

Purbanchal University
Bachelor in Information Technology (BIT)

Year: I

Semester: I

S.N	Course Code	Course description	Credits	Lecture (Hrs)	Tutorial (Hrs)	Practical (Hrs)	Total (Hrs)
1	BIT101SH	Mathematics- I	3	3	2	-	5
2	BIT170CO	Fundamentals of Information Technology	3	3	1	2	6
3	BIT105SH	Technical Communication (English)	2	3	1	-	4
4	BIT120EL	Basic Electrical System & Circuit	3	3	1	2	6
5	BIT190MS	Principles of Management	3	3	1	-	4
6	BIT175CO	Computer Programming-I	3	3	1	2	6
7	BIT178CO	Project-I	2	-	-	3	3
		Total	19	18	7	9	34

Mathematics I

BIT101SH

Year : I

Semester : I

Teaching schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final Assessment		Total
3	2	-	Theory	Practical	Theory	Practical	100
			20	-	20		

1. Coordinate Systems

[3 Hrs]

- 1.1 Rectangular coordinates in a plane
- 1.2 Polar coordinates
- 1.3 Rectangular coordinates in space
- 1.4 Cylindrical polar coordinates
- 1.5 Spherical polar coordinates
- 1.6 Transformation of one coordinate system into another system

2. Elementary Coordinates Geometry

[5 Hrs]

- 2.1 The conic sections
- 2.2 Translation of Axes
- 2.3 Equation of a conic in polar coordinates

3. Vectors and Solid Geometry

[10 Hrs]

- 3.1 The concept of a vector
- 3.2 Addition & Subtraction of vectors
- 3.3 Resolution of vectors
- 3.4 Scalar Dot product of two vectors
- 3.5 Vector Cross product of two vectors
- 3.6 Equation of Line and Plane
- 3.7 Product of three or more vectors
- 3.8 Sphere, Cylinder and Cone
- 3.9 Quadratic Surfaces

4. Application of Differentiation

[8 Hrs]

- 4.1 Geometric Applications
- 4.2 Related Rates
- 4.3 Roll's and Mean – Value theorems
- 4.4 Indeterminate forms
- 4.5 Maxima and Minima
- 4.6 Taylor's and Maclaurin's series
- 4.7 Curvature
- 4.8 Asymptotes

- | | |
|--|----------------|
| 5. Applications of the Definite Integral | [5 Hrs] |
| 5.1 Area bounded by a curve | |
| 5.2 Volume and surface area of solids of revolution | |
| 5.3 Length of an arc of a curve | |
| 5.4 Area and volume in polar coordinates | |
| 6. Functions of several variables | [4 Hrs] |
| 6.1 Functions of several variables | |
| 6.2 Limits and continuity | |
| 6.3 Partial derivatives First and Second Order | |
| 6.4 Homogenous functions, Euler's Theorem | |
| 7. Multiple Integrals | [4 Hrs] |
| 7.1 Definition and Evaluation of Double Integrals | |
| 7.2 Area by Double Integration | |
| 7.3 Introduction to triple integrals & some simple applications | |
| 7.4 Change of variables | |
| 8. Matrix algebra | [6 Hrs] |
| 8.1 Definition, Equality of matrices, Addition & Scalar Multiplication of a matrix | |
| 8.2 Product of matrices | |
| 8.3 Some special types of matrices | |
| 8.4 Matrices & Determinants (simple cases only) | |
| 8.5 Adjoint & Inverse of a matrix | |
| 8.6 Cramer's rule | |
| 8.7 Use of matrices in solving a system of linear equation (Homogenous & Non-homogeneous system) | |

Text Book

1. Engineering Mathematics Vol: S.S Sastry Prentic Hall of India

References:

1. Fraleigh J.B. Calculus with analytic geometry, Addison Wesley pub. Community, Inc(1980)
2. Bajpai, A.C and Fairley, J.A Mathematics for Engineering & scientists, Vol I John Wiley & sons (1973)
3. Goldstein, I.J Lay D.C. and Schneider, D.I Calculus and its Applications prentice Hall Inc. (1977)
4. Spiegel, M.R Theory and problems of advanced calculus schaum publish.
5. Srivastava, R.S.L. Engineering Mathematics, Vol I, Tata, Mc Graw hillpub (1980)
6. N. Saran & J.K. Goyal, Introduction to matrices pragmatic Prakashan (1990)

Fundamentals of Information Technology

BIT170CO

Year : I

Semester : I

Teaching schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final Assessment		Total
			Theory	Practical	Theory	Practical	
3	1	2	20	20	60		

Objectives: to provide fundamental concepts of information technology and its application in various fields.

