

**PDM UNIVERSITY
BACHELOR OF SCIENCE (IT)**

PROGRAM SCHEME

SEMESTER – I

MODULE CODE	CATEGORY	SUB-CATEGORY	MODULE	L	T	P	C	MARKS		
								INTERNAL	EXTERNAL	TOTAL
COIT1101		PC	COMPUTER FUNDAMENTALS	3	1	0	3.5	30	70	100
COIT1102		PC	IMPERATIVE PROGRAMMING (C)	4	0	0	4	30	70	100
COIT1103		PC	IMPERATIVE PROGRAMMING WITH C LAB	0	0	4	2	30	70	100
COIT1104		PC	SYSTEM AND APPLICATION SOFTWARE	4	0	0	4	30	70	100
COIT1105		PC	SYSTEM AND APPLICATION SOFTWARE LAB	0	0	4	2	30	70	100
COIT1106		PC	LOGICAL ORGANIZATION OF COMPUTER-I	3	1	0	3.5	30	70	100
MATH0112	G		MATHEMATICS	4	0	0	4	30	70	100
MGMT0101	M		MANAGEMENT & PROFESSIONAL LEADERSHIP	4	0	0	4	30	70	100
TOTAL CREDITS				22	2	8	27	TOTAL MARKS		800

L = Lecture

T = Tutorial

P = Practical

C = Credit Point

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COMPUTER FUNDAMENTALS

L T P
3 1 0

MODULE CODE	COIT1101
CREDIT POINTS	3.5
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

MODULE CONTENT:

UNIT-I: Computer Fundamentals

Generations of Computers, Definition, Block Diagram along with its components, characteristics & classification of computers, Limitations of Computers, Human-Being VS Computer, Applications of computers in various fields. Memory: Concept of primary & secondary memory, RAM, ROM, types of ROM.

UNIT-II: Computer Hardware & Software

I/O devices, definition of software, relationship between hardware and software, types of software.

UNIT-III: Flowcharts

Flowchart: Definition, Define, symbols of flowchart, Advantages and disadvantages, Examples.

UNIT-IV: Overview of Operating System

Definition, functions of operating system, concept of multiprogramming, multitasking, multiprocessing, time-sharing, real time, single-user & multi-user operating system.

UNIT-V: Overview of Networking

An introduction to computer networking, Network types (LAN, WAN, MAN), Network topologies, Modes of data transmission, Forms of data transmission, Transmission channels (media).

UNIT-VI: Introduction to Internet

Uses of internet, Applications of internet, Hardware and Software requirements for internet, Intranet, Applications of intranet.

RECOMMENDED BOOKS:

TEXT BOOKS	<ol style="list-style-type: none"> 1. Computing Fundamentals and Programming in C by Gill Nasib Singh, Khanna Books Publishing Co., New Delhi. 2. Computing Fundamentals and C Programming by Balagurusamy E, Tata McGraw Hill. 3. Fundamental of Computers by P. K. Sinha, B.P.B. Publications.
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IMPERATIVE PROGRAMMING (C)

L T P

4 0 0

MODULE CODE	COIT1102
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

MODULE CONTENT:

<p><u>Unit-I: Introduction</u> C character set Identifiers and keywords, Data types, constants, variables and arrays; declarations, expressions statements, symbolic constants, compound statements, arithmetic operators, unary operator, relational and logical operators, assignment operators, conditional operators, bit operators. C constructs, If statement; if...else statement; if.....else if....else statement, while statement and do....while statement, for statement, switch statement, nested control statement, break and continue keyword, comma operator, go to statement , Typecast and its operators.</p>
<p><u>Unit-II: Functions</u> Functions, why? How to declare, define and invoke a function Variables' scope, local variables and function parameters, Pointers, arrays and structures as function parameters, Calling of a Function, Function result and return statement, Functions Parameters, Parameterizing the main function, Header files and their role.</p>
<p><u>Unit-III: Arrays</u> Arrays, How to declare and use an array in C, Initiators: a simple way to set an array, the meaning of array indexing, different types of an array(One- Dimensional, two dimensional), Arrays of arrays and multidimensional arrays, Void type, Arrays of pointers vs. multidimensional arrays, Structures – why? Declaring, using and initializing structures Pointers to structures and arrays of structures, Basics of recursive data collections .</p>
<p><u>Unit-IV: Pointers, Macros &Memory Management in C</u> Pointers: another kind of data in “C” An address, a reference, a dereference and the sizeof operator, Simple pointer and pointer to nothing (NULL) & operator, value at (*) and address of (and) operator, pointer to pointer, Pointers arithmetic, Pointers vs. arrays, Using strings: basics , Basic functions dedicated to string manipulation pointer to arrays; array of pointers; pointers to functions; array of pointers to functions; Pre-processor directives: #include; #define; macro’s with arguments; the operators # and ##; conditional compilations; multiple file programming. Memory management and structures, Memory allocation and deallocation: malloc() and free() functions.</p>

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Unit-V: Structures and unions and Storage Classes in C

Structures; Unions; structure passing to functions. Structures – why? Declaring, using and initializing structures, Pointers to structures and arrays of structures, Basics of recursive data collections. *Storage classes*: Automatic; external (global); static and Registers.

