



Subject Code: 331101

Subject Name: Basic Mathematics I

Total No. of Classes: 40

Class Tests: Minimum TWO class tests must be conducted

Detailed Syllabus

Topics	Lectures
UNIT I: Determinants: Definition, minors and cofactors, properties. Matrices: Definition, types, equality, addition, subtraction & multiplications of matrices, transpose of matrix, adjoint of matrix, inverse of matrix, application of matrices in solving the simultaneous equation.	08
UNIT II: Limits, Function & Continuity: Concept of real function its domain & range. Fundamental theorem on limits, continuity of a function at a point , properties of continuous function, first and second kind of discontinuities.	08
UNIT III: Differentiability: Differentiation of Functions, Differentiation of functions of functions, parametric functions, product of functions, function in Product and quotient form, Logarithmic differentiation, Differentiation of Parametric functions.	08
UNIT IV: Integration: Simple integration, Integration by parts, by substitution and by partial fraction, Definite Integral & Indefinite Integrals and their properties.	08
UNIT V: Co-ordinate Geometry: Rectangular Cartesian coordinate of a point , Distance between two points, cylindrical, spherical coordinates, direction cosines and direction ratio, points of division, orthogonal projection, angle between straight lines.	08

Recommended Books:

1. Mathematics: R. D. Sharma , Dhanpat Rai Publication
2. A Textbook of Matrices: Shanti Narayan & Dr. P. K. Mittal , S.Chand Publication
3. Differential Calculus: Gorakh Prasad
4. The Elements of Coordinate Geometry: S. L. Loney , Arihant Publication



Subject Code: 331102

Subject Name: Basics of Computers & I.T.

Total No. of Classes: 40

Class Tests: Minimum TWO class tests must be conducted

Detailed Syllabus

Topics	Lectures
UNIT I: INTRODUCTION TO COMPUTERS: components of computer system, hardware, software, representation of data and information, various binary, unary, octal data representation,ASCII ,EBCDIC representation, concept of file and directory.	08
UNIT II: INTRODUCTION TO HARDWARE: introduction to input and output devices and their types. Storage Devices : Storage Fundamentals, Primary and Secondary Storage, Central Processing Unit, The Microprocessor, control unit, A.L.U., Registers, Buses, Main Memory, Main Memory (RAM) for microcomputers, Read Only Memory(ROM), Study of different type of processors. Motherboards, Installation and Configurations of Computer Systems, Discussions on Crimping of RJ45 / RJ11 with Straight and Cross – Cable Connections.	08
UNIT III: SYSTEM SOFTWARE: System software Vs. Application Software, Types of System Software, Introduction and Types of Operating Systems programs, Booting Loader, Diagnostic Tests, Operating Systems Executive, BIOS, Utility Programs, File Maintenance, Language Processors, Assembler, Compiler & Interpreter. Application Software: Microcomputer Software, Interacting with the System, Trends in PC software, Types of Application Software, Difference between Program and Packages.	08
UNIT IV: COMPUTER COMMUNICATION AND INTERNET: Introduction to Computer Network,LAN,MAN,WAN, Internet, world wide web, E-mails, various protocols used in Internet, TCP/IP, SMTP,Telnet, Concept of web browsers, network devices: hub, switch, router, modem, firewall, Ethernet. Introduction to wireless networks, WAP, Introduction to IPV4 and IPV6.	08
UNIT V: INTRODUCTION TO APPLICATION SOFTWARE: Different types of application software's packages, various database packages, Types of ERP packages, software development life cycles (SDLC), Introduction to GUI and various versions of Microsoft Windows, Case study of library management system, Case study based on windows, Concept of shell and shell programming, Comparative study of Linux, DOS and Windows.	08

Recommended Books:

1. Computer System Architecture, Morris Mano, PHI
2. Data Communication & Networking, Forouzan, TMH
3. UNIX: Concepts & Applications, Sumitava Das, TMH
4. Computer Organization & Design, Pal Chowdhury, PHI
5. Computer Fundamentals , V. Rajaraman,PHI