Course Contents:

- 1. History of Computers:** [2Hrs]
Abacus, Pascaline, Different Engine, Colossus, Generation of Computer Turing machine, ENIAC, UNIVAC, EDVAC, IBM Machines, Microprocessor, LSI, VLSI, Pentium fifth generation computing.
- 2. Introduction to computer systems:** [8 Hrs]
Introduction to computer, classification of digital computer systems, Anatomy of digital computers, computer architecture, Memory units, Auxiliary storage devices Input devices, Output devices.
- 3. Computer Software**
Introduction to computer software, operating system, programming language, general software features and trends.
- 4. Data and Database management systems:** [4Hrs]
Data processing, Introduction to database management systems
- 5. Telecommunications:** [6 Hrs]
Introduction to telecommunications, Computer networks, Communication systems, Distributed systems.
- 6. Internet and Intranet** [6 Hrs]
Internet & World Wide Web, Electronic mail, Internets
- 7. Multimedia & Virtual reality** [3 Hrs]
Introduction to multimedia, Multimedia tools, Introduction to virtual reality
- 8. New technologies in Information Technology** [6 Hrs]
Electronic commerce, Hypermedia, Data Warehouse and Data Marts, Data Mining, On-Line Analytical Processing (OLAP)
- 9. Applications of Information Technology:** [4 Hrs]
Computer in business and industry, Computers in home, Computer in education and training, Computer in entertainment, science, medicine and engineering.
- 10. Information Security** [2Hrs]
Cyber laws, Computer crime, Information privacy and security.

References

1. Alexis Leon, Mathews Leon, "Fundamentals of Information Technology", Leon TCHWORI.
2. Peter Norton "Peter Norton's Introduction to Computers" Tat McGraw-Hill Publishing Company Ltd.
3. Robert Cowart, "Mastering Windows- Premium Editing", BPB Publication
4. Ron Mansfield, "Mastering Word" BPB Publication.
5. Thomas Mansfield, "Richard A. Alden, Mastering Excel", BPB Publication.
6. Katherine Murray, "Mastering Power Point", BPB Publication.
7. Shankar N. Adhikary, Ajay K. Shah, "Business Application of Computers", Buddha Publication

Lab Works:

To familiarize students with operating systems and desktop application using current version of windows.

Course Contents

A. Microsoft Windows

Part Introductory

- | | |
|-----------|--|
| Chapter 1 | Introduction to OS, Interface, GUI vs CUI |
| Chapter 2 | Introduction to windows, features, Elements of Windows |

Part II Using Windows

- | | |
|-----------|---|
| Chapter 3 | Taskbar, Using menus and sub menus to search items, opening program, opening multiple programs. |
| Chapter 4 | Short cuts and Using short cuts, using my computer, switching off the system |

Part III Customizing Windows

- | | |
|-----------|---|
| Chapter 5 | Desktop and custom wall papers, Screen Server |
| Chapter 6 | Using Help for Interactive learning |

Part IV Using Application

- | | |
|-----------|---|
| Chapter 7 | Using general accessories- Notepad Paint Clipboard Character map, Calculator etc. |
| Chapter 8 | Using Multimedia, Using Compact Disk, Using Audio/Video. |
| Chapter 9 | Searching Files and Folders |

Part V Managing Information

- | | |
|------------|--|
| Chapter 10 | Using explorer to manage files and folders- Copy/Delete/Rename/Shortcuts, Sharing information with other storage media |
|------------|--|

