



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

Group-II (Civil Engineering)

Annexure – I

CREDIT FRAMEWORK STRUCTURE

Semester		I	II	III	IV	V	VI	VII	VIII	Total Credits
Basic Science Course	BSC/ESC	7	7							14
Engineering Science Course		6	6							12
Program Core Course (PCC)	Program Courses	2	2	13	10	7	4	6		44
Program Elective Course (PEC)						4	6	6	4	20
Multidisciplinary Minor (MDM)	Multidisciplinary Courses			2	3	3	3	3		14
Open Elective (OE) Other than a particular program						2	3	3		8
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	2		1	1	2	2			8
Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	1	1			2				4
Entrepreneurship/Economics/Management Courses				2	2					4
Indian Knowledge System (IKS)			2							2
Value Education Course (VEC)				2	2					4
Research Methodology	Experiential Learning Courses								4	4
Comm. Engg. Project (CEP)/ Field Project (FP)					2					2
Project							2	2		4
Internship/OJT									12	12
Co-curricular Courses (CC)	Liberal Learning Courses	2	2							4
Total Credits (Major)		20	160							

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Group-II (Civil Engineering)

GROUP II : SEMESTER I

Sr. No.	Course Category	Course Code	Course Title	Hours per Week			Credits	Mid-Sem Examination	Maximum Marks			Minimum Passing marks	No of Hours for ESE
				L	T	P			Continual Assessment	End Sem Examination	Total		
1	BSC	25CV101T	Applied Physics	2	-	-	2	10	10	30	50	23	1.5
2	BSC	25CV101P	Applied Physics Lab	-	-	2	1	-	25	25	50	25	-
3	BSC	25CV102T	Linear Algebra & Calculus	3	-	-	3	20	20	60	100	45	3
4	BSC	25CV102P	Linear Algebra & Calculus Lab	-	-	2	1	-	25	25	50	25	-
5	ESC	24CV103T	Engineering Mechanics	3	-	-	3	20	20	60	100	45	3
6	ESC	24CV103P	Engineering Mechanics Lab	-	-	2	1	-	25	25	50	25	-
7	ESC	24CV104T	Logic building with C Lab	-	-	4	2	-	25	25	50	25	-
8	PCC	24CV105T	Building Materials	2	-	-	2	10	10	30	50	23	1.5
9	AEC	25CV106P	Business Communication Skills I Lab	-	-	2	1	-	25	25	50	25	-
10	SEC	25CV207T	Design Thinking#	2	-	-	2	10	10	30	50	23	1.5
11	CC	25CV108T	Co-curricular Courses - I	2	-	-	2	-	50	-	50	-	-
Total				14	-	12	20	70	245	335	650	-	-

Course to be mapped with NPTEL/SWAYAM/MOOC offered course in that semester. Exam will be conducted by NPTEL/Institute

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Group-II (Civil Engineering)

GROUP II : SEMESTER II

Sr. No.	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Minimum Passing marks	No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1	BSC	25CV201T	Engineering Chemistry	2	-	-	2	10	10	30	50	23	1.5
2	BSC	25CV201P	Engineering Chemistry Lab	-	-	2	1	-	25	25	50	25	-
3	BSC	25CV202T	Statistics and Transforms	3	-	-	3	20	20	60	100	45	3
4	BSC	25CV202T	Statistics and Transforms Lab	-	-	2	1	-	25	25	50	25	-
5	ESC	25CV203T	Engineering Graphics	2	-	-	2	10	10	30	50	23	1.5
6	ESC	25CV203P	Engineering Graphics Lab	-	-	2	1	-	25	25	50	25	-
7	ESC	25CV204T	Basics of Electrical & Electronics Engineering	2	-	-	2	10	10	30	50	23	1.5
8	ESC	25CV204P	Basics of Electrical & Electronics Engineering Lab	-	-	2	1	-	25	25	50	25	-
9	PCC	25CV205T	Building Construction	2	-	-	2	10	10	30	50	23	1.5
10	AEC	25CV206T	Business Communication Skills – II Lab	-	-	2	1	-	25	25	50	25	-
11	IKS	25CV107T	Indian Knowledge Systems#	2	-	-	2	10	10	30	50	23	1.5
12	CC	25CV208T	Co-curricular Courses – II	2	-	-	2	-	50	-	50	-	-
Total				15	-	10	20	70	245	335	650	-	-

Course to be mapped with NPTEL/SWAYAM/MOOC offered course in that semester. Exam will be conducted by NPTEL/Institute

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Group-II (Civil Engineering)

