

Syllabus and Teaching/Exam scheme
w.e.f. 2021-22

SEMESTER-I

Course Name: Communication Skills

Code:

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA (I)	
2	2	0	4	50	0	0	0	50

Content:

Sr. No.	Content	Teaching Hours	Module Weightage (%)
1.	Oral Communication At the college, on the campus, outside the campus, at the post office, for business and pleasure, review	04	20
2.	Grammar And Usage The Articles, (Nouns & Pronouns Tenses, Auxiliary verbs (Model auxiliaries) (Questions and negatives, Prepositions attached to verbs	06	25
3.	Grammar And Usage Vocabulary words often confused, Abbreviations and Numerals Active-Passive, Conjunctions Reported speech, Translation	06	25
4.	Business Communication Enquiries and Replies, Quotations	02	05
5.	Business Communication Voluntary offers, Placing of orders Cancellations of orders, Complaints	06	25

Reference Books:

For Part-I Oral Communication

1. Essential English Grammar by Raymond Murphy, 2nd Edition (Cambridge University Press)

For Part-II Grammar And Usage

1. Advanced English for Non-native Learners B Mishara, Jadeja & Jishi.(O.U.P.)

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2. Contemporary English Grammar, Structure, and Composition By David Green.(MacMillan)

For Part-III Business Communication

1. Essential of Business Communication By Rajendra Pal and J.S.Korlahalli (S.Chand & Sons)
2. Modern Business Correspondence in Business English Written By Barin M.H.Robinson, 3.
- 3.V.S.Netrakanti(Orient) Business correspondence & Report By R.C.Sharma & Krishna Mohan

Course Outcome:

1. Understand that how to improve writing skills and level of readability
2. Understand the skills needed when writing a business document
3. Understand practical use of English in day to day communication
4. Understand business etiquette and its importance in communication

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SEMESTER-I

Course Name: Mathematics-I

Code:

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA (I)	
3	2	0	5	70	30	30	20	150

Content:

Sr. No.	Content	Teaching Hours	Module Weightage (%)
1.	Matrix Theory: Elementary row and column operations on a matrix, Rank of matrix – Normal form – Inverse of a matrix using elementary operations –Consistency and solutions of systems of linear equations using elementary operations.	08	15
2.	Eigen Values and Eigen Vectors: Characteristic roots and vectors of a matrix - Caley-Hamilton theorem and its applications, Complex matrices, Hermitian and Unitary Matrices - Reduction to diagonal form - Reduction of a quadratic form to canonical form – orthogonal transformation and congruent transformation..	10	20
3.	Differential Calculus: Rolle’s theorem; Mean value theorem; Taylor’s and Maclaurin’s theorems with remainders, Expansions; Indeterminate forms; Functions of several variables, Partial Differentiation, Total Differentiation, Euler’s theorem and generalization, maxima and minima of functions of several variables (two and three variables) – Lagrange’s method of Multipliers; Change of variables – Jacobians.	12	25
4.	Ordinary Differential Equations: First-order ordinary differential equations, Exact, linear and Bernoulli’s equations, Equations not of first degree: equations solvable for p, equations solvable for y, equations solvable for x and Clairaut’s type. Ordinary differential equations of higher orders, Homogeneous Linear ODEs of Higher Order, Homogeneous Linear ODEs with Constant Coefficients, Euler–Cauchy Equations, Existence and Uniqueness of Solutions, Linear Dependence and Independence of Solutions, Wronskian, Nonhomogeneous ODEs, Method of Undetermined Coefficients, Solution by Variation of Parameters.	12	30
5.	Determinants and their properties, Cramer’s rule.	02	10

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Reference Books:

1. Erwin Kreyszig, Advanced Engineering Mathematics, 10th Edition, John Wiley and Sons.
2. Howard Anton, Irl Bivens, Stephens Davis, Calculus, 10e, Wiley, 2016.
3. Thomas' Calculus, Maurice D. Weir, Joel Hass, Frank R. Giordano, Pearson Education
4. R.K.Jain and S.R.K.Iyengar, Advanced Engineering Mathematics, Narosa Pub. House, 2008.
5. B.S.Grewal, Higher Engineering Mathematics, Khanna Publications, 2009.