Chapter 11 Recycle Bin and its uses

Part VI Disk Manager

Chapter 12 Using format, Scandisk and Disk Defragmenter

B. Microsoft Word

Part I Introductory

Chapter 1 Introduction to Word: Elements of Word Window, Creating and Saving Document

Chapter 2 viewing and navigating

Part II Formatting Fundamentals

Chapter 3 Margins and Page Breaks

Chapter 4 Characters, Fonts and Symbols

Chapter 5 Formatting Paragraphs

Chapter 6 Tabs, Tables, Math, Sorting

Chapter 7 Headers, Footers, Page Numbers and Footnotes

Chapter 8 Formatting Documents with Section Breaks

Chapter 9 Using Paragraph Styles and Auto Format

Part III Graphics in Word

Chapter 10 Introduction to Graphic in Word

Chapter 11 Using the Text Boxes to frame, Position and Anchor Text

Chapter 12 inserting Word Art, Clip Art and Charts

Part IV Productivity Tools

Chapter 13 Templates, Wizards and Sample Documents

Chapter 14 Auto Text, Auto Correct, and Insert

Chapter 15 Author's Tools-Setting Language, Spell Checker, Thesaurus, Word Counts

Chapter 16 Finding and Replacing

Chapter 17 Viewing Document- Organizing with Normal, Page Layout & Outline View

Part V Power Tools

- Chapter 18 Using Charts and Graphs
- Chapter 19 Concepts of OLE Linking and embedding
- Chapter 20 Creating and Using Macros
- Chapter 21 Personalizing Word

Part VI Printing Document

- Chapter 22 Setting up Document for Printing-Page Setup
- Chapter 23 Previewing and Printing

C. DOS 4

Part 1: Internet & External Commands of DOS

- Chapter 1 Introduction to Computers Introduction to DOS
- Chapter 2 Basic DOS Commands Managing Your Hard Disk
- Chapter 3 Advance DOS Commands, DOS 6 & 6.2 Commands, Troubleshooting DOS Errors

D. Microsoft Excel

Part I Introductory

- Chapter 1 Introduction to Excel: Excel Environment, Elements of Excel window
- Chapter 2 Managing Workbooks, Worksheets and Windows
- Chapter 3 Working Inside Worksheet

Part II Basic Skills

- Chapter 4 Using Formulas and Functions
- Chapter 5 Formatting/Conditional Formatting Data and Worksheet
- Chapter 6 Using Paste Special

Part III Tapping Excel's Power

- Chapter 7 The power of Range Names
- Chapter 8 Essential Worksheet function
- Chapter 9 Using Templates
- Chapter 10 Protecting the files Worksheet with Passwords

Part IV Graphics and Charts

- Chapter 11 Working with Graphic Object-Clip Art, Word Art, Map

Chapter 12 Charting Basics

Chapter 13 Creating Custom Charts

Chapter 14 Constructing, Complex Chart Using Advanced Techniques

Part V Introductory

Chapter 15 Getting More Power from Worksheet Databases

Chapter 16 Accessing External Databases

Part VI Cell Referencing

Chapter 17 Cell Referencing Excel: Relative, Absolute and Mixed.

Chapter 18 Loan Amortization Scheduling and Calculation

Part VII Exercising What-If Analysis

Chapter 19 Consolidation and Outlining

Chapter 20 Using What-If Analysis Data Table, Goal Seek and Scenario Manager

Part VIII Pivot Tables

Chapter 21 Understanding Pivot Tables

Chapter 22 Construction and Analyzing Pivot Tables

Part IX Customizing Excel

Chapter 23 Using Custom Controls on Worksheets

Chapter 24 Effectively Using Macro Recorder

Part X Printing Worksheet

Chapter 25 Setting up the Worksheet

Chapter 26 Printing Worksheets

E. Microsoft Power Point:

Part I Introductory

Chapter 1 Introduction to Power Point: Creating and Saving Presentation

Chapter 2 Entering, Editing and Enhancing Text

Chapter 3 Editing in different views-Outline views, Slide Sorter View

Part II Graphics in Presentation

Chapter 4 Creating Graphs

- Chapter 5 Editing and Enhancing Graphs
- Chapter 6 Adding Clip Arts in slide
- Chapter 7 Editing Arts
- Chapter 8 Animation charts and Art Objects

