12	26	22	80	305	415	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	08	04	05	-	-	02	02	-	01
Cumulative Sum	16	13	05	-	-	04	04	-	02

PROGRESSIVE TOTAL CREDITS: 22+22 =44

Exit Course

Exit option : Award of UG Certificate in Major with 44 credits and an additional 8 credits from following Exit Courses				
Sr. No	Course Code	Course Title	Mode	Credits
1	CE-EC-0101	Industrial Internship	Online/offline certification Course	8
		OR		
2	CE-EC-0102	Basics of Civil Infrastructure		4
	CE-EC-0104	Basics of Civil Infrastructure lab		4
		OR		
3	CE-EC-0103	Construction Materials		4
	CE-EC-0105	Construction Materials Lab		4

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SCHEME OF INSTRUCTION & SYLLABI

Programme: Civil Engineering

Proposed Scheme of Instructions: Second Year B. Tech. in Civil Engineering

Semester – III

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	BSC	CE3301	Applied Mathematics-III	2	-	-	2	2	20	20	60	100
2	PCC	CE3302	Surveying	3	--	--	3	3	20	20	60	100
3	PCC	CE3303	Geoscience	3	--	--	3	3	20	20	60	100
4	PCC	CE3304	Mechanics of Materials	3	--	--	3	3	20	20	60	100
5	MDM	CE3305	Multi-disciplinary Minor - 01	2	--	--	2	2	20	20	60	100
6	OE	CE3306	Open Elective -01	3	--	--	3	3	20	20	60	100
7	HSSM	CE3307	Professional Ethics	2	--	--	2	2	-	50	-	50
8	HSSM	CE3308	Introduction of Value Education	2	--	--	2	2	-	50	-	50
9	PCC	CE3309	Surveying Lab	--	--	2	2	1	-	25	25	50
10	OE	CE3310	Open Elective -01 Lab	--	--	2	2	1	-	25	25	50
Total				20	0	4	24	22	120	270	410	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	02	-	10	-	06	-	04	-	-
Cumulative Sum	18	13	15	-	06	04	08	-	02

PROGRESSIVE TOTAL CREDITS: 44+22 =66

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Programme: Civil Engineering

Proposed Scheme of Instructions: Second Year B. Tech. in Civil Engineering

Semester – IV

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	CE3401	Geotechnical Engineering	3	--	--	3	3	20	20	60	100
2	PCC	CE3402	Concrete Technology	3	1	--	4	4	20	20	60	100
3	PCC	CE3403	Fluid Mechanics	3	--	--	3	3	20	20	60	100
4	MDM	CE3404	Multi-disciplinary Minor - 02	2	--	--	2	2	20	20	60	100
5	OE	CE3405	Open Elective -02	2	--	--	2	2	20	20	60	100
6	HSSM	CE3406	Strategic Management	2	--	--	2	2	-	50	-	50
7	HSSM	CE3407	Professional Ethics and Human Values	2	--	--	2	2	-	50	-	50
8	VSEC	CE3408	Geotechnical Engineering Lab		--	2	2	1	-	25		25
9	PCC	CE3409	Concrete Technology Lab	--	--	2	2	2	-	25	25	50
10	EL	CE3410	Fluid Mechanics Lab	--	--	2	2	1	-	25		25
11	BSC	CE3411	Environmental Science	2	--	--	2	Audit	20	20	60	100
			Total	19	2	6	27	22	120	295	385	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	12	-	04	02	04	02	-
Cumulative Sum	18	13	27	-	10	06	12	02	02

PROGRESSIVE TOTAL CREDITS: 66+22 =88

Exit Course

Exit option : Award of UG Diploma in Major with 88 credits and an additional 8 credits from following Exit Courses				
Sr. No	Course Code	Course Title	Mode	Credits
1	CE-EC-0204	Building Planning Drawing and Design Studio	Online/offline certification Course	8
		OR		
2	CE-EC-0205	Industrial Internship		8

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Programme: Civil Engineering