Unit-VI: File handling

FILE structure, Opening and closing a stream, Open modes, Read Modes, Write Modes, Reading and writing to/from a stream, Predefined streams: stdin, stdout and stderr, Stream manipulation: fgetc(), fputc(), fgets() and fputs() functions Raw input/output: fread() and fwrite() functions

RECOMMENDED BOOKS:

TEXT BOOKS	<ol style="list-style-type: none">1. Peter Norton, 2006, “Introduction to Computers”, Sixth Edition, Tata McGraw Hill Publication,2. E. Balaguruswamy, 2002, “Programming in ANSI C”, Third edition, Tata McGraw Hill Publications,3. Yaswant Kanetkar, “Let us C “, BPB Publications: 14th edition.
REFERENCEBOOKS	<ol style="list-style-type: none">1. Programming with C by Bryon’s Gottfried, Tata Mcgraw Hill.2. The C Programming 2nd Edition, By Brian W Kernigham and Dennis M Ritchie”, PHI.

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IMPERATIVE PROGRAMMING WITH C LAB

L T P

0 0 4

MODULE CODE	COIT1103
CREDIT POINTS	2
FORMATIVE ASSESSMENT MARKS	30
SUMMATIVE ASSESSMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

LIST OF EXPERIMENTS

1.	Write a C Program to check if a given number is Odd or even.
2.	Write a C Program to reverse a number and check whether it is palindrome or not.
3.	Write a C Program to compute Sum of Digit in a given Number.
4.	Write a C Program to find whether a given number is Prime or Not.
5.	To write a C Program, Using Switch to Implement Simple Calculator (ADD, MIN, DIV, MUL).
6.	To write a C program to illustrate Call by Value and Call by Reference.
7.	To write a C Program to Find Factorial of a Number using Recursion.
8.	To write a C program to check whether a given string is palindrome or not.
9.	To write a C program for to read two strings and concatenate the Strings.
10.	To write a C Program to implement the following Pointer Concept: a) Pointer to Pointer b) Pointer to Structure. c) Pointer to Function.
11.	Using Array, write a C Program to Implement the transpose of a Matrix.
12.	Using Array, write a C Program to Implement the Multiplication of a Matrix.
13.	Using Structure in C, write a Program to create the record of 10 students consisting of Name, Age, Address & their marks In Percentage.
14.	To write a C program to Create a file and store the Information.
15.	To write a C program to illustrate reading of Data from a File.
Experiments based on advanced topics:	

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16.	To implement all the above concept: 1. Develop a Minor Project for Hotel Management System
17.	To implement all the above concept: 1. Develop a Minor Project for Library Management System

Note: At least 12 Experiments out of the list must be done in the semester.

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SYSTEM AND APPLICATION SOFTWARE

L T P

4 0 0

MODULE CODE	COIT1104
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

MODULE CONTENT:

<p><u>UNIT-I: Ms-Windows</u> Basics of Windows. Basic components of windows; icons; types of icons; taskbar; activating windows; using desktop; title bar; running applications; exploring computer; managing files and folders.</p>
<p><u>UNIT-II: Copying and moving files and folders</u> Control panel – display properties; adding and removing software and hardware; setting date and time; screensaver and appearance.</p>
<p><u>UNIT-III: Documentation Using MS-Word</u> Introduction to word processing interface, Toolbars, Menus, Creating & Editing Document, Formatting Document, Finding and replacing text, Format painter, Header and footer, Drop cap, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Previewing and printing document, Advance Features of MS-Word-Mail Merge, Macros, Tables, File Management, Printing, Styles, linking and embedding object, Template.</p>
<p><u>UNIT-IV: Electronic Spread Sheet using MS-Excel</u> Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations, Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Validation, What if analysis with Goal Seek, Conditional formatting.</p>
<p><u>UNIT-V: Presenation using Ms Powerpoint</u> Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect</p>
<p><u>UNIT-VI: Ms Access</u> Introduction to databases, Introduction to objects, Getting started in Access, Working with tables, Modifying tables, Working with Forms, Sorting and Filtering records, Designing a query, Creating reports, Advanced report options..</p>

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RECOMMENDED BOOKS:

TEXT BOOKS	<ol style="list-style-type: none">1. Microsoft Office Complete Reference: <u>Jennifer Kettell</u>, Guy Hart-Davis and <u>Curt Simmons</u> McGraw Hill, New York2. Learn Microsoft Office: Russell A Stultz B P B Publications, New Delhi
REFERENCEBOOKS	<ol style="list-style-type: none">1. Microsoft Office 2000 Courter: Gini Courter and Annette Marquis Sybex Inc; Hoboken United States2. Microsoft Office XP Fast and Easy: Diane Koers Prentice Hall of India, Patparganj Industrial State, Delhi3. Office XP: The Complete Reference: <u>Julia Kelly</u> and <u>Stephen L Nelson</u> Tata McGraw Hill, India

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SYSTEM SOFTWARE LAB

L T P
0 0 4

MODULE CODE	COIT1105
CREDIT POINTS	2
FORMATIVE ASSESSMENT MARKS	30
SUMMATIVE ASSESSMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

LIST OF EXPERIMENTS

1.	How to Create, Edit and Format documents in MS Word.
2.	How to insert Header and footer in MS Word.
3.	How to use Drop Cap Spelling and Grammar tool in MS Word.
4.	How to make Macro in MS Word.
5.	How to use Mail Merge in MS Word.
6.	How to Creating and editing worksheet in MS Excel
7.	How to use Formula and functions in MS Excel
8.	How to create Charts, pivot chart and pivot table in MS Excel
9.	Database management-sorting, filtering, validation, conditional formatting in MS Excel
10.	MS Powerpoint <ul style="list-style-type: none"> • Manipulating and enhancing slides • Word art • Animations and sounds • Sound effect
11.	Working with tables in MS Access
12.	Working with forms in MS Access
13.	Designing a query in MS Access
14.	Creating reports in MS Access
Experiments based on advanced topics:	
15.	To implement all the above concept: 1. Develop a Minor Project for your college.

