

ANNEXURE – I

St. Vincent Pallotti College of Engineering & Technology, Nagpur

Department of Vocation (B. VOC)

Teaching Scheme for B.VOC First Year 2025-26

SEMESTER I (Software Development)

Sr. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem. Examination	Total
General Education Component (GEC)									
1	25BV101T	Business Communication Skills – I	3			3	40	60	100
2	25BV102T	Applied Computer Skills – I	3			3	40	60	100
3	25BV101P	Business Communication Skills – I Lab			3	3	25	25	50
4	25BV102P	Applied Computer Skills – I Lab			3	3	25	25	50
Total – GEC			6		6	12	130	170	300
Skill Education Component (SEC)									
5	25SD103S	Software Development (*)	4		8	12	50	100 (***)	150
6	25SD104S	Skill Development – I (**)			4	4	50	--	50
7	25SD105S	Software Development Life Cycle	2			2	50	--	50
Total – SEC			6		12	18	150	100	250
Grand Total			12		18	30	280	270	550

Assessment Competent Authority: General Education Component 25BV101T/P, 25BV102T/P, Skill component 25SD104S, 25SD105S: By college,

(*) Software Development:-SSC/QP-SSC/Q0508 Junior Software Developer, NOS:SSC/NO506,SSC/N9001,SSC/N9002,SSC/N9003,SSC/N9004,SSC/N9005

(**) Skill Development-I: E-Courses & Skill workshops

(***) 25SD103S Assessment by Sector Skill Council – IT-ITeS -NASSCOM

SEMESTER II (Software Development)


Sr. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem. Examination	Total
General Education Component (GEC)									
1	25BV201T	Business Communication Skills – II	3			3	40	60	100
2	25BV202T	Applied Computer Skills – II	3			3	40	60	100
3	25BV201P	Business Communication Skills – II Lab			3	3	25	25	50
4	25BV202P	Applied Computer Skills – II Lab			3	3	25	25	50
Total – GEC			6		6	12	130	170	300
Skill Education Component (SEC)									
5	25SD203S	Web Development (*)	4		8	12	50	100 (***)	150
6	25SD204S	Skill Development – II (**)			4	4	50	--	50
7	25SD205S	Web Programming	2			2	50	--	50
Total – SEC			6		12	18	150	100	250
Grand Total			12		18	30	280	270	550

Assessment Competent Authority: General Education Component BV25201T/P, BV25202T/P, Skill component 25SD204S, 25SD205S: By college,

(*) Web Development:- SSC/QP – SSC/Q0503 Web Developer, NOS: SSC/NO501, SSC/N9001, SSC/N9002, SSC/N9003, SSC/N9004, SSC/N9005

(**) Skill Development-II: E-Courses & Skill workshops

(***) 25SD203S Assessment by Sector Skill Council – IT-ITeS -NASSCOM


Dr. Suresh Rangankar
BOS, Chairman (B.VOC)


Dr. Promod Lanjewar
Dean (Academics)


Dr. Vijay Wadhwa
Principal



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SOFTWARE DEVELOPMENT, CYBER SECURITY


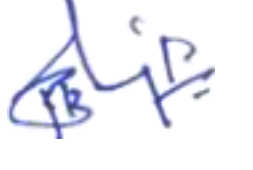
SECOND SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25BV201T	Business Communication Skills-II	3	--	--	3	40	60	100

Course Objectives	Course Outcomes
<ul style="list-style-type: none"> To develop students' foundational understanding of grammar, business communication, and teamwork for effective personal and professional interaction. To enhance students' skills in written, verbal, and visual communication through practical exercises in job writing, marketing content, and digital communication tools. 	<ol style="list-style-type: none"> Identify and apply correct grammatical structures, idioms, and phrases in professional and academic contexts Compose professional documents such as job applications, reports, and marketing content using appropriate format and tone. Analyze various communication mediums—including written, visual, and electronic—to evaluate their effectiveness in conveying messages. Demonstrate effective interpersonal communication, manage stress, and participate confidently in interviews and group discussions.
Unit I Revisiting Grammar	[10 HRS]
Revisiting Grammar: Modal Auxiliaries, Adverbs, Adverbial Phrases, Idioms & Phrases, Root words, Suffix & Prefix. Introduction to business communication, Introduction to effective writing. Team building: Introduction to teamwork, working in teams, personal attitude, conflicts and its resolutions	
Unit II Writing Skills	[10 HRS]
Writing Skills: Written Communication: Job Applications, resumes, Advertisements, Posters & Banners, Paragraphs, Columns, Articles & Reports. Introduction to Marketing, How to write Market Specific content. Story Writing. Visual Communication: Introduction to Photo Communication, Communication through Motion Photography. Introduction to E-Communication: YouTube Channels and Instagram Reels, WhatsApp, Social Media (Facebook, Twitter, LinkedIn etc.)	
Unit III Reading Skills	[10 HRS]
Reading Skills: Notes Taking, distinguishing between Facts & Beliefs, pinions & Polls. Tips for technical writing, Report Writing. Environmental Communication, Intercultural Communication.	
Unit IV Communications Skills 2.0	[15 HRS]
Communications Skills 2.0: Language Skills; Queries, Asking Information, Requests, Agreeing and Disagreeing, Compliments and responses. How to face personal interviews and group discussions. Stress Management: Concept of Stress, Causes of Stress, Recognizing your own stressors, Dimensions of Stress, Effects of Stress, Reactions to stress.	