SEMESTER III

Sr. No.	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Minimum Passing marks	No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1	PCC	25CV301T	Solid Mechanics	3	-	-	3	20	20	60	100	45	3
2	PCC	25CV301P	Solid Mechanics Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	25CV302T	Concrete Technology	3	-	-	3	20	20	60	100	45	3
4	PCC	25CV302P	Concrete Technology Lab	-	-	2	1	-	25	25	50	25	-
5	PCC	25CV303T	Environmental Engineering	3	-	-	3	20	20	60	100	45	3
6	PCC	25CV303P	Environmental Engineering Lab	-	-	2	1	-	25	25	50	25	-
7	PCC	25CV304P	Computer Aided Civil Engineering Drawing	-	-	2	1	-	25	25	50	25	-
8	VEC	25ES401T	Environmental Science	2	-	-	2	10	10	30	50	23	1.5
9	HSSM	25ES402T	Fundamentals of Economics and Management	2	-	-	2	10	10	30	50	23	1.5
10	SEC	25CV341P	Career Development I	-	-	2	1	-	50	-	50	-	-
11	MDM	25CV331M	MDM-I (Refer MDM basket)	2	-	-	2	10	10	30	50	23	1.5
Total				15	0	10	20	90	240	370	700	-	-

From above any one PCC course to be mapped with NPTEL/SWAYAM/MOOC offered course in that Session. Exam will be conducted by NPTEL/Institute. The course will be notified one month prior to commencement of semester.

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Group-II (Civil Engineering)

SEMESTER IV

Sr. No.	Course Category	CourseCode	Course Title	Hours per Week			Credits	Maximum Marks				Minimum Passing marks	No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1	PCC	24CV401T	Structural Analysis	3	-	-	3	20	20	60	100	45	3
2	PCC	24CV401P	Structural Analysis Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	24CV402T	Fluid Mechanics	3	-	-	3	20	20	60	100	45	3
4	PCC	24CV402P	Fluid Mechanics Lab	-	-	2	1	-	25	25	50	25	-
5	PCC	24CV403P	Surveying & Geomatics Lab	-	-	4	2	-	50	50	100	50	-
6	VEC	25ES301T	Constitution of India	2	-	-	2	10	10	30	50	23	1.5
7	HSSM	25ES302T	Fundamentals of Entrepreneurship	2	-	-	2	10	10	30	50	23	1.5
8	SEC	25CV441P	Career Development - II	-	-	2	1	-	50	-	50	-	-
9	CEP	25CV404P	Mini Project*	-	-	4	2	-	50	-	50	-	-
10	MDM	25CV431M	MDM-II (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
Total				13	0	14	20	80	280	340	700	-	-

From above any one PCC course to be mapped with NPTEL/SWAYAM/MOOC offered course in that Session. Exam will be conducted by NPTEL/Institute. The course will be notified one month prior to commencement of semester.

* Field Project or Community engagement project in the major discipline

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Group-II (Civil Engineering)

SEMESTER V

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Minimum Passing marks	No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1	PCC	25CV501T	Transportation Engineering	2	-	-	2	10	10	30	50	23	1.5
2	PCC	25CV501P	Transportation Engineering Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	25CV502T	Reinforced Cement Concrete Structures	3	-	-	3	20	20	60	100	45	3
4	PCC	25CV502P	Reinforced Cement Concrete Structures Lab	-	-	2	1	-	25	25	50	25	-
5	PEC	25CV503T	Professional Elective - I (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
6	PEC	25CV503P	Professional Elective - I Lab (Refer PE basket)	-	-	2	1	-	25	25	50	25	-
7	VSC	25CV504P	Technical Skill Development - I	-	-	4	2	-	50	-	50	-	-
8	AEC	25CV541P	English for Engineers	-	-	4	2	-	50	-	50	-	-
9	MDM	25CV531M	MDM – III (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
10	OE	25CV561O	Open Elective – I (Refer OE basket)	2	-	-	2	10	10	30	50	23	1.5
Total				13	0	14	20	80	255	315	650	-	-

From above any one PCC/PEC course to be mapped with NPTEL/SWAYAM/MOOC offered course in that Session. Exam will be conducted by NPTEL/Institute. The course will be notified one month prior to commencement of semester.

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SEMESTER VI

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Minimum Passing marks	No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1	PCC	24CV601T	Steel Structures	3	-	-	3	20	20	60	100	45	3
2	PCC	24CV602P	Building Design & Drawing Lab	-	-	2	1	-	25	25	50	25	-
3	PEC	24CV603T	Professional Elective - II (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
4	PEC	24CV604T	Professional Elective - III (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
5	VSC	25CV605P	Technical Skill Development -II	-	-	4	2	-	50	-	50	-	-
6	PROJ	25CV606P	Project - I	-	-	4	2	-	50	50	100	50	-
7	MDM	25CV631M	MDM – IV (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
8	OE	25CV661O	Open Elective – II (Refer OE basket)	3	-	-	3	20	20	60	100	45	3
Total				15	0	10	20	100	225	375	700	-	-

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SEMESTER VII

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Minimum Passing marks	No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1	PCC	24CV701T	Estimation & Costing	3	-	-	3	20	20	60	100	45	3
2	PCC	24CV702T	Construction Management & Law	3	-	-	3	20	20	60	100	45	3
3	PEC	24CV703T	Professional Elective - IV (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
4	PEC	24CV704T	Professional Elective - V (Refer PE basket)	2	-	-	3	20	20	60	100	45	3
5	PROJ	25CV705P	Project - II	-	-	4	2	-	50	50	100	50	-
6	MDM	25CV731M	MDM - V (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
7	OE	25CV761O	Open Elective - III (Refer OE basket)	3	-	-	3	20	20	60	100	45	3
Total				17	0	4	20	120	170	410	700	-	-

From above any one PCC/PEC course to be mapped with NPTEL/SWAYAM/MOOC offered course in that Session. Exam will be conducted by NPTEL/Institute. The course will be notified one month prior to commencement of semester.