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LOGICAL ORGANIZATION OF COMPUTER-I

L T P
4 0 0

MODULE CODE	COIT1106
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

MODULE CONTENT:

<p><u>UNIT-I: Information Representation</u> Number Systems, Binary Arithmetic, Fixed-point and Floatingpoint representation of numbers, BCD Codes, Error detecting and correcting codes, Character Representation – ASCII, EBCDIC, Unicode</p>
<p><u>UNIT-II: Binary Logic</u> Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions – Venn Diagram, Karnaugh Maps.</p>
<p><u>UNIT-III: Digital Logic</u> Introduction to digital signals, Basic Gates – AND, OR, NOT, Universal Gates and their implementation – NAND, NOR</p>
<p><u>UNIT-IV: Other Gates</u> XOR, XNOR etc. NAND, NOR, AND-OR-INVERT and OR-AND-INVERT implementations of digital circuits.</p>
<p><u>UNIT-V: Combinational Logic</u> Characteristics, Design Procedures, analysis procedures, Multilevel NAND and NOR circuits</p>
<p><u>UNIT-VI: Combinational Circuits</u> Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor, Parallel binary adder/subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters, BCD to Seven-Segment Decoder.</p>

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RECOMMENDED BOOKS:

TEXT BOOKS	1.M. Morris Mano, “Digital Logic and Computer Design”, Prentice Hall of India Pvt. Ltd.
REFERENCEBOOKS	1. Nicholas Carter, “Schaum’s Outlines Computer Architecture”, Tata McGraw-Hill 2. V. Rajaraman, T. Radhakrishnan, “An Introduction to Digital Computer Design”, Prentice Hall of India Pvt. Ltd. 3. Andrew S. Tanenbaum, “Structured Computer Organization”, Prentice Hall of India Pvt. Ltd. 4. Gill, Nasib Singh and Dixit J.B.: “Digital Design and Computer Organization”, University Science Press (Laxmi Publications), New Delhi.

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DISCRETE MATHEMATICS

L T P

4 0 0

MODULE CODE	
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

MODULE CONTENT:

<p><u>Unit I: Matrices</u> Definition; Types of Matrices; Addition; Subtraction; Scalar Multiplication and Multiplication of Matrices; Adjoint; Inverse; Determinates: Definition; Minors; Cofactors; Properties of Determinants. Solving simultaneous linear equations using matrices and Determinants.</p>
<p><u>Unit II: Sets</u> Sets; Subsets; Equal Sets Universal Sets; Finite and Infinite Sets; Operation on Sets; Union; Intersection and Complements of Sets; Cartesian Product; Cardinality of Set; Simple Applications.</p>
<p><u>Unit III: Relations and functions</u> Properties of Relations; Equivalence Relation; Partial Order Relation Function: Domain and Range; Onto; Into and One to One Functions; Composite and Inverse Functions.</p>
<p><u>Unit IV: Limits and continuity</u> Limit at a Point; Properties of Limit; Computation of Limits of various types of functions; Continuity at a Point; Continuity over an Interval; Type of Discontinuities</p>
<p><u>Unit V: Differentiation</u> Derivative; Derivatives of Sum; Differences; Product and Quotients; Chain Rule; Derivatives of Composite Functions; Logarithmic Differentiation; Rolle's Theorem; Mean Value Theorem; L' Hospitals Rule; Maxima and Minima.</p>
<p><u>Unit VI: Integration</u> Integral as Limit of Sum; Riemann Sum; Fundamental Theorem of Calculus; Indefinite Integrals; Methods of Integration Substitution; By Parts; Partial Fractions; Integration of Algebraic and Transcendental Functions;.</p>

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RECOMMENDED BOOKS

TEXT BOOK	<ol style="list-style-type: none">1. Advanced Engineering Mathematic by Reyszig Erwin, John Wiley and Sons Ohio State University Columbus, Ohio.2. Elementary Engineering Mathematics by Dr B S Grewal, Khanna Publications, New Delhi.
REFERENCE BOOK	<ol style="list-style-type: none">1. Advanced Engineering Mathematics by H K Dass, S Chand and Sons, New Delhi.2. Integral Calculus by Shanti and Narayan, S Chand and Company, New Delhi.3. Differential Caluculs by Shanti and Narayan, S Chand and Company, New Delhi.

