



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Syllabus 2026-27

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	-	08
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	2	-	1	1	2	2	-	-	08
Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	1	1	-	-	2	-	-	-	04
Entrepreneurship/Economics/Management Courses		-	-	2	2	-	-	-	-	04
Indian Knowledge System (IKS)		-	2	-	-	-	-	-	-	02
Value Education Course (VEC)		-	-	2	2	-	-	-	-	04
Research Methodology	Experiential Learning Courses	-	-	-	-	-	-	-	4	04
Comm. Engg. Project (CEP)/ Field Project (FP)		-	-	-	2	-	-	-	-	02
Project		-	-	-	-	-	2	2	-	04
Internship/OJT		-	-	-	-	-	-	-	12	12
Co-curricular Courses (CC)	Liberal Learning Courses	2	2	-	-	-	-	-	-	04
Total Credits (Major)		20	20	20	20	20	20	20	20	160

		July 2026	NEP 4.0	Applicable for 2026-27 Admitted
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

GROUP II: SEMESTER I

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	26CV101T	Applied Physics	2	-	-	2	10	10	30	50	23	1.5
2	BSC	26CV101P	Applied Physics Lab	-	-	2	1	-	25	25	50	25	-
3	BSC	26CV102T	Linear Algebra and Calculus	3	-	-	3	20	20	60	100	45	3
4	BSC	26CV102P	Linear Algebra and Calculus Lab	-	-	2	1	-	25	25	50	25	-
5	ESC	26CV103T	Engineering Mechanics	3	-	-	3	20	20	60	100	45	3
6	ESC	26CV103P	Engineering Mechanics Lab	-	-	2	1	-	25	25	50	25	-
7	ESC	26CV104P	Logic building with C Lab	-	-	4	2	-	25	25	50	25	-
8	PCC	26CV105T	Building Materials	2	-	-	2	10	10	30	50	23	1.5
9	AEC	26CV106P	Business Communication Skills – I Lab	-	-	2	1	-	25	25	50	25	-
10	SEC	26CV207T	Design Thinking #	2	-	-	2	10	10	30	50	23	1.5
11	CC	26CV108P	Co-curricular Courses - I	-	-	4	2	-	50	-	50	25	-
Total				12	-	16	20	70	245	335	650	-	-

		July 2026	NEP 4.0	Applicable for 2026-27 Admitted
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation			
						MSE	CA	ESE	Total
26CV101T	Applied Physics	2	--	--	2	10	10	30	50

Course Objectives	Course Outcomes
<p>This course is intended</p> <ol style="list-style-type: none">To understand the basic laws of physics and types of materials and their application in engineering and technology.To develop scientific temper and analytical capability.	<p>Students will be able to</p> <ol style="list-style-type: none">Explain the fundamental concepts of crystal structure, unit cells, Miller indices, and apply Bragg's law to analyze X-ray diffraction in crystalline solids.Classify different types of magnetic materials and analyze their properties (diamagnetic, paramagnetic, ferromagnetic) along with their practical applications.Illustrate the band theory of solids, differentiate between conductors, insulators, and semiconductors, and calculate Fermi energy for given systems.Distinguish between intrinsic and extrinsic semiconductors and evaluate the working principle and applications of p-n junction diodes in electronic devices.

Unit I CRYSTAL STRUCTURE	[10 Hrs]
Space lattice, Crystal structure, Unit cell, Types of unit cell, Characteristics of SC, BCC and FCC unit cell, Miller Indices, Interplanar distance and its derivation, Diffraction of X-rays - Bragg's Law and its applications.	
Unit II MAGNETIC MATERIALS	[10 Hrs]
Terms and definitions, Types of magnetic materials, characteristics of Diamagnetic, Paramagnetic and Ferromagnetic Materials, Applications of soft and hard magnetic materials.	
Unit III SEMICONDUCTORS	[10 Hrs]
Free electron Theory (qualitative idea) and its features; Idea of band formation in solids, Classification of solids: Metal, Insulator, Semiconductor; Fermi Energy, Types - Intrinsic and Extrinsic Semiconductors, Application of Extrinsic Semiconductors - p-n junction diode	

Text Books

S.N	Title	Authors	Edition	Publisher
1	Fundamentals of Physics	David Halliday, Robert Resnick and Jerle Walker	8 th extended	John-Wiley India
2	Engineering Physics	M. N. Avadhanulu	Latest edition	S. Chand & Co.