Part III Adding Sound

- Chapter 9 Adding Sound –WAV and MID file
- Chapter 10 Choosing Sound Effects-Transitional, from Other Sources
- Chapter 11 Adding Sounds to Animations and Sound Objects
- Chapter 12 Recording Sound and Narration

Part IV Using Video Clips

- Chapter 13 Adding Movie in Slides
- Chapter 14 Playing and Editing Movie
- Chapter 15 Making Movie Poster and Icon

Part V Finishing Slides

- Chapter 16 Slide Show
- Chapter 17 Rehearsing Slide Display Timing
- Chapter 18 Rehearsing Slide Display Timing
- Chapter 19 Slide Notes and Comments

Part VI Furnishing Presentation

- Chapter 20 Editing Text Color, Creating Custom Color
- Chapter 21 Background and Schemes

Part VII Working with Multimedia Files

- Chapter 22 Linking and Embedding Objects
- Chapter 23 Importing and Exporting Presentation

Part VIII Printing Slides and Handouts

- Chapter 24 Choosing Page Setup for Presentations
- Chapter 25 Adding I Leader and Footers and Numbering Slides
- Chapter 26 Printing the Presentation

Technical Communication (ENGLISH)

BIT105SH

Year : I

Semester : I

Teaching schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final Assessment		Total
2	2	-	Theory	Practical	Theory	Practical	100
			20	-	80	-	

Objectives: This course intends to develop

- Skills needed for group discussion, meeting conduction and technical talk
- Intensive and extensive reading skills in technical and non-technical reading materials.
- Skills in writing description, official letters and letters of application, proposals and formal technical reports.

Course in detail:

Unit 1: Oral Communication

[12 Hrs]

- Fundamentals of effective speaking:
Posture, gesture, facial expression, voice, eye contact, space distancing etc.
- Group discussion on subjects of general and technical interest.
- Meetings
 - Notice preparation
 - Agenda preparation
 - Minutes preparation
 - Meeting conduction
- Technical talk
 - Writing complete manuscript for technical talk.
 - Presentation technical talk based on manuscript
 - Preparing note for technical talk
 - Presenting talks based on notes

Unit 2: Reading: Intensive and Extensive

[16 Hrs]

- Intensive Reading
 - How to tackle intensive reading materials.
 - Practicing comprehension on prescribed texts.
 - Note making and summary writing.
 - Practice on contextual grammar.
- Extensive Reading:
 - How to tackle extensive materials.
 - Practicing extensive reading

Unit 3: Writing

[17 Hrs]

- A. Fundamentals of effective writing:
Unity , coherence, conciseness , clarity.
- B. Description Writing:
Mechanical, electrical or electronic objects, tables, graphs, charts, landscape, technical process
- C. Letters
 - a. Official letters
 - i. Standard letter formats.
 - ii. Writing letters for asking and giving information giving instruction, letters of request, apology and explanation, complaint and order.
 - b. Letters of application
 - i. Standard format
 - ii. Preparing Bio-data and Resume
 - iii. Writing letters of application
- D. Proposal Writing
 - a. Format for technical proposals
 - b. Writing technical proposals
- E. Technical Report Writing
 - a. Format for technical reports
 - b. Writing technical reports

Prescribed Book:

1. English for Engineers and Technologist
Orient Longman, Anna University, Chennai 1990,(Reading and language focus all and oral and writing as mentioned in the syllabus)

References:

1. Adhikary Usha, et, al. Communicative Skills in English, Research Training unit, Department of Science and Humanities, Institute of Engineering, Pulchowk Campus 2002.
2. Anne Eisenberg, effective Technical Communication , Mc Graw Hill, 1982.
3. K.W Houp and T.E Pearsall, Reporting Technical Information. 5th Edition, Macmillan Publishing Company, New York, 1984.
4. Leech G. Savartivk, J.,A Communicative Grammar of English, ELBS, 1975
5. Collins Cobuild English Dictionary, New Edition, Harper Collins Publishers, 1995

Basic Electrical System and Circuit

BIT120EL

Year : I

Semester : I

Teaching schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final Assessment		Total
3	1	2	Theory	Practical	Theory	Practical	150
			20	50	80	-	

Objectives: The main objective of this course is to provide fundamental knowledge about DC. AC and magnetic circuits.