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MANAGEMENT & PROFESSIONAL LEADERSHIP

L T P
4 0 0

MODULE CODE	MGMT0101
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

MODULE CONTENT

<p><u>Unit I: Management–introduction</u> Nature and functions of management, principles of management, levels of management, management as an art, management as science and profession, management process, managerial skills and roles; Evolution of Management Thoughts; Managerial competencies.</p>
<p><u>Unit II:: Basic concepts of Leadership</u> Leadership: Functions of leaders, styles of leadership , leadership theories- Trait theory, Behavioral Theory</p>
<p><u>Unit III: Planning, Organizing and Decision making</u> Planning- process of planning, elements of planning; steps in Organizing , authority and responsibility , delegation, centralization vs. decentralization; decision making, rationality in decision making.</p>
<p><u>Unit IV:: Team Development</u> Work team , nature of work teams, types of team, stages of team development, role of leadership in team development.</p>
<p><u>UNIT-V: Communication</u> Communication: Communication process, importance of communication, communication channels, Roles and barriers to communication.</p>
<p><u>Unit VI: Motivation</u> Motivation: Process and motivation models/approaches; relevance of motivation theories in Business.</p>

RECOMMENDED BOOKS

TEXT BOOK	<ol style="list-style-type: none"> 1. Fundamentals of Management by Robbins, S.P. and Decenzo, D.A Pearson Education Asia, New Delhi 2. Organizational Behaviour by F Luthan’s, Tata McGraw Hill, New Delhi
REFERENCE	<ol style="list-style-type: none"> 1. Organizational behaviour by S P Robbins, Prentice Hall of India, New Delhi 2. Essentials of management by Chhabra T.N. , Sun India publications

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SEMESTER – II

MODUL E CODE	CA TE GO RY	SUB- CATEGO RY	MODULE	L	T	P	C	MARKS		
								INT ERN AL	EXTE RNAL	TOT AL
COIT1107		PC	OPERATING SYSTEM	4	0	0	4	30	70	100
COIT1108		PC	OPERATING SYSTEM LAB	0	0	4	2	30	70	100
COIT1109		PC	C++	4	0	0	4	30	70	100
COIT1110		PC	C++ LAB	0	0	4	2	30	70	100
COIT1111		PC	DATA STRUCTURE USING C	4	0	0	4	30	70	100
COIT1112		PC	DATA STRUCTURE USING C LAB	0	0	4	2	30	70	100
COIT1113		PC	LOGICAL ORGANIZATION OF COMPUTER-II	3	1	0	3.5	30	70	100
COIT1114		PC	SYSTEM ANALYSIS & DESIGN	3	1	0	3.5	30	70	100
VALU0115	P	SE	PROFESSIONAL COMMUNICATION-I	2	0	0	2	25	50	75
TOTAL CREDITS				20	2	12	27	TOTAL MARKS		875

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OPERATING SYSTEM

L T P
4 0 0

MODULE CODE	COIT1107
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

INSTRUCTIONS: In total SEVEN questions will be set. Question ONE will be compulsory and will cover all units. Remaining six questions are to be set taking at least one question from each unit. The students are to attempt five questions in total, first being compulsory.

OBJECTIVES:

A study of the subject matter presented in this course will enable the student to become familiar with:

1. Basics of operating System
2. Multiprogramming
3. CPU Scheduling
4. Memory Management
5. Virtual Memory
6. Deadlocks
7. File System

LEARNING OUTCOMES:

Upon completion of this course the student should be able to:

1. Know the functions, structures and history and design issues of operating systems
2. Understand various process management concepts including scheduling, synchronization, deadlocks, memory management and multithreading.
3. Know issues related to file system interface and implementation, disk management
4. Be familiar with protection and security mechanisms
5. Be familiar with various types of operating systems including Unix

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MODULE CONTENT:

<u>Unit I:</u> Introduction to Operating System, its need and operating System services, Early systems, Structures - Simple Batch, Multi programmed, timeshared, Personal Computer, Parallel, Distributed Systems, Real-Time Systems.
<u>Unit-II:</u> Process Management: Process concept, Operation on processes, Cooperating Processes, Threads, and Inter-process Communication
<u>Unit-III:</u> CPU Scheduling: Basic concepts, Scheduling criteria, Scheduling algorithms : FCFS, SJF, Round Robin & Queue Algorithms. Deadlocks: Deadlock characterization, Methods for handling deadlocks, Banker's Algorithm.
<u>Unit -IV:</u> Memory Management: Logical versus Physical address space, Swapping, Contiguous allocation, Paging, Segmentation.
<u>Unit-V:</u> Virtual Memory: Demand paging, Performance of demand paging, Page replacement, Page replacement algorithms, Thrashing
<u>Unit-VI:</u> File management: File system Structure, Allocation methods: Contiguous allocation, Linked allocation, Indexed allocation, Free space management: Bit vector, Linked list, Grouping, Counting. Device Management: Disk structure, Disk scheduling: FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK

RECOMMENDED BOOKS:

TEXT BOOKS	1. Operating System Concepts: Silberschatz , Galvin Pearson Education, New Delhi.
REFERENCE BOOKS	1. Operating Systems: Madnick E, Donovan J, Tata McGraw Hill 2. Operating Systems: Tannenbaum, Prentice Hall India, New Delhi.

METHODS OF TEACHING AND STUDENT LEARNING

The subject is delivered through lectures, on-line support, text book / course material reading and practical exercises. Some videos will be shown to demonstrate certain concepts and research areas will be discussed. Resource material is provided with the help of PDM Educational Directory Services (PEDS).

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ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for theory.

Theory:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Class Test	2	05
2.	Sessional Test	2	20
3.	Group Discussion	2	05
4.	End Semester Exam	1	70

MAPPING OF ASSESSMENT METHODS AGAINST THE LEARNING OUTCOMES

Theory:

Assessments	1	2	3	4	5
Class Test	x	x			x
Quiz	x		x		
Assignment	x		x	x	x

MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1		3	4			4,5			2

EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

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- Problems encountered in the content delivery;
- Suggested remedies / corrective measures;
- Approved refinement decisions due for implementation;
- Actions taken based on previous course review; and
- Report discussed and analysed; actions taken as a result of this process and are communicated to the main stakeholders.