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Solid State Physics	Charles Kittel	Eighth edition	John Wiley & Sons, Inc
2	Solid State Physics	R.L. Singhal	Eighth edition	Kedarnath Ramnath

Online Resources

1	https://www.britannica.com/science/semiconductor#ref233890
2	https://www.geeksforgeeks.org/semiconductors/
3	https://www.sciencedirect.com/topics/chemistry/magnetic-material
4	https://www.livescience.com/33816-quantum-mechanics-explanation.html

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean - Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
26CV101P	Applied Physics Lab	--	--	2	1	25	25	50

Course Objectives	Course Outcomes
This course is intended 1. To understand the basic laws of physics and types of materials and their application in engineering and technology. 2. To develop scientific temper and analytical capability.	Students will be able to 1. Illustrate principles/ laws by selecting and using proper measuring instruments, interpret result and draw conclusions. 2. Find various parameters using various properties of light. 3. Demonstrate the concept and working of Semiconductor Devices and the effect of distance on magnetic field intensity.

Expt. No.	Title of the experiment
1	Determination of forward and reverse V-I characteristics of p-n junction diode
2	Determination of voltage regulation characteristics of Zener diode
3	Determination of wavelength of monochromatic light by using the phenomenon of Diffraction of light
4	Determination of the radius of curvature of Plano-convex lens using the phenomenon of Interference of light
5	Determination of refractive indices of a Birefringent crystal for o-ray and e-ray
6	Stewart & Gee Experiment to study the effect of distance on magnetic field
7	Determination of current gain of a transistor in Common Base mode
8	Determination of current gain of a transistor in Common Emitter mode
9	Determination of lattice constant of a crystal
10	Study of Zener diode as voltage regulator using V-Lab

Text Books

S.N	Title	Authors	Edition	Publisher
1	Fundamentals of Physics	David Halliday, Robert Resnick and Jerle Walker	8e extended	John-Wiley India
2	A Textbook of Engineering Physics	Dr. M. N. Avadhanulu, Dr. P. G. Kshirsagar	Latest edition	S. Chand Publication.

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Solid State Physics	Charles Kittel	Eighth edition	John Wiley & Sons, Inc
2	Solid State Physics	R.L. Singhal	Eighth edition	Kedarnath Ramnath

Online Resources

1	https://www.britannica.com/science/semiconductor#ref233890
2	https://www.geeksforgoeks.org/semiconductors/
3	https://www.sciencedirect.com/topics/chemistry/magnetic-material

		July 2026	NEP 4.0	Applicable for
Chairman - BoS	Dean - Academics	Date of Release	Version	2026-27



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Proposed Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation			
						MSE	CA	ESE	Total
26CV102T	Linear Algebra and Calculus	3	-	-	3	20	20	60	100

Course Objectives	Course Outcomes
This course is intended to 1. Develop students' conceptual understanding and computational skills in Matrix Algebra and Differential Equations for solving mathematical problems. 2. Enable learners to apply Multivariate and Vector Calculus for analyzing functions of several variables and modeling physical phenomena.	Students will be able to 1. Apply matrix concepts to solve and analyze linear systems. 2. Analyze and solve engineering problems involving eigenvalues, eigenvectors, and functions of matrices. 3. Solve multivariate calculus problems involving partial derivatives, Jacobians, and optimization. 4. Apply first order and higher order differential equations to solve problems in engineering. 5. Evaluate vector calculus operations and their physical applications.
Unit I	[9Hrs]
Matrix Algebra: Introduction to matrices, Rank of a matrix, Consistency of system of linear equations, Linear and orthogonal transformations, Linear dependence of vectors.	
Unit II	[9Hrs]
Matrices: Characteristics equation, Cayley- Hamilton Theorem, Eigen values and Eigen vectors, Reduction to diagonal form, Reduction of quadratic form to canonical form by orthogonal transformation, Sylvester's theorem.	
Unit III	[9Hrs]
Multivariate Calculus: Functions of several variables and their partial derivatives, Chain rule and total differential coefficient, Jacobians and its properties, Maxima -Minima of functions of two variables, Lagrange's method of undetermined multipliers.	
Unit IV	[9Hrs]
Differential Equations: First order and first degree differential equations: Linear, Higher order differential equations with constant coefficients, Method of variation of parameters, Cauchy's homogeneous linear equation, Applications of differential equations.	
Unit V	[9Hrs]
Vector Calculus: Vector differentiation, Gradient, Directional derivatives, Divergence and Curl with their physical interpretation Solenoidal and Irrotational motions, Scalar potential, Line integral & Work done.	