Text Books

S.N	Title	Author	Edition	Publisher
1	Merchant English for Practical purpose	Z. N.Patil, B. S.Valke, Ashok Thorat	Revised	Macmillan
2	Foundation English	Dwivedi & Kumar	First	Macmillan
3	Grant English Conversational Practice	Taylor	First	Tata McGraw-Hill
4	Bhaskaran & Horsburgh	Strengthen your English	First	Oxford University Press (1 November 1997)

		July-2025	2	Applicable for 2025-26
Chairman - BoS	Dean - Academics	Date of Release	Version	



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SOFTWARE DEVELOPMENT, CYBER SECURITY

SECOND SEMESTER


Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25BV201P	Business Communication Skills-II Lab	--	--	3	3	25	25	50

Course Objectives	Course Outcomes
<ul style="list-style-type: none"> To develop students' foundational understanding of grammar, business communication, and teamwork for effective personal and professional interaction. To enhance students' skills in written, verbal, and visual communication through practical exercises in job writing, marketing content, and digital communication tools. 	<ol style="list-style-type: none"> Identify and apply correct grammatical structures, idioms, and phrases in professional and academic contexts Compose professional documents such as job applications, reports, and marketing content using appropriate format and tone. Analyze various communication mediums—including written, visual, and electronic—to evaluate their effectiveness in conveying messages. Demonstrate effective interpersonal communication, manage stress, and participate confidently in interviews and group discussions.

Practical No	Title of the Practical
1	Barriers to Communication
2	Situational Conversations (Speaking skills & Listening skills)
3	Non - verbal Communication (Body language)
4	Development of Word Power (Reading Skills)
5	Visual Communication (Writing Skills)
6	Mock Interview (Speaking, Listening Skills)
7	Extempore (Speaking, Listening Skills)
8	Group Discussion (Speaking, Listening Skills)

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S.N	Title	Authors	Edition	Publisher
1	Merchant English for Practical purpose	Z. N.Patil, B. S.Valke, Ashok Thorat	Revised	Macmillan
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Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25BV202T	Applied Computer Skills-II	3	--	--	3	40	60	100

Course Objectives	Course Outcomes
<ul style="list-style-type: none">To develop foundational knowledge of spreadsheet operations, database concepts, and SQL commands for effective data handling and analysis.To equip learners with practical skills in MS-Excel, MS-Access, and PostgreSQL for performing data manipulation, visualization, and database management tasks.	<ol style="list-style-type: none">To explain the basic features, functions, and tools of MS-Excel and MS-Access.To apply spreadsheet functions (mathematical, statistical, financial) and database tools (queries, filters, relations) to solve data-related problems.To analyze datasets using Goal Seek, auditing tools, advanced filters, and SQL queries including joins, sets, and aggregate functions.To design and develop databases, queries, charts, and SQL scripts to generate meaningful reports and data-driven solutions.
Unit I	[12 HRS]
Introduction To Ms-Excel, Navigating, Excel Toolbars and Operations, Formatting Features, Coping Data Between Worksheet; Entering and Editing Cell Entries, Creation of Chars, Editing and Formatting Charts	
Unit II	[10 HRS]
Goal Seek, Auditing, Linking, Workbook, Database in Excel(Auto Filter, Advanced Filter, Sort, Form), Mathematical, Statistical and Financial Functions in MS-Excel.	
Unit III	[11 HRS]
Overview Database , DBMS, DBMS vs RDBMS Overview of MS Access, Database Creation , Relation Creation in MS Access, Data Type, Add Attributes, Data in Relation in MS Access, Query Design, Query Wizard in MS Access, Built-In Functions in MS Access, Data Import in MS Access	
Unit IV	[12 HRS]
Evolution of Data Models, Entity Relationship Model, Development of ER Diagrams, Introduction to Postgre SQL : DBA & its role, DDL commands, DML commands, TCL Commands, DCL commands, Advance SQL Queries (Join, Set, Aggregate Function, Function Trigger), Advance SQL Queries (Join, Set, Aggregate Function, Function Trigger)	