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OPERATING SYSTEM LAB

L T P
0 0 4

MODULE CODE	COIT1108
CREDIT POINTS	2
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

OBJECTIVES:

This course aims to familiarize the students with basic concepts of computer programming and developer tools and teach students how to design, write and Execute a Program in ‘C++’.

1. To understand about DOS and Windows
2. To understand about LINUX installation.
3. To understand about the characteristics of LINUX.
4. To understand about all the commands about LINUX.

LEARNING OUTCOMES:

1. To learn about DOS..
2. To learn how to install the LINUX

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LIST OF EXPERIMENTS

1.	To study the details of DOS and Windows so as to understand the difference between both the operating systems.
2.	To study the details of UNIX and Linux operating systems.
3.	Installation of Linux operating system
4.	To study basic command in Linux
5.	To use man, what is and commands to show date, time of the system
6.	To use ls, options with ls, cat, options with cat
7.	To use copy, move, comp and wc command in Linux
8.	Understanding pipes and redirection for the Linux Command
9.	Describe about process and its attributes

METHODS OF TEACHING AND STUDENT LEARNING

The subject is delivered through lectures, on-line support, text book / course material reading and practical exercises. Some videos will be shown to demonstrate certain concepts and research areas will be discussed. Resource material is provided with the help of PDM Educational Directory Services (PEDS).

ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for practical.

Practical:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Internal Assessment	2	30
2.	External Assessment	1	70

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MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1,2,4	1,3,4	3,4		1,3		4	5		6

EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

- Approved refinement decisions due for implementation,
- Actions taken based on previous subject review,
- Problems encountered in the subject delivery,
- Suggested remedies / corrective measures, and
- Report discussed and analysed, actions taken as a result of this process and are communicated to the main stakeholders.

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C++

L T P

4 0 0

MODULE CODE	COIT1109
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

INSTRUCTIONS: In total SEVEN questions will be set. Question ONE will be compulsory and will cover all units. Remaining six questions are to be set taking at least one question from each unit. The students are to attempt five questions in total, first being compulsory.

OBJECTIVES:

A study of the subject matter presented in this course will enable the student to become familiar with:

1. Programming concepts and techniques.
2. Object oriented language Concepts.
3. C++ language syntax.
4. Control statements, loops, functions, and arrays.
5. File Handling
6. Write programs for a wide variety problems in math, science, financials, and games

LEARNING OUTCOMES:

Upon completion of this course the student should be able to:

1. Analyze and design strategies for solving basic programming problems.
2. Use primitive data types, selection statements, loops, functions to write programs.
3. Use of Pointers and Inheritance.
4. Use the step-wise refinement approach.
5. Use arrays to store, process, and sort data.

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MODULE CONTENT:

<p><u>Unit I:</u> Object Oriented Concepts: Introduction to Objects and Object Oriented Programming, characteristics of OOPS, Getting started with C++: syntax, data types, variables, string, function, Access Modifiers: Controlling access to a class, method, or variable (public, protected, private, package), Encapsulation (Information Hiding), Polymorphism: Overloading, Inheritance, Overriding Methods, Abstract Classes, Reusability, Class's Behaviors.</p>
<p><u>Unit-II:</u> Classes and Data Abstraction: Introduction, Class Scope and Accessing Class Members, Separating Interface from Implementation, Controlling Access Function And Utility Functions, Initializing Class Objects: Constructors, Using Default Arguments With Constructors, Using Destructors, Friend Function and Friend Classes, Using This Pointer, Dynamic Memory Allocation with New and Delete, Static Class Members, Function overloading.</p>
<p><u>Unit-III:</u> Operator Overloading: Introduction, Fundamentals of Operator Overloading, Restrictions On Operators Overloading, Operator Functions as Class Members vs. as Friend Functions, Overloading, <<, >> Overloading Unary Operators, Overloading Binary Operators.</p>
<p><u>Unit -IV:</u> Extending Classes Concept of inheritance; Derived Class and Base Class, Different types of Inheritance Virtual Functions and Polymorphism: Introduction to Virtual Functions, Abstract Base Classes and Concrete Classes, Polymorphism, New Classes and Dynamic Binding, Virtual Destructors.</p>
<p><u>Unit-V:</u> Files and I/O Streams: Files and Streams, Creating a Sequential Access File, Reading Data From A Sequential Access File, Updating Sequential Access Files, Random Access Files, Creating A Random Access File, Writing Data Randomly To a Random Access File. Stream Input/Output Classes and Objects, Stream Output, Stream Input, Unformatted I/O (with read and write), Stream Manipulators, Stream Format States, Stream Error States.</p>
<p><u>Unit-VI:</u> Templates & Exception Handling: Function Templates, Overloading Template Functions, Class Template, Class Templates and Non-Type Parameters, Templates and Inheritance, Templates and Friends, Templates and Static Members. Basics of C++ Exception Handling: Try Throw, Catch, Throwing an Exception, Catching an Exception.</p>

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RECOMMENDED BOOKS:

TEXT BOOKS	<ol style="list-style-type: none">1. Object Oriented Programming with C++ ; E Balagurusami; Tata McGraw Hill; New Delhi2. Object Oriented Programming in Turbo C++; Robert Lafore ; Galgotia Publications; Delhi
REFERENCEBOOKS	<ol style="list-style-type: none">1. The C++ Programming Language ; BjarnaStroustrup ; Addison-Wesley Publishing Company; UK2. Object Oriented Programming Using C++; Salaria R S ;Khanna Book; New Delhi.