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SEMESTER VIII

Option A

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No of Hours for ESE
				L	T	P		Continual Assessment	Mid-Sem Examination	End Sem Examination	Total	
1	RM	25ES801T	Research Methodology#	2	-	-	2	10	10	30	50	1.5
2	RM	25ES801P	Research Methodology Lab#	-	-	4	2	-	-	-	50	-
3	PEC	25CV801T	Professional Elective - VI#	3	-	-	3	20	20	60	100	4
5	PEC	25CV801P	Professional Elective – VI Lab#	-	-	2	1	-	-	-	50	-
4	OJT	25CV803P(i)	Industry/Research Internship*	-	-	24	12	300	-	100	400	-
Total				5	-	30	20	360		190	650	-

Option B

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No of Hours for ESE
				L	T	P		Continual Assessment	Mid Sem Examination	End Sem Examination	Total	
1	ELC	25ES801T	Research Methodology#	2	-	-	2	10	10	30	50	1.5
2	ELC	25ES801P	Research Tools#	-	-	2	2	-	-	50	50	-
3	PEC	25CV802T	Professional Elective - VI#	3	-	-	3	20	20	60	100	4
3	PEC	25CV802P	Professional Elective – VI Lab#	-	-	1	1	-	-	50	50	-
4	OJT	25CV804P(i)	Institutional Internship\$ & Project III	-	-	25	12	300	-	100	400	-
Total				5	0	28	20	330	30	290	650	-

Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.

Courses to be mapped with NPTEL/SWAYAM/MOOC offered course in that semester. Exam will be conducted by NPTEL/Institute

* Minimum one semester internship in any industry is to be carried out.

\$ Two NPTEL courses (as per choice of student) or Institutional Internship by IEDC, SVP CET.

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Group-II (Civil Engineering)

Basket for Multi-Disciplinary Minor Courses (MDM)

A. Civil Engineering

Semester	Course Category	Course Code	Name of Course	Credits
III	MDM-I	25CV331M	MDM - I Basics of Civil Engineering	2
IV	MDM-II	25CV431M	MDM - II Basic Construction Materials	3
V	MDM-III	25CV531M	MDM - III Building Planning & Construction	3
VI	MDM-IV	25CV631M	MDM - IV Building Services	3
VII	MDM-V	25CV731M	MDM - V Smart Transit System	3

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Basket for Program Elective Courses (PEC)

B. Civil Engineering

Semester	Course Category	Course Code	Name of Course	Credits
V	PEC	25CV503T(i) 25CV503T(ii)	PE - I Geotechnical Engineering PE - I Advanced Surveying	3
V	PEC	25CV503P(i) 25CV503P(ii)	PE - I Geotechnical Engineering Lab PE - I Advanced Surveying Lab	1
VI	PEC	25CV603T(i) 25CV603T(ii) 25CV603T(iii)	PE - II Advanced Structural Analysis PE - II Mass Rapid Transit System PE - II Advanced Fluid Mechanics	3
VI	PEC	25CV604T(i) 25CV604T(ii) 25CV604T(iii)	PE - III Air Pollution & Control PE - III Foundation Engineering PE - III Advanced Traffic Engineering	3
VII	PEC	25CV703T(i) 25CV703T(ii) 25CV703T(iii)	PE - IV Advanced Steel Design PE - IV Advanced Reinforced Cement Concrete Structures PE - IV Irrigation Engineering	3
VII	PEC	25CV704T(i) 25CV704T(ii) 25CV704T(iii) 25CV704T(iv)	PE - V Earthquake Resistant Design of Concrete Structures PE - V Solid Waste Management PE - V Ground Improvement Techniques PE - V Disaster Management	3

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Basket for Open Elective Courses (OE)

C. Civil Engineering

Semester	Course Category	Course Code	Name of Course	Credits
V	V	25CV561O	OE - I Public Health Engineering	2
VI	VI	25CV661O	OE - II Green Buildings	3
VII	VII	25CV761O	OE - III Air Pollution and Control	3

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EXIT OPTIONS

Award of UG Certificate in Major with 40 credits and an additional 8 credits (After First Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1.			
2.			
3.			

Award of UG Diploma in Major with 80 credits and an additional 8 credits (After Second Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1.			
2.			
3.			

Award of UG Degree in Major with 120 credits and an additional 8 credits (After Third Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1.			
2.			
3.			

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