Proposed Scheme of Instructions: Third Year B. Tech. in Civil Engineering

Semester – V

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	CE3501	Structural Mechanics	3	--	--	3	3	20	20	60	100
2	PCC	CE3502	Building Planning and Design	3	--	--	3	3	20	20	60	100
3	PCC	CE3503	Transportation Engineering	3	1	--	4	4	20	20	60	100
4	PEC	CE35*4	Program Elective -01	3	--	--	3	3	20	20	60	100
5	MDM	CE3505	Multi-disciplinary Minor - 03	3	--	--	3	3	20	20	60	100
6	OE	CE3506	Open Elective -03	2	--	--	2	2	20	20	60	100
7	PCC	CE3507	Building Planning and Design Lab	--	--	2	2	1	-	25	25	50
8	PCC	CE3508	Transportation Engineering Lab	--	--	2	2	1	-	50	-	50
9	PEC	CE35*9	Program Elective -01 Lab	--	--	2	2	1	-	25	25	50
10	MDM	CE3510	Multi-disciplinary Minor – 03 Lab	--	--	2	2	1	-	50	-	50
Total				17	1	8	26	22	120	270	410	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	12	04	06	-	-	-	-
Cumulative Sum	18	13	39	04	16	06	12	02	02

PROGRESSIVE TOTAL CREDITS: 88+22=110

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Programme: Civil Engineering

Proposed Scheme of Instructions: Third Year B. Tech. in Civil Engineering

Semester – VI

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	CE3601	Foundation Engineering	3	--	--	3	3	20	20	60	100
2	PCC	CE3602	Limit State Design of Concrete Structures	3	--	--	3	3	20	20	60	100
3	PCC	CE3603	Quantity Surveying and Valuation	2	--	--	2	2	20	20	60	100
4	PEC	CE36*4	Program Elective -02	3	--	--	3	3	20	20	60	100
5	PEC	CE3605	Environmental Engineering	3	--	--	3	3	20	20	60	100
6	MDM	CE3606	Multi-disciplinary Minor - 04	2	--	--	2	2	20	20	60	100
7	VSEC	CE3607	Foundation Engineering Lab	1	--	2	3	2	-	25	25	50
8	PCC	CE3608	Limit State Design of Concrete Structures Lab	--	--	2	2	1	-	25	25	50
9	PCC	CE3609	Quantity Surveying and Valuation Lab	--	--	2	2	1	-	25	25	50
10	PEC	CE3310	Program Elective -02 Lab	--	--	2	2	1	-	25	-	25
11	PEC	CE3311	Environmental Engineering Lab	--	--	2	2	1	-	25	-	25
Total				17	0	10	27	22	120	245	435	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	10	08	02	02	-	-	-
Cumulative	18	13	49	12	18	08	12	02	02

PROGRESSIVE TOTAL CREDITS: 110+22 =132

Exit option : Award of B. Vocational in Major with 132 credits and an additional 8 credits from following Exit Courses				
Sr. No	Course Code	Course Title	Mode	Credits
1	CET-EC-0306	Construction Planning Management	Online/offline certification Course	8
		OR		
2	CE-EC-0307	Construction Practices		8
		OR		
3	CE-EC-0308	Industrial Internship		8

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SCHEME OF INSTRUCTION & SYLLABI

Programme: Civil Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Civil Engineering

Semester – VII

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	CE3701	Water Resources Engineering	3	--	--	3	3	20	20	60	100
2	PCC	CE3702	Design of RCC and pre-stressed Concrete structures	3	--	--	3	3	20	20	60	100
3	PEC	CE37*3	Program Elective -03	2	--	--	2	2	20	20	60	100
4	EL	CE3704	Research Methodology	3	--	--	3	3	20	20	60	100
5	MDM	CE3705	Multi-disciplinary Minor - 05	2	--	--	2	2	20	20	60	100
6	PCC	CE3706	Design of RCC and pre-stressed Concrete structures Lab	-	-	2	2	1		50	50	100
7	EL	CE3707	Project Phase - I	--	--	16	16	8	-	100	100	200
Total				13	0	18	31	22	100	250	450	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	07	02	02	-	-	11	-
Cumulative Sum	18	13	56	14	20	08	12	13	02

PROGRESSIVE TOTAL CREDITS: 132+22 =154

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SCHEME OF INSTRUCTION & SYLLABI

Programme: Civil Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Civil Engineering

Semester – VIII (Academic Mode)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	CE3801	Management for Civil Engineering	2	--	--	2	2	20	20	60	100
2	PCC	CE3802	Design of steel structure	3	--	--	3	3	20	20	60	100
3	PEC	CE38*3	Program Elective -04	2	--	--	2	2	20	20	60	100
4	PEC	CE3804	Hydraulic Structures	3	--	--	3	3	20	20	60	100
5	MDM	CE3805	Multi-disciplinary Minor - 06	2	--	--	2	2	20	20	60	100
6	PCC	CE3806	Design of steel structure Lab	--	--	2	2	1	-	50	50	100
7	EL	CE3807	Project Phase - II	--	--	18	18	9	-	100	100	200
Total				12	0	20	32	22	100	250	450	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	06	05	02	-	-	09	-
Cumulative Sum	18	13	60	19	22	08	12	22	02