Text Books

S.N	Title	Authors	Edition	Publisher
1	Higher Engineering Mathematics	B. S. Grewal	38th	Khanna Publishers, New Delhi.
2	Higher Engineering Mathematics	H. K. Das & Er. Rajnish Verma	1st	S. Chand & CO. Pvt. Ltd., New Delhi

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Higher Engineering Mathematics	B.V. Ramana,	11th reprint, 2010.	Tata McGraw Hill New Delhi
2	A Text Book of Engineering Mathematics	Peter O' Neil	8 th	Thomson Asia Pvt. Ltd., Singapore.

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean - Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
26CV102P	Linear Algebra and Calculus Lab	--	--	2	1	25	25	50

Course Objectives	Course Outcomes
<p>This Course is intended to:</p> <ol style="list-style-type: none">To develop students' computational proficiency in solving problems related to linear algebra, calculus, and differential equations using SageMath with an emphasis on symbolic computation and numerical methods.To enable students to apply SageMath for solving and visualizing problems in vector calculus through effective use of graphical and analytical tools.	<p>Students will be able to:</p> <ol style="list-style-type: none">Apply fundamental matrix operations and solve systems of linear equations using Sage Math.Apply concepts of linear algebra to compute eigenvalues and eigenvectors of matrices using SageMath.Evaluate partial derivatives of multivariable functions and solve first and higher-order ordinary differential equations using SageMath.Analyze and visualize vector calculus operations including gradient, divergence, curl, and evaluate line and surface integrals using SageMath.

List of Experiments:-

Experiment No.	List of Experiment
1	To Implement basic matrix operations using SageMath's symbolic computation tools.
2	To check the consistency of a system of linear equations using augmented matrices and SageMath.
3	To solve systems of linear equations using various within the SageMath environment.
4	To determine eigenvalues and eigenvectors of matrices using built-in SageMath functions.
5	To implement and validate the Cayley-Hamilton Theorem with the aid of SageMath.
6	To compute partial derivatives of various orders for multivariable functions using SageMath.
7	To solve first-order and higher-order differential using SageMath's differential equation solvers.
8	To find maxima and minima of functions of two variables using partial derivatives and the second derivative test implemented in SageMath.
9	To compute and visualize vector differential operations using SageMath.
10	To compute vector integrals in SageMath.

Text Books

S.N	Title	Authors	Edition	Publisher
1	Computational Mathematics with SageMath	Paul Zimmermann	1st	SIAM Publications Library.
2	Basics of SageMath : Mathematics(Practicals)	Varun Kumar	1st	Amazon KDP

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Mathematics-SageMath Software System	Indrajeet Varhadpande & Dr. Kirti Sahu	1 st	Himalaya Publication
2	Applied Mathematics Using SageMath	Dr. Kirti Sahu & Dr. Sajid Anwar	1 st	Himalaya Publication

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean - Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B.Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation			
						MSE	CA	ESE	Total
26CV103T	Engineering Mechanics	3	-	-	3	20	20	60	100

Course Objectives	Course Outcomes
<ol style="list-style-type: none"> To develop students' ability to analyze the problems involving forces, moments with their applications. To analyse the member forces in trusses To make students to learn the effect of friction on different planes To develop the student's ability to find out the centre of gravity and moment of inertia and their applications. To make the students learn about kinetics and their applications. 	<ol style="list-style-type: none"> Compute the resultant of a force system and resolution of a force Comprehend the action for forces, moments, and other types of loads on rigid bodies and compute the reactive forces. Analyse the statically determinate trusses and Compute frictional resistance offered by different planes Locate the centroid and compute the area moment of inertia of sections Analyze the bodies in motion