Subject Code: 331103

Subject Name: Office Automation

Total No. of Classes: 40

Class Tests: Minimum TWO class tests must be conducted

Detailed Syllabus

Topics	Lectures
<p>UNIT I: Windows: Definition of Operating System-Functions of OS-Types of OS,Windows Desk top-GUI : Definition, Standards, Cursors/Pointers, Icons, GUI Menus, GUI-Share Data –Desktop icons and their functions: My computer, My documents, Network neighborhood, Recycle Bin, Quick launch tool bar, System tray, Start menu, Task bar –Dialog Boxes,Maximize, Minimize, close and Resize, Working with Notepad & Word pad: Opening & Saving files, Formatting, Printing, Inserting objects, Finding & replacing text, Creating & Editing Images with Microsoft paint.</p>	08
<p>UNIT II: Linux: Introduction to Linux –Features of Linux –Components of Linux –File Management System; Linux Commands and Utilities –cat, tail, cmp, diff, wc, sort, mkdir, cd, rmdir, pwd, cp, more, passwd, who, whoami, mv, chmod, kill etc.</p>	08
<p>UNIT III: Introduction to MS Office-MS Word: MS Word -Working with Documents-Opening & Saving files, Editing text documents, Setting Page style-Formatting Page, Page tab, Margins, Layout settings, Paper tray, Border & Shading, Columns, Header & footer, Setting Footnotes & end notes–Shortcut Keys; Inserting manual page break, Column break and line break, Creating sections & frames, Setting Document styles, Table of Contents, Index, Page Numbering., Creating Tables-Table settings, Borders, Alignments, Insertion, deletion, Merging, Splitting, Sorting, and Formula, Drawing-Inserting Clip Arts, Pictures/Files etc., Printing Documents –Shortcut keys.</p>	08
<p>UNIT IV: Introduction to MS Office –MS Excel. Spread sheet addressing-Rows, Columns & Cells, Referring Cells & Selecting Cells–Shortcut Keys. Entering & Deleting Data, Setting Formula-finding total in a column or row, Mathematical operations, Using other Formula. Formatting Spreadsheets-Labeling columns & rows, Formatting-Cell, row, column & Sheet.</p>	08
<p>UNIT V: Introduction to MS Office-MS Power Point: Impress: MS Power point: Introduction to presentation –Opening new presentation, Different presentation templates, Setting backgrounds, Selecting presentation layouts. Creating a presentation.</p>	08

Recommended Books:

1. Microsoft Word 2013 Plain & Simple, Jay Freedman, Microsoft Press.
2. UNIX: Concepts & Applications, Sumitava Das, TMH
3. Microsoft Windows Operating System Essentials, John Wiley & Sons



Subject Code: 331104

Subject Name: Communication Skills

Total No. of Classes: 40

Class Tests: Minimum TWO class tests must be conducted

Detailed Syllabus

Topics	Lectures
UNIT I: COMMUNICATION THEORY The communication process, Objectives, Barriers to communication and methods of communication, Formal and informal channels of communication in a business organization, Techniques to improve communication.	08
UNIT II: GRAMMAR AND VOCABULARY Pairs of confused words, Common errors, Use of articles, Preposition and Apostrophes, Agreement of the verb with the subject, One-word substitution, Synonyms and Antonyms Tenses, Voice and narration.	08
UNIT III: BUSINESS CORRESPONDENCE Principles of business correspondence, Parts of a business letter, Formats (full-block/complete block, modified block, semi-block), Types of letters: Enquiry letters and replies to enquiry (enquiry about a product, service or information), Asking for a quotation (placing an order and replies to the same).	08
UNIT IV: COMPREHENSION Paragraph writing, Summarization, Precise, Essay.	08
UNIT V: REPORT WRITING & PRESENTATION SKILLS Report writing :- Definition, Types and Structure, Presentation skills :- Oral presentation, Written presentation, Body language.	08

Recommended Books:

1. Business Communication by Urmila Rai & S.M.Rai, Himalaya Publishing House
2. Communication Skills by Meenakshi Raman & Sangeeta Sharma, Oxford University Press
3. Business Correspondence & Report-writing by R.C.Sharma & Krishna Mohan, Tata McGraw-Hill Education



Subject Code: 331105

Subject Name: Web Technology Lab

Total No. of Classes: 30

Detailed Syllabus

Term work: Term work shall consist of record of the experiments, based on the following :