PROGRESSIVE TOTAL CREDITS: 154+22 =176

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Civil Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Civil Engineering

Semester – VIII (Industry Mode)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	MOOC	CE3808	MOOC - I					4			100	150
2	MOOC	CE3809	MOOC - II					4			100	150
3	MDM	CE3810	Multi-disciplinary Minor - 07	2	--	--	2	2	20	20	60	100
4	EL	CE3811	Internship	--	--	--	-	12	-	250	250	500
			Total	2	-	-	2	22	20	270	510	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE- In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	06	06	02	-	-	04	-
Cumulative Sum	18	13	60	19	22	08	12	22	02

PROGRESSIVE TOTAL CREDITS: 154+22 =176

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Programme: Civil Engineering

Proposed Scheme of Instructions: Final Year B. Tech. in Civil Engineering

Semester – VIII (Research Mode)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	MOOC	CE3812	MOOC - I					4			100	100
2	MOOC	CE3814	MOOC - II					4			100	100
5	MDM	CE3815	Multi-disciplinary Minor - 08	2	--	--	2	2	20	20	60	100
3	EL	CE3816	Research Project	--	--	--	-	12	-	250	250	500
			Total	2	-	-	2	22	20	270	510	800

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE- In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	06	06	02	-	04	04	-
Cumulative Sum	18	13	60	19	22	08	12	22	02

PROGRESSIVE TOTAL CREDITS: 154+22 =176

List of Elective subject:

Elective-I CE35*4	Elective- I Lab CE35*9	Elective-II CE36*4	Elective-III CE37*3	Elective-IV CE38*3
CE3514: Advanced Geotechnical Engineering	CE3519: Advanced Geotechnical Engineering Lab	CE3614: Professional Practices in Civil Engineering	CE3713: Industrial Waste Treatment	CE3813: Earthquake resistant design of structures
CE3524: Building Services	CE3529: Building Services Lab	CE3624: Town planning and Transportation Engineering	CE3723: Water Power Engineering	CE3823: Tunnel Engineering
CE3534: Advanced Surveying	CE3539: Advanced Surveying Lab	CE3634: Ground improvement Techniques	CE3733: Hydraulics in Environmental Engineering	CE3833: Green Building and Sustainability
CE3544: Advanced Engineering Geology	CE3549: Advanced Engineering Geology Lab	CE3644: Traffic Engineering	CE3743: Advanced Construction Practices	CE3843: Bridge Engineering
CE3554: Repairs and Rehabilitation of Structures	CE3559: Repairs and Rehabilitation of Structures Lab	CE3654: Advanced Structural Analysis	CE3753: Analysis of Indeterminate Structure	CE3853:Advanced Design of Concrete Structures

List of Open Elective

Open Elective-I	Open Elective-II	Open Elective-III
CE3306: Environmental Impact Assessment	CE3405: Project Management	CE3506: Remote Sensing and GIS

Basic Science Courses (BSC) Bucket for Semester I							
Sr. No.	Course Code	Name	Lecture	Tutorial	Practical	Credits	Semester
1	BSC-101	Physics	2	0	2	3	I
2	BSC-102	Electromagnetism and Optics	3	0	0	3	I
3	BSC-103	Biology for Engineering	2	0	2	3	I
4	BSC-104	Mathematics-I	2	1	0	3	I
5	BSC-105	Linear Algebra and Calculus	2	1	0	3	I

Basic Science Courses (BSC) Bucket for Semester II							
Sr. No.	Course Code	Name	Lecture	Tutorial	Practical	Credits	Semester
1	BSC-201	Mathematics-II	3	1	0	3	II
2	BSC-202	Probability Statistics and Random Processes	3	1	0	3	II
3	BSC-203	Complex Analysis & Differential Equation	3	1	0	3	II
4	BSC-204	Chemistry	3	0	0	3	II
5	BSC-205	Optimization Methods and Applications	2	0	0	2	II
6	BSC-206	Envirnmental Science	2	0	0	2	II
7	BSC-207	Coputational Statistics	2	0	0	2	II

List of Multi-disciplinary Minor:

Specialization	Journalism	Social Science	Fine Art	Law	Music	Management & Finance
Multi-disciplinary Minor - 01	Principles of Communication	Indian Economics	History & Appreciation of Art	Constitutional Law	Theory of Indian Music	Microeconomics
Multi-disciplinary Minor – 02	Fundamentals of Journalism	Introduction to Sociology	Portrait Painting	Human Rights & International Law	Ancient and Modern Poetry	Corporate Social Responsibility
Multi-disciplinary Minor – 03	Cyber Journalism	Geo-Informatics	Poster Design	Environmental Law	The Evolution of music	Principles of Accounting
Multi-disciplinary Minor – 04	Basics of Design & Graphics	Introduction to Political Sciences	Press Advertisement	Civil Procedure Code (CPC)	Music and Film	Business Intelligence
Multi-disciplinary Minor – 05	Mass Communication: Concepts and Processes	Corporate sociology	Graphics Printmaking	Intellectual Property Law	Introduction to Electronic and Computer Music	Marketing Research
Multi-disciplinary Minor - 06	IT and Online Journalism	Modern India- Political ,Economic & Social Ethos	Indian Aesthetic, Portrait Painting	Cyber Law	Analysis of Tonal Music	Corporate Governance and Business Ethics

BASKET OF BASIC SCIENCES COURSES (BSC)

LIST OF BSC COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3101	Applied Physics	3	--	--	3
2.	CE3102	Applied Mathematics - I	3	1	--	4
3.	CE3106	Applied Physics Lab	--	--	2	1
SEMESTER II						
4.	CE3201	Applied Mathematics - II	3	1	--	4
5.	CE3202	Applied Chemistry	3	--	--	3
6.	CE3206	Applied Chemistry Lab	--	--	2	1
SEMESTER III						
7.	CE3301	Applied Mathematics-III	3/2	-	-	2
TOTAL						18

BASKET OF ENGINEERING SCIENCE COURSES (ESC)

LIST OF ESC COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3103	Basics of Civil Engineering	3	--	--	3
2.	CE3104	Engineering Graphics	3	--	--	3
3.	CE3105	Design Thinking	1	--	2	2
4.	CE3107	Engineering Graphics Lab	--	--	2	1
SEMESTER II						
4.	CE3203	Programming for problem solving	3	--	--	3
5.	CE3207	Programming for problem solving Lab	-	-	2	1
TOTAL						13

BASKET OF PROGRAMME ELECTIVE COURSE (PEC)

LIST OF PEC COURSES OFFERED SEMESTER WISE						
SEMESTER V						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE35*4	Program Elective-01	3	--	--	3
2.	CE35*9	Program Elective-01 Lab	--	--	2	1
SEMESTER VI						
3.	CE36*4	Program Elective-02	3	--	--	3
4.	CE3605	Environmental Engineering	3	--	--	3
5.	CE3310	Program Elective -02 Lab	--	--	2	1
6.	CE3311	Environmental Engineering Lab	--	--	2	1
SEMESTER VII						
7.	CE37*3	Program Elective -03	2	--	--	2
SEMESTER VIII						
8.	CE38*3	Program Elective-04	2	--	--	2
9.	CE3804	Hydraulic Structures	3	--	--	3
TOTAL						19

BASKET OF PROGRAMME CORE COURSE (PCC)

LIST OF BSC COURSES OFFERED SEMESTER WISE						
SEMESTER II						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3204	Engineering Mechanics	3	--	--	3
2.	CE3208	Engineering Mechanics Lab	--	--	2	1
SEMESTER III						
3.	CE3302	Surveying	3	--	--	3
4.	CE3303	Geoscience	3	--	--	3
5.	CE3304	Mechanics of Materials	3	--	--	3
6.	CE3309	Surveying Lab	--	--	2	1
SEMESTER IV						
7.	CE3401	Geotechnical Engineering	3	--	--	3
8.	CE3402	Concrete Technology	3	1	--	4
9.	CE3403	Fluid Mechanics	2	--	--	2
10.	CE3409	Concrete Technology Lab	--	--	2	1
SEMESTER V						
8.	CE3501	Structural Mechanics	3	--	--	3
9.	CE3502	Building Planning and Design	3	--	--	3
10.	CE3503	Transportation Engineering	3	1	--	4
11.	CE3507	Building Planning and Design Lab	--	--	2	1
12.	CE3508	Transportation Engineering Lab	--	--	2	1