Unit I	[9 Hrs]
Resultant of coplanar force system: Basic dimensions and units, Classification of force system, principle of transmissibility of a force, composition of forces, resolution of a force, moment, Principle of moments, couple, Resultant of coplanar concurrent force	
Unit II	[9 Hrs]
Equilibrium of coplanar force system: Free body diagrams, Equilibrium of coplanar concurrent force system, Lami's theorem, Equilibrium of coplanar parallel force system, types of beams, types of loadings, types of supports, Equilibrium of coplanar non-concurrent force system, support reactions of statically determinate beams subjected to various types of loads, Numerical examples.	
Unit III	[9 Hrs]
Analysis of Trusses: Introduction, Classification of trusses, analysis of plane perfect trusses by the method of joints, Numerical examples. Friction: Introduction, laws of Coulomb friction, equilibrium of blocks on horizontal plane, equilibrium of blocks on inclined plane, ladder friction, wedge friction Numerical examples.	
Unit IV	[9 Hrs]
Centroid of Plane areas: Introduction, centroids standard shapes and simple built up sections, Numerical examples. Area Moment of inertia of plane areas: Introduction, Rectangular moment of inertia, polar moment of inertia, product of inertia, radius of gyration, parallel axes theorem, perpendicular axis theorem, Area moment of inertia of standard shapes, Area moment of inertia of simple built up sections, Numerical examples.	
Unit V	[9 Hrs]
Kinetics: Introduction, D'Alembert's principle of dynamic equilibrium and its application in-plane motion and connected bodies including pulleys & surfaces, Numerical examples. Impact of Elastic Bodies: Impulse momentum theorem, Work Energy expression, Numerical examples	

Text Books

S.N	Title	Authors	Edition	Publisher
1	Engineering Mechanics	Timoshenko S, Young D. H., Rao J. V	-	McGraw Hill
2	Engineering Mechanics	Bhavikatti S S	-	New Age International
3	Engineering Mechanics (Statics & Dynamics)	P. B. Kulkarni & M. P. Singh	-	

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Mechanics for Engineers, Statics and Dynamics	Beer F.P. and Johnston E. R.	-	Pearson Press
2	Engineering Mechanics	Bhavikatti S S	-	New Age International

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B.Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
26CV103P	Engineering Mechanics Lab	-	-	2	1	25	25	50
Course Objectives		Course Outcomes						
To apply the fundamental principles of applied mechanics through experimental analysis of force systems, structural components, and simple lifting machines.		At the end of the course, students will be able to- 1. Apply the basic concepts of applied mechanics for solution of problems on planar force system. 2. Analyze pin jointed truss frame structure and beam structure analytically and graphically. 3. Evaluate the dynamic variables of kinetics of particles and simple lifting machine						

Minimum EIGHT experiments to be performed from the list as below

Expt. No.	Title of the experiment
1	To find determine the support reactions of a Simply Supported Beam experimentally and analytically.
2	To determine the forces in the members of a Jib Crane Apparatus experimentally and graphically.
3	To determine the coefficient of friction between two surfaces of different material on Plane Friction Apparatus.
4	To determine the coefficient of friction of Coil Friction Apparatus.
5	To determine the forces in members of a Shear Leg Apparatus experimentally and manually.
6	To determine the mass moment of inertia of a fly wheel using Fly Wheel Apparatus
7	To determine efficiency and law of machine of Differential Axel & Wheel machine.
8	To determine efficiency and Law of machine of Single Purchase Crab machine.
9	To determine efficiency and Law of machine of Double Purchase Crab machine.
10	To find support reactions of a simply supported beam using graphical method and hand calculation.

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
26CV104P	Logic Building with C Lab	-	-	4	2	25	25	50
						25	25	50

Course Objectives	Course Outcomes
This course is intended 1. To make the student learn a programming language. 2. To learn problem solving techniques. 3. To teach the student to write programs in C and to solve the problems	Students will be able to 1. Understand Fundamentals of Computers and C programming language 2. Implement basic programs of decision making and loop control structure 3. Implement programs using functions and pointers 4. Understand fundamentals of arrays and strings 5. Understand concept of structures and various operations on files

Ept. No.	List of Experiments
1	Develop and execute basic programs to demonstrate the fundamental structure of a programming language.
2	Implement decision-making logic using conditional control statements including if variants and switch cases.
3	Solve iterative problems by applying looping constructs (while, do-while, for) and jump statements.
4	Analyze and manipulate data sets using one-dimensional arrays, focusing on declaration and element access.
5	Perform matrix operations and multi-dimensional data handling using two-dimensional arrays.
6	Manipulate textual data by implementing standard string library functions and manual string handling techniques.
7	Design modular programs by applying functions with various argument-passing and return-type configurations.
8	Demonstrate memory management and address manipulation using pointers and different parameter-passing techniques.
9	Organize heterogeneous data by implementing user-defined structures for real-world entity representation.
10	Construct programs to perform persistent data storage operations including opening, reading, writing, and closing files.