METHODS OF TEACHING AND STUDENT LEARNING

The subject is delivered through lectures, on-line support, text book / course material reading and practical exercises. Some videos will be shown to demonstrate certain concepts and research areas will be discussed. Resource material is provided with the help of PDM Educational Directory Services (PEDS).

ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for theory.

Theory:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Class Test	2	05
2.	Sessional Test	2	20
3.	Group Discussion	2	05
4.	End Semester Exam	1	70

MAPPING OF ASSESSMENT METHODS AGAINST THE LEARNING OUTCOMES

Theory:

Assessments	1	2	3	4	5
Class Test	x	x			x
Quiz	x		x		
Assignment	x		x	x	x

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B.SC (IT)

MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1		3	4			4,5			2

EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

- Problems encountered in the content delivery;
- Suggested remedies / corrective measures;
- Approved refinement decisions due for implementation;
- Actions taken based on previous course review; and
- Report discussed and analysed; actions taken as a result of this process and are communicated to the main stakeholders.

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C++ LAB

L T P
0 0 4

MODULE CODE	COIT1110
CREDIT POINTS	2
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

OBJECTIVES:

This course aims to familiarize the students with basic concepts of computer programming and developer tools and teach students how to design, write and Execute a Program in 'C++'.

1. To teach the behavior of basic Data types, Control Structures and Various Programming techniques
2. To understand and analyze a Problem and then try to write the C++-Codes to solve the problem.
3. To learn the characteristics of an object oriented language: data abstraction and information hiding, inheritance and dynamic binding of the messages to the methods.
4. To learn how inheritance, virtual functions and templates are used.

LEARNING OUTCOMES:

1. To understand how C++ improves C with object-oriented features.
2. To learn how to implement copy constructors and class member functions.
3. To understand the concept of data abstraction and encapsulation.
4. To learn how to overload functions and operators in C++.
5. To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
6. To learn how to design and implement generic classes and exception handling with C++.

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LIST OF EXPERIMENTS

1.	Write a program to print "Hello World"
2.	WAP Find out sum of all digit of a given number. Write a program addition of n even number.
3.	WAP to simple calculator using switch case.
4.	Write a program to Swap the contents of two variable Using call by value and Call by reference.
5.	Write a program to implement function overloading to calculate volume of different shapes using default and constant arguments.
6.	Write a program to overload unary operator ++ and --.
7.	Define Class EMPLOYEE with static member function having name, salary, height.
8.	Write a program to create various types of constructors and destructors for the class. <ul style="list-style-type: none">• Use default constructor to get numbers from user and display average.• Use parameterized constructor to display date.• Use copy constructor and print value of object four times.• Use dynamic constructor to calculate interest of amount.
9.	WAP to calculate the average value of the given number using friend function.
10.	Write a program for single level inheritance for class STUDENT to read and display marks of three subjects for each student.
11.	Write a program to create a class STUDENT, SUB, RESULT for multilevel inheritance for student to read marks and display final result.
12.	WAP to create class STUDENT, SUB , SPORTS, RESULT for multiple inheritance for student to read marks of subjects and sports class and display final result for both.
13.	WAP to demonstrate the concept of virtual base class.
17.	WAP to calculate the hexa and octal value of the given no using virtual function.
18.	WAP to Use of I/O stream classes <ul style="list-style-type: none">• Use of get() and put()• Use of getline() and write().
19.	WAP to use of manipulators setw(), setfill(), setprecision().
20.	WAP to use of Exception Handling
21.	WAP to use of class template and function template

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METHODS OF TEACHING AND STUDENT LEARNING

The subject is delivered through lectures, on-line support, text book / course material reading and practical exercises. Some videos will be shown to demonstrate certain concepts and research areas will be discussed. Resource material is provided with the help of PDM Educational Directory Services (PEDS).

ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for practical.

Practical:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Internal Assessment	2	30
2.	External Assessment	1	70

MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1,2,4	1,3,4	3,4		1,3		4	5		6

EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

- Approved refinement decisions due for implementation,
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- Problems encountered in the subject delivery,
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B.SC (IT)

DATA STRUCTURE USING C

L T P

4 0 0

MODULE CODE	COIT1111
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

INSTRUCTIONS: In total SEVEN questions will be set. Question ONE will be compulsory and will cover all units. Remaining six questions are to be set taking at least one question from each unit. The students are to attempt five questions in total, first being compulsory.

OBJECTIVES:

A study of the subject matter presented in this course will enable the student to become familiar with:

1. To teach the behavior of basic data structure (list, stack, queue, hash table, trees, graph
2. To understand and analyze elementary algorithms: sorting, searching
3. To make students familiar with basic techniques of algorithm analysis including time and space complexity
4. To teach the implementation of linked data structures such as linked lists and binary trees
5. To make students familiar with advanced data structures such as balanced search trees, hash tables, priority queues and the disjoint set union/find data structure
6. To make students familiar with some graph algorithms such as shortest path and minimum spanning tree

LEARNING OUTCOMES:

Upon completion of this course the student should be able to:

1. To characterize the space and time complexity of algorithms
2. To understand different data structures including stack, queue, linked list, tree, heap, graph, and hash table .
3. To implement insert, retrieve, and delete operations and traversals of binary search
4. trees.
5. Ability to understand traversals and algorithms on graphs
6. To implement hash tables along with insert and retrieve operations.
- 7.