Text Books

S.N	Title	Authors	Edition	Publisher
1	Data Base system, Concepts	A Silbers Chatz and Henry Korth	3rd	Mcgraw-Hill Ltd.New Delhi
2	Introduction to Data Base Management	Naveen prakash	3rd	Tata McGrawHill ltd
3	An Introduction to Database Systems	Bipin C.Desai	Revised edition 2010	Galgotia Publications.
4	Data Base Management Systems	Raghu Ramkrishnan & Johannes Gerhke	Edition 2000	MC Graw Hill International

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SECOND SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25BV202P	Applied Computer Skills-II Lab	--	--	3	3	25	25	50

Course Objectives	Course Outcomes
<ul style="list-style-type: none"> To develop foundational knowledge of spreadsheet operations, database concepts, and SQL commands for effective data handling and analysis. To equip learners with practical skills in MS-Excel, MS-Access, and PostgreSQL for performing data manipulation, visualization, and database management tasks. 	<ol style="list-style-type: none"> To explain the basic features, functions, and tools of MS-Excel and MS-Access. To apply spreadsheet functions (mathematical, statistical, financial) and database tools (queries, filters, relations) to solve data-related problems. To analyze datasets using Goal Seek, auditing tools, advanced filters, and SQL queries including joins, sets, and aggregate functions. To design and develop databases, queries, charts, and SQL scripts to generate meaningful reports and data-driven solutions.

Practical No	Title of the Practical
1	Generating data series for conditional analysis.
2	Analysis of a randomly generated data series.
3	Generating Plots/charts for a given data series.
4	Minimizing shipping costs subjected to given constraints using Solver
5	To perform DML commands (Select, Insert, Update, Delete) on previous created relation.
6	To Implement Select query along with SQL aggregate functions.
7	To perform transaction control (TCL) using PostgreSQL commands.
8	To implement simple PL/SQL program in Postgres.

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1	Data Base system, Concepts	A Silbers Chatz and Henry Korth	3rd	Mcgraw-Hill Ltd.New Delhi
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Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25SD203S	Web Development	4	--	8	12	50	100	150

Course Objectives	Course Outcomes
<ul style="list-style-type: none">To develop an understanding of web design concepts and development processes, including SDLC, planning, design principles, and evaluation of websites.To equip students with the skills to design and develop functional and secure web pages, including creating reusable content and basic JavaScript-based portfolio design.	<ol style="list-style-type: none">Explain the fundamentals of web design, SDLC, web development phases, and core principles of effective web design.Demonstrate the ability to plan and design websites by using structured web development processes and application development techniques.Apply and analyze methods for creating reusable website content, evaluating website performance, and ensuring web information security.Develop a basic portfolio website using JavaScript, applying web design and development concepts in a practical project.
Unit I Web Design Basics	[25 HRS]
Introduction to basics of Web Development, SDLC, Principles of Web Design, Phases of Web Development.	
Unit II Planning and Design	[25 HRS]
Planning for Web Development, The Web Designing Process, Introduction to Web Application Development, The Web Development Process	
Unit III Web Development Process	[25 HRS]
The Web Development Process, Developing Reusable Content, Evaluating the Website, Web information and security.	
Unit IV	[15 HRS]
Introduction to JavaScript, JavaScript for Interactive Web Pages, DOM (Document Object Model), Portfolio Design	

Text Books

S.N	Title	Authors	Edition	Publisher
1	HTML & CSS: Design and Build Web Sites	Jon Duckett	1 st	John Wiley & Sons Inc.
2	HTML & CSS-a Comprehensive guide	Jurgen wolf	1 st	EPUB
3	Eloquent JavaScript: A Modern Introduction to Programming	Marijn Haverbeke	2011	No Starch Press