Course Contents:

1. Introduction to Electric System

[6 Hrs]

- 1.1 Electric circuit and its constituent elements. Electric network.
- 1.2 Current flow in a circuit
- 1.3 Electrical sources (ideal and practical sources, voltage and current sources and dependent and independent sources)
- 1.4 Passive elements of electrical circuit, general concept of resistance, inductance and capacitance
- 1.5 Ohm's law, laws of resistance, resistivity, conductivity and temperature coefficient of resistance
- 1.6 Power and energy in resistance, inductance and capacitance
- 1.7 Sources transformation
- 1.8 Resistance color codes and tolerance

2. DC circuit and Network Theorems

[16 Hrs]

- 2.1 series, parallel and mixed circuits involving resistances, equivalent resistance calculation.
- 2.2 Star-delta and delta-star transformation
- 2.3 Kirchhoff's law and its application in network solution-nodal analysis and mesh analysis
- 2.4 Thevenin's and Norton's theorem involving independent sources, dependent sources and both sources.
- 2.5 Maximum power transfer theorem.
- 2.6 Superposition theorem.
- 2.7 Reciprocity theorem

3. Alternating Quantities

[3 Hrs]

- 3.1 Faraday's law of electromagnetic induction concept of statically and dynamically induced emf
- 3.2 Generation of alternating voltage, equation of alternating voltage
- 3.3 Waveform, terms and definitions
- 3.4 Average and rms values waveforms, form factor, crest factor

3.5 Phasor diagram

4. AC Circuit Analysis

[16 Hrs]

4.1 AC in purely resistive, inductive and capacitive circuits

4.2 Concept of complex impedance and complex admittance

4.3 Single phase series circuits: Impedance, admittance, power, power factor, Q factor and power triangle of RL, RC, and RLC series circuit, Resonance in series RLC circuits

4.4 Single phase parallel circuits: Admittance method: Phasor diagram, Power, Power factor and power triangle; Resonance in parallel circuits

4.5 Power factor improvement

4.6 Three phase AC circuits: Basic concept and advantages, Line and Phase relation for Star and Delta connection, Power relations, Analysis of balanced 3 phase circuits.

5. Magnetic Circuits

[4 Hrs]

5.1 Ampere's circuital law and its application

5.2 Ohm's law for magnetic circuits

5.3 Series and parallel magnetic circuits

5.4 Electromagnet

5.5 Ferromagnetic materials, hysteresis and eddy current

5.6 Core loss in ferromagnetic materials

Laboratory works:

1. Introduction to sources, breadboard, resistance color code, multimeter and oscilloscope.
2. Measurement of voltage, current and power in DC circuit, Verification of ohm's law
3. Verification of series and parallel combination of resistance.
4. Verification of Kirchhoff's laws.
5. Verification of Superposition theorem.
6. Verification of Thevenin's and Norton's Theorem.
7. Verification of reciprocity theorem.
8. Measurement of amplitude, frequency and time with oscilloscope.
9. Measurement of voltage, current and power in single phase ac circuit, Verification of impedance of the circuit.
10. Electric circuit simulation study, simulation of circuits using workbench or p-spice or MATLAB or other software.

Reference books:-

1. B.L Theraja, A.K. Theraja- "A text book of electrical technology vol. I", S.Chand & Company, New Delhi
2. Vincent Del Toro- "Electrical Engineering Fundamentals", PHI
3. Hughes- "Electrical Technology", Pearson Education Asia

Principles of Management

BIT115 MS

Year : I

Semester : I

Teaching schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final Assessment		Total
3	1	-	Theory	Practical	Theory	Practical	100
			20	-	80		

Objectives: This course aims at familiarizing the students with the various aspects of management and helps them understand major aspects to be performed by managers.