Text Books

S.N	Title	Authors	Edition	Publisher
1	Programming in ANSI C	E. Balguruswamy	2 nd	Tata Mc-Graw Hill
2	Programming Techniques Through 'C'	M. G. Venkateshmurthy	2 nd	Pearson
3	LET US 'C'	Yashwant P. Kanetkar	1 st	BPB
4	Programming With C	Byron S. Gottfried	2 nd	Schaum Series
5	How to solve it by Computer	R.G. Dromey	1 st	Pearson Education

Reference Books

S.N	Title	Authors	Edition	Publisher
1	The Complete Reference C	Herbert Schildt	4 th	Tata Mc-Graw Hill
2	The 'C' programming language	Kernighan and Ritchie	1 st	Prentice Hall
3	Programming and Problem Solving	M. Sprankle	2 nd	Pearson Education

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B.Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

THIRD SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation			
						MSE	CA	ESE	Total
26CV105T	Building Materials	2	-	-	2	10	10	30	50
Course Objectives		Course Outcomes							
1. To develop an understanding of the properties, uses, and classification of traditional and modern construction materials. 2. To provide knowledge of material selection based on strength, durability, sustainability, and economy. 3. To familiarize students with testing methods for assessing construction materials.		At the end of the course, students will be able to- 1. Describe about stones, aggregates and bricks their importance in building construction. 2. Understand the composition and manufacturing of various construction materials. 3. Understand of modern trends and innovations in building materials.							
Unit I		[10 Hrs]							
Stones & Bricks: Properties of building stones - relation to their structural requirements, classification of stones - stone quarrying - precautions in blasting, dressing of stone, properties aggregates, types of aggregates, properties of bricks, type of bricks, composition of bricks, various methods of manufacturing of bricks.									
Unit II		[10 Hrs]							
Cement, Concrete and Steel: Composition, types, and manufacturing of cement, Properties and tests of cement. Concrete ingredients, properties of fresh and hardened concrete. Tests on concrete (workability, strength, durability), Steel: Composition, types, and manufacturing.									
Unit III		[10 Hrs]							
Advanced Building Materials: Light-generating concrete, Self-Healing Concrete, Bioplastics, Carbon Fiber, Fiber-Reinforced Concrete (FRC), Fiber-Reinforced Polymers (FRP).									

Text Books

S.N	Title	Authors	Edition	Publisher
1.	Building Materials	Varghese, P C	2018	Prentice Hall Of India Learning Private Limited
2.	Building Materials And Construction	Misra Anil Kumar	2017	S. Chand And Company Limited
3.	Building Materials	Bhavikatti S.S.	2025	Vikas Publishing House

Reference Books

S.N	Title	Authors	Edition	Publisher
1.	Building Materials	S.K. Duggal	2015	New Age International

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean - Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

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

B. Tech. Scheme of Examination & Syllabus 2026-27

CIVIL ENGINEERING

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
26CV106P	Business Communication Skills – I Lab	-	-	2	1	25	25	50

Course Objectives	Course Outcomes
To develop students' ability to apply, analyze, and evaluate LSRW skills in business and professional communication settings.	Students will be able to: 1. Apply effective pronunciation, grammar, and voice modulation in professional communication. 2. Analyze spoken and written texts using listening and reading comprehension skills for professional and competitive contexts. 3. Create clear and professional business correspondence using appropriate format, tone, and language. 4. Evaluate communication strategies to demonstrate confidence and clarity in structured presentations and group discussions.

Expt. No.	Title of the experiment
1	Pronunciation and Voice Modulation
2	Self-Introduction
3	Grammar
4	Business Correspondence
5	Reading Comprehension for Competitive Exam
6	Listening Skills (Speeches of great Personalities)
7	Presentation Skills
8	Group Discussion

Reference Books:

S. N	Title	Authors	Edition	Publisher
1	Communication Skills for Engineers	C. Muralikrishna & Sunita Mishra	2nd Edition, 2011	Pearson India Education Services
2	Communication Skills	Dr. L. Bisen, Dr. B. Agrawal & Dr. N. T. Kalyani	1st Edition, 2021	Himalaya Publishing House
3	Barron's IELTS Superpack	Lin Lougheed	2012	Barrons Educational Series

		July 2026	NEP 4.0	Applicable for 2026-27
Chairman - BoS	Dean – Academics	Date of Release	Version	