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Web Design and Development: A Beginner's Guide	Terry Felke-Morris	6 th	Pearson Education
	Web Development and Design Foundations with HTML5	John Duckett	1 st	Wiley

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Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25SD204S 25CY204S	Skill Development – II	--	--	4	4	50	--	50

Course Objectives	Course Outcomes
<ul style="list-style-type: none">To develop fundamental quantitative and analytical skills by introducing learners to numerical ability concepts such as percentages, profit & loss, interests, and installments.To enhance logical reasoning and problem-solving abilities through systematic exposure to coding–decoding, series, puzzles, clocks, calendars, and directional reasoning.To prepare students thoroughly for company-specific assessments, with special focus on the TCS Ignite Exam.	<ol style="list-style-type: none">To explain concepts related to percentages, profit–loss, discounts, simple and compound interest, EMIs, and basic logical reasoning patterns.To apply numerical formulas and reasoning rules to solve problems involving percentages, SI/CI, installments, and coding–decoding.To analyze alpha-numeric series, matrix codes, puzzles, clocks, and calendric patterns to determine logical sequences and relationships.To evaluate different problem-solving strategies and choose the most efficient methods to solve reasoning and quantitative aptitude problems within time constraints.
Unit I : Numerical Ability -V	[15 HRS]
Percentage, Cumulative Percentage Profit Loss, Discounts, Dishonest Sales,	
Unit II : Logical Reasoning - I	[15 HRS]
Alpha-numeric series, Analogy, Coding Decoding, Chinese Coding, Puzzle Code, Matrix Code	
Unit III: Numerical Ability -VI	[15 HRS]
Simple Interest and Compound Interest, Installments (EMIs)	
Unit IV : Logical Reasoning - II	[15 HRS]
Clock, Calendars, Distance and Directions, Input-Output	

Text Books

S.N	Title	Authors	Edition	Publisher
1	Quantitative Aptitude	R.S Agarwal	Latest edition	S. Chand Publication
2	Quantitative Aptitude	Arun Sharma	4 th Edition	Mc Graw Hill

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Quantitative aptitude and reasoning	R. Praveen	3rd	PHI
2	Objective Quantitative Aptitude	Oswal books	Latest	Oswal books

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SOFTWARE DEVELOPMENT

SECOND SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25SD205S	Web Programming	2	--	--	2	50	--	50

Course Objectives	Course Outcomes
<ul style="list-style-type: none"> To provide foundational knowledge of web technologies including HTML, CSS, and JavaScript, enabling students to understand how web pages are structured and styled. To develop the ability to design and implement interactive web pages using JavaScript concepts such as DOM manipulation, decision-making, loops, and arrays. 	<ol style="list-style-type: none"> Describe and explain basic web technologies such as HTML, CSS, and JavaScript with their features, advantages, and limitations. Apply HTML tags, formatting elements, images, lists, forms, and URLs to create well-structured web pages. Implement and differentiate between inline, internal, and external CSS to enhance the layout and presentation of web pages. Develop interactive web applications using JavaScript concepts such as DOM manipulation, conditional statements, loops, arrays, and object handling.

Unit I HTML (Hypertext markup language) [7 HRS]

Introduction, Advantages & dis-advantages, Hyperlinks, Elements and tags, Structure of HTML code, Font formatting tags, List tags, Paragraph formatting tags, Page background, absolute and relative URL, Image tag, form controls

Unit II CSS (Cascading style sheets) [7 HRS]

Introduction to CSS, CSS attributes Inline CSS, Internal or document level CSS, classes and Id level CSS, External Level CSS.

Unit III JavaScript [8 HRS]

Introduction, Advantages of JavaScript, Limitations of JavaScript, features of JavaScript, JavaScript code into HTML, JavaScript datatypes and variables, operators and expressions.

Unit IV JavaScript Web Programming [7 HRS]

document object (DOM), if else and switch case statements, loops in JavaScript, converting string's, objects in JavaScript, Arrays

Text Books

S.N	Title	Authors	Edition	Publisher
1	HTML & CSS: Design and Build Web Sites	Jon Duckett	1 st	John Wiley & Sons Inc.
2	JavaScript & jQuery: Interactive Front-End Web Development	Jon Duckett	1 st	John Wiley & Sons Inc.

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Web Technologies: HTML, CSS, JavaScript	Uttam K. Roy	1st Edition	Oxford University Press
2	Beginning JavaScript	Jeremy McPeak, Paul Wilton	5th Edition	Wrox Press

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