Course Contents:

1. Introduction

[4 Hrs]

- 1.1 Meaning/ Concept of Management
- 1.2 Elements of Management
- 1.3 Levels of Management
- 1.4 Significance Management
 - 1.4.1 General Significance
 - 1.4.2 Special Significance to BIT students

2. Approaches to Management

[5 Hrs]

- 2.1 Rule of thumb Approach
- 2.2 Mechanistic Approach
- 2.3 Behavioral Approach
- 2.4 System Approach
- 2.5 Contingency Approach

3. Function of Management

3.1 Managerial Planning

[4 Hrs]

- 3.1.1 Meaning and Significance
- 3.1.2 Types of Plans
- 3.1.3 Steps in Plans
- 3.1.4 Factors Affecting Process

3.2 Organizing

[5 Hrs]

- 3.2.1 Meaning/ Concept of Organization
- 3.2.2 Basis of Organization
- 3.2.3 Organization design, line/ staff; pyramidal/ hierarchical; flat and matrix
- 3.2.4 Principles of organization, span of control; Hierarchy, unit of command; centralization decentralization of authority

3.3 Staffing/ Human Resource Management

[5 Hrs]

- 3.3.1 Importance/ significance of H.R.M
- 3.3.2 Procurement function

3.3.3	Maintenance function	
3.3.4	Development function	
3.3.5	Motivation function	
3.4	Directing and Controlling	[2 Hrs]
3.4.1	Meaning and significance of directing functions	
3.4.2	Management as control system	
3.5	Coordinating	[2 Hrs]
3.5.1	Meaning and significance of coordination	
3.5.2	Techniques of coordination	
3.6	Reporting	[2 Hrs]
3.6.1	Meaning and significance of Reporting	
3.6.2	Methods of reporting	
3.7	Decision Making and Monitoring	[5 Hrs]
3.7.1	Meaning of decision making	
3.7.2	Relational decision making	
3.7.3	Incremental decision making	
3.7.4	Mixed scanning decision making	
3.7.5	Meaning and significance of monitoring	
3.8	Communication	[3 Hrs]
3.8.1	Concept/ significance of management communication	
3.8.2	Types of communication: horizontal and vertical: one way and Two ways	
3.8.3	Barriers to effective communication	
3.9	Leadership	[3 hrs]
3.9.1	Meaning and significance of leadership	
3.9.2	Theories of leadership	
4.	Managerial Technique	[5 hrs]
4.1	Job Analysis	
4.2	Job Evaluation	
4.3	Job Description	
4.4	SWOT Analysis	
4.5	Quality Circle	
4.6	Total Quality Management	
4.7	Kaizen (Continuous performance improvement)	

Basic Text Books:

1. Koontz, H. and Wehrich, Essential of Management, New Delhi; Tata MCGrawhill publishing Community, Ltd, 2000
2. Stephen P. Robbins and coulter, Mary, Management, New Delhi, Prentice Hall of India Ltd 2000
3. Agrawal, Dr. G.R Organization and Management in Nepal, Kathmandu, M.K. Publishers and Distributors, 2000

Reference Books

1. Stoner, J.A., Freeman, R.E. and Gilbert, D.R Management, New Delhi Prentice Hall of India Ltd, 1996
2. Stephen P. Robbins and David A. Cenzo, Fundaments of Management, Prentices Hall INC., New Jersey, 1995

Computer Programming - I

BIT75 CO

Year : I

Semester : I

Teaching schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final Assessment		Total
3	1	2	Theory	Practical	Theory	Practical	150
			20	50	80		

Objectives: To provide the concept of programming methodology using C.