SEMESTER VI						
13.	CE3601	Foundation Engineering	3	--	--	3
14.	CE3602	Limit State Design of Concrete Structures	3	--	--	3
15.	CE3603	Quantity Surveying and Valuation	2	--	--	2
16.	CE3608	Limit State Design of Concrete Structures Lab	--	--	2	1
17.	CE3609	Quantity Surveying and Valuation Lab	--	--	2	1
SEMESTER VII						
18.	CE3701	Water Resources Engineering	3	--	--	3
19.	CE3702	Design of RCC and pre-stressed Concrete structures	3	--	--	3
20.	CE3706	Design of RCC and pre-stressed Concrete structures Lab	-	-	2	1
SEMESTER VIII						
21.	CE3801	Management for Civil Engineering	2	--	--	2
22.	CE3802	Design of steel structure	3	--	--	3
23.	CE3806	Design of steel structure Lab	--	--	2	1
TOTAL						59

BASKET OF OPEN ELECTIVE OTHER THAN PARTICULAR PROGRAM (OE)

LIST OF OE COURSES OFFERED SEMESTER WISE						
SEMESTER III						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3306	Open Elective -01	3	--	--	3
2.	CE3310	Open Elective -01 Lab	--	--	2	1
SEMESTER IV						
4.	CE3405	Open Elective -02	2	--	--	2
SEMESTER III						
5.	CE3506	Open Elective -03	2	--	--	2
TOTAL						09

BASKET OF MULTIDISCIPLINARY MINOR (MDM)

LIST OF BSC COURSES OFFERED SEMESTER WISE						
SEMESTER III						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3305	Multi-disciplinary Minor - 01	2	--	--	2
SEMESTER IV						
2.	CE3404	Multi-disciplinary Minor - 02	2	--	--	2
SEMESTER V						
3.	CE3505	Multi-disciplinary Minor - 03	3	--	--	3
4.	CE3510	Multi-disciplinary Minor – 03 Lab	--	--	2	1
SEMESTER VI						
5.	CE3606	Multi-disciplinary Minor - 04	2	--	--	2
SEMESTER VII						
6.	CE3705	Multi-disciplinary Minor - 05	2	--	--	2
SEMESTER VIII						
7.	CE3805	Multi-disciplinary Minor - 06	2	--	--	2
TOTAL						13

BASKET OF Vocational And Skill Enhancement Course (VSEC)

LIST OF VESC COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3109	Civil Workshop	--	--	4	2
SEMESTER II						
2.	CE3209	Experiential Learning Lab	2	--	2	3
SEMESTER IV						
7.	CE3408	Geotechnical Engineering Lab	1	--	2	2
SEMESTER VI						
8.	CE3607	Foundation Engineering Lab	1	--	2	2
						09

BASKET OF HUMANITIES SOCIAL SCIENCE AND MANAGEMENT (HSSM)

LIST OF HSSM COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3108	Professional Communication Skills	1	--	2	2
SEMESTER II						
2.	CE3205	Indian Knowledge Systems (MOOC)	--	--	--	2
SEMESTER III						
3.	CE3307	Professional Ethics	2	--	--	2
4.	CE3308	Introduction of Value Education	2	--	--	2
SEMESTER IV						
5.	CE3406	Strategic Management	2	--	--	2
6.	CE3407	Professional Ethics and Human Values	2	--	--	2
TOTAL						12

BASKET OF EXPERIENTIAL LEARNING (EL)

LIST OF EL COURSES OFFERED SEMESTER WISE						
SEMESTER IV						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3410	Fluid Mechanics Lab	--	--	4	2
SEMESTER VII						
2.	CE3704	Research Methodology	3	--	--	3
3.	CE3707	Project Phase – I	--	--	16	8
SEMESTER VIII						
7.	CE3807	Project Phase – II	--	--	18	9
TOTAL						22

BASKET OF CO-CURRICULAR AND EXTRACURRICULAR ACTIVITIES(CCA)

LIST OF CCA COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3110	Yoga	--	--	2	1
SEMESTER II						
2.	CE3210	NCC/NSS/CSP/E-Cell	--	--	2	1
TOTAL						02

BASKET OF MOOC

LIST OF MOOC COURSES OFFERED SEMESTER WISE						
SEMESTER VIII (Industry Mode)						
Sr no.	Course Code	Course	L	T	P	Credits
1.	CE3808	MOOC – I	--	--	--	4
2.	CE3809	MOOC – II	--	--	--	4
SEMESTER VIII (Research Mode)						
3.	CE3812	MOOC – I	--	--	--	4
4.	CE3814	MOOC – II	--	--	--	4
5.	CE3815	Multi-disciplinary Minor – 08 (MOOC)	2	--	--	2
TOTAL						18