Course Outcome:

1. Solve linear system equation
2. Students will be able to use eigenvalues and eigen vectors in Control theory, vibration analysis, electric circuits, advanced dynamics, and quantum mechanics.
3. Determine the power series expansion of a function, Estimate the maxima and minima of multivariable functions
4. To apply effective mathematical tools for the solutions of the first order and Higher-order ordinary differential equations.
5. To know the basic knowledge of Determinants and applications of Cramer's rule

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SEMESTER-I

Course Name: Fundamentals of Computer and Basics of Programming

Code:

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA (I)	
3	0	2	4	70	30	30	20	150

Content:

Sr. No.	Content	Teaching Hours	Module Weightage (%)
1.	Introduction to computer: Introduction, Basic block diagram and functions of various components of computer, Concept of Hardware and Software, Types of software, Compiler and Interpreter	04	06
2.	Introduction to Programming: Basic Difference between Procedure Oriented Language and Object-Oriented Language, Concepts of Machine level, Assembly level and High-level programming, Flow charts and Algorithms	04	06
3.	Fundamentals and basics of 'C': Features of C language, structure of C program, comments, header files, data types, constants and variables, operators, expressions, evaluation of expressions, type conversion, precedence and associativity, I/O functions.	05	11
4.	Control Structures in 'C': Simple statements, Decision making statements, Looping statements, Nesting of control structures, break and continue statement, unconditional go to statement.	05	12
5.	Array & Concepts of String: Concept of array, One and Two dimensional arrays, declaration and initialization of arrays, String, String storage, Built-in string functions	06	13
6.	Functions: Concept of user-defined functions, prototype, definition of a function, parameters, parameter passing, calling a function, recursive function Macros.	05	13
7.	Pointers: Basics of pointers, pointer to pointer, pointer and array, pointer to array, array of pointers, function returning a pointer	05	10
8.	Structure and Union: Basics of structure, structure members, accessing structure members, nested structures, array of structures, structure and functions, structures and pointers, unions, bit-fields	05	10
9	The Pre-processor: Introduction, Macro substitution, File Inclusion, Compiler Control Directives	02	05
10	File Management: Introduction to file management, Simple file	03	09

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	management functions for text files, reading from and writing to files.		
11.	Concepts of Object-Oriented Programming: Fundamentals, Features like class, object, polymorphism, inheritance, data encapsulation and abstraction.	02	05

Reference Books:

1. Let us C, Yashwant Kanitkar
2. Programming in ANCI C, Seventh edition, by Balagurusamy E, Tata McGraw-Hill PublishingCompany Limited
3. Fundamentals of Computing and Programming in C, First Edition, Oxford University Press, 2009 by Pradip Dey, Manas Ghosh

Course Outcome:

1. Learn fundamental knowledge of computer hardware and number systems
2. Learn basic terminology used in computer programming
3. Develop an ability to write, compile and debug programs in C language
4. Design programs involving decision structures, loops and functions
5. Understand the dynamics of memory by the use of pointers, structures and unions
6. Learn the basic concepts of the object-oriented programming paradigm

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SEMESTER-I

Course Name: Introduction to PC package & Operating system

Code :

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE(E)	PA (M)	PA (V)	PA (I)		
2	0	4	4	70	30	30	20	150

Content:

Sr. No.	Content	Teaching Hours	Module (%) Weightage
1.	<p>MS Word Basics: Introduction to MS Office; Introduction to MSWord; Features & area of use; Working with MS Word. – Menus & Commands, Toolbars & Buttons, Shortcut Menus, Wizards & Templates; Creating a New Document; Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting; Text Editing using various features – Bullets, Numbering, Auto formatting, Printing & various print options.</p> <p>Advanced Features of MS-Word: Using bookmarks; Spell Check and Thesaurus; Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols ; Working with Columns, Tabs & Indents; Creation & Working with Tables ; Margins & Space management in Document; Mail Merge.</p>	05	20
2.	<p>MS Excel: Introduction and area of use; Working with MS Excel; concepts of Workbook & Worksheets; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations & Functions; Cell Formatting including Borders & Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with various options.</p>	05	20
3.	<p>Windows Feature: Managing Hardware & Software - Installation of Hardware & Software, Using Scanner Web Camera, Printers.</p> <p>System Tools - Backup, Disk Defragmenter, Drive Space, Scandisk, System Information, System Monitor, and Disk Cleanup, Using Windows Update. Browsing the Web with Internet Explorer, Multiple User Features of Windows, Creating and Deleting User, Changing User Password.</p> <p>Accessibility Features of Windows - Sharing Folders and Drives, Browsing the Entire Network, Shared Printers</p>	05	20

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4.	Linux: History & Features of Linux, Linux Architecture, File System of Linux, Hardware Requirements of Linux, Various flavors of Linux, Linux Standard Directories, Functions of Profile and Login Files in Linux, Linux Kernel, Installation of Linux, Introduction of Ubuntu, Fedorra, RedHat Linux	05	20
5.	Working with Linux: KDE & Gnome Graphical Interfaces, Various Types of Shell Available in Linux, Multi-User Features of Linux, Login and Logout from Linux System, Linux commands - bc, cal, cat, cd, clear, cmp, cp, mv, date, find, ls, pwd, mkdir, more, rm, rmdir, chgrp, chmod, chown, tty, wc, who, whois, grep, telnet, vi editor, Permissions and Ownerships,	05	20

Reference Books:

1. “Windows 10 All-in-One For Dummies
2. “Excel 2016 ALL-IN-ONE for Dummies by Greg Harvey
3. “Office 365 All-in-One For Dummies”, Peter Weverka, Timothy L. Warner
4. “Word for Beginners” by M.L. Humphrey
5. “Linux For Beginners” by Jason Cannon
6. “Peter Norton’s Complete Guide To Linux” by Peter Norton, Techmedia Publications
7. “Linux Pocket Guide: Essential Commands” by Daniel J. Barrett, O’reilly Publicatio

Course Outcome:

1. Understand various building blocks of Operating System
2. Operational command on Windows operating system with troubleshooting using commands
3. Operational command on Linux operating system architecture with shell commands
4. Practical use of Microsoft word and its formatting
5. Practical use of Microsoft Excel and its formulas

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SEMESTER-I

Course Name: Internet and Web Technology

Code:

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE(E)	PA (M)	PA (V)	PA (I)		
3	0	2	4	70	30	30	20	150

Content:

Sr. No.	Content	Teaching Hours	Module Weightage (%)
1.	Introduction to WEB: Basics of WWW, HTTP protocol, Client-Server architecture, Introduction to web server installation and configuration Concept of Internet: A brief introduction to the Internet: Computer Networks, Internet, URL (Uniform Resource Locator), Internet Service Provider, Intranet, Extranet, Virtual Private Network.	06	20
2.	Web Design fundamentals: Concepts of effective web design, Web design issues including Browser, Bandwidth and Cache, Display resolution, Look and Feel of the Website, Page Layout and linking, User-centric design, Sitemap, Planning and publishing website, Designing effective navigation	04	10
3.	Basics of HTML: Introduction to HTML, Create a Web page, Linking to other Web Pages, Publishing HTML Pages, Text Alignment and Lists, Text Formatting Fonts Control, Email Links and link within a Page, Creating a Table, Creating HTML Forms, Creating Web Page Graphics, Putting Graphics on a Web Page, Custom Backgrounds and Colors, Creating Animated Graphics.	08	25
4.	Cascading Style Sheet: Introduction to CSS, Defining Style with HTML Tags, Features of Style Sheet, Style Properties, Style Classes, External Style Sheet	05	20
5.	JavaScript: Writing First Java Script, External JavaScript, Variables: Rules for variable names, Declaring the variable, Assign a value to a variable, Scope of variable, Using Operators, Control Statements, JavaScript loops, JavaScript Functions: Defining a Function, Returning a value from function, User define function.	08	25

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Text Books:

1. Internet and Web Design Based on DOEACC III Revised syllabus 'O' Level - Mac Millan India Ltd
2. Teach Yourself HTML 4 in 24 Hours by Dick Oliver (Tech media) 4th edition
3. The Complete Reference JavaScript by Thomas Powell & Fritz Schneider 2nd Edition
4. Web Technology, Moseley and Savaliya, Wiley India

Reference Books:

1. HTML and CSS By Dick Oliver and Michael Morrison (Pearson Education) 7th edition
2. HTML, DHTML, JavaScript, Perl CGI By Ivan Bayross(BPB) 3rd Edition
3. CSS By Kynn Bartlett(Pearson Education) 2nd Edition
4. Introduction to Internet & HTML Scripting By Bhaumik Shroff Books India Publication 3rd Edition

Course Outcome:

1. Understand the basic structure of the internet and the use of web technologies in various fields
2. Use the various HTML tags with appropriate styles to display the various types of content effectively
3. Develop the website using HTML, CSS and JavaScript applying web design principles to make interactive pages
4. Write the client-side scripts for designing static web pages for web-based applications

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SEMESTER-I

Course Name: Fundamental of Mathematics
Code:

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA (I)	
2	2	0	0	0	30	0	20	50

Content:

Sr. No.	Content	Teaching Hours	Module Weightage (%)
1.	Basic concept of Matrices, Order and properties of Matrices. Basic concept of Determinant, Order and Properties of Determinant	04	10
2.	Basic concepts of Limit, Continuity and Derivatives, Derivatives of Composite and Implicit functions. Trigonometric functions and its derivatives, Second ordered Derivatives	10	35
3.	Basic Concepts of Permutations and Combinations	04	20
4.	Basic concepts of Integrals and formulas	06	15
5.	Basic concepts of first ordered differential equations	05	20

Reference Books:

1. Erwin Kreyszig, Advanced Engineering Mathematics, 10th Edition, John Wiley and Sons S. Lipschutz and M. L. Lipson, Schaum's Outline of Theory and Problems of Discrete Mathematics, 2nd Ed., Tata McGraw-Hill,1999
2. Thomas' Calculus | Fortheenth Edition | By Pearson

Course Outcome:

1. Understand the basic principles of Matrices and determinants
2. Basic understanding of limit, continuity and derivatives and their relation with each other
3. Basic understanding of Permutations and combinations and their use in probability
4. Be familiar with derivatives and integrations.
5. Understanding of first ordered differential equations and its solutions.