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MODULE CONTENT:

<p><u>Unit I:</u> Introduction: Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures, Data structure operations</p>
<p><u>Unit-II:</u> Applications of data structures, Algorithms complexity and time-space tradeoff, Big-O notation Strings: Introduction, Storing strings, String operations, Pattern matching algorithms.</p>
<p><u>Unit-III:</u> Arrays: Introduction, Linear arrays, Representation of linear array in memory, address calculations, Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse arrays.</p>
<p><u>Unit -IV:</u> Linked List: Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion, Searching in a linked list, Header linked list, Circular linked list, Two-way linked list, Threaded lists, Garbage collection, Applications of linked lists.</p>
<p><u>Unit-V:</u> Stack: Introduction, Array and linked representation of stacks, Operations on stacks, Applications of stacks: Polish notation, Recursion. Queues: Introduction, Array and linked representation of queues, Operations on queues, Deques, Priority Queues, Applications of queues</p>
<p><u>Unit-VI:</u> Tree: Introduction, Definition, Representing Binary tree in memory, Traversing binary trees, Traversal algorithms using stacks. Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs.</p>

RECOMMENDED BOOKS:

TEXT BOOKS	<p>1. Data Structures using C by A. M. Tenenbaum, Langsam, Moshe J. Augentem, PHI Pub. Data Structures using C by A. K. Sharma, Pearson</p>
REFERENCEBOOKS	<p>1. Data Structures and Algorithms by A.V. Aho, J.E. Hopcroft and T.D. Ullman, Original edition, Addison-Wesley, 1999, Low Priced Edition. 2. Data Structures and Program Design in C By Robert Kruse, PHI, 3. Theory & Problems of Data Structures by Jr. Seymour Lipschetz, Schaum's outline by TMH</p>

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METHODS OF TEACHING AND STUDENT LEARNING

The subject is delivered through lectures, on-line support, text book / course material reading and practical exercises. Some videos will be shown to demonstrate certain concepts and research areas will be discussed. Resource material is provided with the help of PDM Educational Directory Services (PEDS).

ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for theory.

Theory:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Class Test	2	05
2.	Sessional Test	2	20
3.	Group Discussion	2	05
4.	End Semester Exam	1	70

MAPPING OF ASSESSMENT METHODS AGAINST THE LEARNING OUTCOMES

Theory:

Assessments	1	2	3	4	5
Class Test	x	x			x
Quiz	x		x		
Assignment	x		x	x	x

MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1		3	4			4,5			2

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B.SC (IT)

EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

- Problems encountered in the content delivery;
- Suggested remedies / corrective measures;
- Approved refinement decisions due for implementation;
- Actions taken based on previous course review; and
- Report discussed and analysed; actions taken as a result of this process and are communicated to the main stakeholders.

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B.SC (IT)

DATA STRUCTURE USING C LAB

L T P
0 0 4

MODULE CODE	COIT1112
CREDIT POINTS	2
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

OBJECTIVES:

The basic thrust of the course would be to learn programming language 'C' and implementing data structures.

1. To understand how various data structures work.
2. To understand some important applications of various data structures.
3. To familiarize how certain applications can benefit from the choice of data structures.
4. To understand how the choice of data structures can lead to efficient implementations
5. of algorithms

LEARNING OUTCOMES:

1. Be able to design and analyze the time and space efficiency of the data structure
2. Be capable to identify the appropriate data structure for given problem
3. Have practical knowledge on the application of data structures
4. Implement various sorting and searching techniques.

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B.SC (IT)

LIST OF EXPERIMENTS

1.	Program to insert an element in an array
2.	Program to delete an element from array.
3.	Program to implement linear search.
4.	Program to implement bubble sort.
5.	Program to implement binary search.
6.	Program to implement matrix multiplication.
7.	Program to implement string operations.
8.	Program to implement linked list.
9.	Program to implement insertion in Linked list
10.	Program to implement Deletion in Linked list
11.	Program to implement searching in linked list
12.	Program to implement sorting in linked list
13.	Program to implement deletion in linked list.
17.	Program to implement stack using array with both of its operations.
18.	Program to implement queue
19.	Program to implement insertion sort.
20.	Program to implement heap sort
21.	Program to implement quick sort

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METHODS OF TEACHING AND STUDENT LEARNING

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ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for practical.

Practical:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Internal Assessment	2	30
2.	External Assessment	1	70

MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1,2,4	1,3,4	3,4		1,3		4	5		6

EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

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- Actions taken based on previous subject review,
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LOGICAL ORGANIZATIONAL OF COMPUTER-11

L T P
3 1 0

MODULE CODE	COIT1113
CREDIT POINTS	4
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

INSTRUCTIONS: In total SEVEN questions will be set. Question ONE will be compulsory and will cover all units. Remaining six questions are to be set taking at least one question from each unit. The students are to attempt five questions in total, first being compulsory.