Course Contents:

- 1. Problem Solving with computer** **(3 Hrs)**
 - 1.1 Problem Analysis, Algorithms and Flowchart
 - 1.2 Coding, Compilation and Execution
 - 1.3 History of C
 - 1.4 Structure of C program
 - 1.5 Debugging, Testing and Documentation
- 2. Elements of C** **(4 Hrs)**
 - 2.1 C Tokens
 - 2.2 Escape sequence
 - 2.3 Delimiters
 - 2.4 Variables
 - 2.5 Data types
 - 2.6 Constants/ Literals
 - 2.7 Expressions
 - 2.8 Statement and Comments
- 3. Input and Output** **(2 Hrs)**
 - 3.1 Conversation Specification
 - 3.2 I/O operation
 - 3.3 Formatted I/O
- 4. Operators and Expression** **(4 Hrs)**
 - 4.1 Arithmetic operator
 - 4.2 Relational operator
 - 4.3 Logical and Boolean operator
 - 4.4 Assignment operator
 - 4.5 Ternary operator
 - 4.6 Bitwise operator
 - 4.7 Increment and Decrement operator
 - 4.8 Comma operator
- 5. Control statements** **(4 Hrs)**

5.1 Branching	
5.2 Looping	
5.3 Conditional Statement	
5.4 Exit function	
5.5 Difference between break and exit	
6. Arrays	(6 Hrs)
6.1 Introduction	
6.2 Declaration of array	
6.3 Initialization of arrays	
6.4 Sorting	
6.5 Multidimensional array	
7. Functions	(5 Hrs)
7.1 Library function	
7.2 User-defined function	
7.3 Recursion	
7.4 Function declaration	
7.5 Local and global variables	
7.6 User of array in function	
7.7 Passing by value, Passing by address	
8. Pointers	(6 Hrs)
8.1 Introduction	
8.2 The & and * operator	
8.3 Declaration of pointer	
8.4 Pointer to pointer	
8.5 Pointer arithmetic	
8.6 Array and pointer	
8.7 Pointer and array	
8.8 Pointer with multidimensional array	
8.9 Pointer nad strings	
8.10 Array of pointer with string	
8.11 Dynamic memory allocation	
9. Structure and Union	(5 Hrs)
9.1 Introduction	
9.2 Array of structure	
9.3 Passing structure to function	
9.4 Passing structure to function	
9.5 Structure within structure (Nested structure)	
9.6 Union	
9.7 Pointer to structure	
10. Files and file handling in C	(4 Hrs)
10.1 Concept of file	
10.2 Opening and closing of file	

- 10.3 Modes
- 10.4 Input/output function
- 10.5 Random access in file
- 10.6 Printing a file

11. Introduction to Graphics

(2 Hrs)

- 11.1 Modes
- 11.2 Initialization
- 11.3 Graphics Function

Laboratory:

Laboratory exercises are necessary to be done in different chapters. At the end of each chapter, laboratory reports are required to be submitted to teacher for evaluation.

Reference:

1. Deitel C: How to program, 2/e(with CD), Pearson Education.
2. Al Kelley, Ira Pogl, "A book on C", Pearson Education.
3. Brian W.Kernighan & Dennis M. Ritchie, "The C Programming Language", PH.
4. Bryons S. Gottfried, " Programming with C, TMH.
5. Stephen G. Kochan, "Programming in C", CBS publishers & distributors.
6. Yashvant Kanetkar "Let Us C", BPB Publication.
7. E. Balagurusamy "Programming in ANSI C", Tata Mc Graw-Hill Publishing.

Project - I

BIT178 CO

Year : I

Semester : I

Teaching schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal Assessment		Final Assessment		Total
3	1	2	Theory	Practical	Theory	Practical	150
			20	50	80		

Objectives: To design and complete the software by using high-level language (C-Programming). On the completion of the project, student will be able to develop small scale of software in C programming.

Course Contents:

A total 45 hours covering features of C programming techniques will be assigned to the students. Topic must be identified and instructed to each group, and at least students must prepare and submit written reports and give the oral presentation.

General Procedure:

1. Information Gathering
2. System requirements specifications
3. Algorithms and Flowcharts
4. Coding Techniques
5. Result
6. Documentation

The Project document shall include the following:

1. Technical description of Project
2. System aspect of the project
3. Implementation of project
4. Project tasks and time schedule
5. Project team members
6. Project Supervisor