1. Basic concepts of HTML-I.
2. Program to illustrate body and pre tags.
3. Program to illustrate text Font tag.
4. Program to illustrate comment, h1...h6, and div tag.
5. Program to illustrate text formatting tags.
6. Program to illustrate Order List tag.
7. Program to illustrate Unordered List tag.
8. Program to illustrate Nested and Definition tag.
9. Program to illustrate img tag.
10. Program to illustrate Hyper Link tag (Anchor tag).
11. Program to illustrate Table tag.
12. Program to illustrate Frame tag.
13. Program to illustrate Form tag.
14. Program to illustrate Embedded Multimedia.
15. Program to illustrate CSS Syntax.
16. Program to illustrate CSS Classes and concept of ID.
17. Program to illustrate CSS Division, Span and Margins.
18. Program to illustrate CSS Text and Font properties.
19. Program to illustrate CSS Positioning.
20. Program to illustrate CSS Animation.



Subject Code: 331106

Subject Name: Office Automation Lab

Total No. of Classes:30

Detailed Syllabus

Term work: Term work shall consist of record of the experiments, based on the following:

1. Preparing a Govt. Order / Official Letter / Business Letter / Circular Letter Covering formatting commands - font size and styles - bold, underline, upper case, lower case, superscript, subscript, indenting paragraphs, spacing between lines and characters, tab settings etc.
2. Preparing a news letter: To prepare a newsletter with borders, two columns text, header and footer and inserting a graphic image and page layout.
3. Creating and using styles and templates To create a style and apply that style in a document To create a template for the styles created and assemble the styles for the template.
4. Creating and editing the table To create a table using table menu. To create a monthly calendar using cell editing operations like inserting, joining, deleting, splitting and merging cells.To create a simple statement for math calculations viz. Totaling the column.
5. Creating numbered lists and bulleted lists To create numbered list with different formats (with numbers, alphabets, roman letters) To create a bulleted list with different bullet characters.
6. Using formulas and functions: To prepare a Worksheet showing the monthly sales of a company in different branch offices (Showing Total Sales, Average Sales).
Prepare a Statement for preparing Result of 10 students in 5 subjects (using formula to get Distinction, I Class, II Class and Fail under Result column against each student).
7. Operating on the sheets:
Finding, deleting and adding records, formatting columns, row height, merging, splitting columns etc.
Connecting the Worksheets and enter the data.
8. Creating a Chart: To create a chart for comparing the monthly sales of a company in different branch offices.
9. Creating a new Presentation based on a template – using Auto content wizard, design template and Plain blank presentation.
10. Creating a Presentation with Slide Transition – Automatic and Manual with different effects.
11. Creating a Presentation applying Custom Animation effects –Applying multiple effects to the same object and changing to a different effect and removing effects.
12. Creating and Printing handouts.

More experiments must be there with reference to the contents of subject code 331103



Subject Code: 331107

Subject Name: Hardware & Software Lab

Total No. of Classes: 30

Detailed Syllabus

Term work: Term work shall consist of record of the experiments, based on the following :

1. Dismantling the system unit , recognize all major components inside a PC ,describe function of each component and define the relationship of internal components
2. Perform these commands internal commands.
DIR,TYPE,DEL,ERASE,MD,CD,COPY,RMDIR,VER,DATE,TIME,PATH,CLS,BREAK, SET,EXIT
3. Perform external commands.
APPEND,CHKDISK,ATTRIB,SYS,EDIT
4. Explore and describe some system utility like regedit , memory portioning, control panel, window tools.
5. List various keys in registry and perform experiments to back up a key in registry using regedit.
6. Identification of Hardware elements.
7. Identification of symptoms for failure.
 - a. Beep codes and error codes.
 - b. Different symptoms of motherboard.
 - c. Beep, error and symptoms failure of FDDI.
 - d. Keyboard interface.
 - e. Beep, error and symptoms of failure of keyboard.
8. To Assemble a Computer.
9. Formatting disk drives.
10. Creation of Logical Disk Drive.
11. Understanding control panel settings.
12. Study of Various Networking equipment and their installation (Hub, RJ-45, Stright Cabling, Cross Cabling and etc.)