OBJECTIVES:

A study of the subject matter presented in this course will enable the student to become familiar with:

1. Basic Computer Organization
2. Advanced pipelining techniques.
3. Input output and Memory Organization.
4. Micro programmed Control Unit and Central Processing Unit

LEARNING OUTCOMES:

Upon completion of this course the student should be able to:

1. Working of DMA.
2. Know about the various addressing modes used by any instruction.
3. Pipelining and vector processing.
4. Register transfer and instruction execution cycle

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B.SC (IT)

MODULE CONTENT:

<p><u>Unit I: Introduction</u> Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type and Master-Slave flip-flops. State table, state diagram and state equations. Flip-flop excitation tables</p>
<p><u>Unit II:</u> Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO) and shift registers.</p>
<p><u>Unit III:</u> Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters</p>
<p><u>Unit IV:</u> Memory & I/O Devices: Memory Parameters, Semiconductor RAM, ROM, Magnetic and Optical Storage devices, Flash memory, I/O Devices and their controllers.</p>
<p><u>Unit-V:</u> Instruction Design & I/O Organization: Machine instruction, Instruction set selection, Instruction cycle, Instruction Format and Addressing Modes.</p>
<p><u>Unit-VI:</u> I/O Interface, Interrupt structure, Program-controlled, Interrupt-controlled & DMA transfer, I/O Channels, IOP</p>

RECOMMENDED BOOKS:

<p>TEXT BOOKS</p>	<ol style="list-style-type: none">1. Computer System and Architecture :Mano M Pearson, New Delhi2. Computer Organization and Architecture :Stallings W Prentice Hall of India, New Delhi
<p>REFERENCEBOOKS</p>	<ol style="list-style-type: none">1. Digital Computer Electronics: An introduction to Microcomputers :Malvino McGraw Hill, New York

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METHODS OF TEACHING AND STUDENT LEARNING

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ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for theory.

Theory:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Class Test	2	05
2.	Sessional Test	2	20
3.	Group Discussion	2	05
4.	End Semester Exam	1	70

MAPPING OF ASSESSMENT METHODS AGAINST THE LEARNING OUTCOMES

Theory:

Assessments	1	2	3	4	5
Class Test	x	x			x
Quiz	x		x		
Assignment	x		x	x	x

MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1		3	4			4,5			2

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EVALUATION

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SYSTEMS ANALYSIS AND DESIGN

L T P
3 1 0

MODULE CODE	COIT1114
CREDIT POINTS	3.5
FORMATIVE ASSESMENT MARKS	30
SUMMATIVE ASSESMENT MARKS	70
END SEMESTER EXAM DURATION	3 hrs
LAST REVISION DATE	

INSTRUCTIONS: In total SEVEN questions will be set. Question ONE will be compulsory and will cover all units. Remaining six questions are to be set taking at least one question from each unit. The students are to attempt five questions in total, first being compulsory.

OBJECTIVES:

A study of the subject matter presented in this course will enable the student to become familiar with:

1. System and SDLC
2. Role of system analyst

LEARNING OUTCOMES:

Upon completion of this course the student should be able to:

1. Gather data to analyse and specify the requirements of a system.
2. Design system components and environments.
3. Build general and detailed models that assist programmers in implementing a system.
4. Design a database for storing data and a user interface for data input and output, as well as controls to protect the system and its data.

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MODULE CONTENT:

<p><u>Unit I:</u> Introduction to system, Definition and characteristics of a system, Elements of system, Types of system, System development life cycle, Role of system analyst, Analyst/user interface.</p>
<p><u>Unit-II:</u> System planning and initial investigation: Introduction, Bases for planning in system analysis, Sources of project requests, Initial investigation, Fact finding, Information gathering, information gathering tools, Fact analysis, Determination of feasibility.</p>
<p><u>Unit-III:</u> Structured analysis, Tools of structured analysis: DFD, Data dictionary, Flow charts, Gantt charts, decision tree, decision table, structured English, Pros and cons of each tool.</p>
<p><u>Unit -IV:</u> Feasibility study: Introduction, Objective, Types, Steps in feasibility analysis, Feasibility report, Oral presentation, Cost and benefit analysis: Identification of costs and benefits, classification of costs and benefits, Methods of determining costs and benefits, Interpret results of analysis and take final action.</p>
<p><u>Unit-V:</u> System Design: System design objective, Logical and physical design, Design Methodologies ,structured design, Form-Driven methodology(IPO charts), structured walkthrough. Input / Output and form design: Input design, Objectives of input design, Output design, Objectives of output design, Form design, Classification of forms, requirements of form design, Types of forms, Layout considerations, Form control.</p>
<p><u>Unit-VI:</u> System testing: Introduction, Objectives of testing, Test plan, testing techniques/Types of system tests, Quality assurance goals in system life cycle, System implementation, Process of implementation, System evaluation, System maintenance and its types, System documentation, Forms of documentation.</p>

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RECOMMENDED BOOKS:

TEXT BOOKS	1. System Analysis and Design: Elias Awad Galgotia Publication, New Delhi
REFERENCEBOOKS	1. Introductory System Analysis and Design: Lee, Vol. I and II London Press, London 2. Data Management and Data Structures: Loomis Prentice hall india, New Delhi

METHODS OF TEACHING AND STUDENT LEARNING

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ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for theory.

Theory:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Class Test	2	05
2.	Sessional Test	2	20
3.	Group Discussion	2	05
4.	End Semester Exam	1	70

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B.SC (IT)

MAPPING OF ASSESSMENT METHODS AGAINST THE LEARNING OUTCOMES

Theory:

Assessments	1	2	3	4	5
Class Test	x	x			x
Quiz	x		x		
Assignment	x		x	x	x

MAPPING OF COURSE LEARNING OUTCOMES

Student Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes		1		3	4			4,5			2

EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

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L T P
2 0 0

Professional Communication - 1

MODULE CODE	VALU0123
CREDIT POINTS	2
FORMATIVE ASSESMENT MARKS	25
SUMMATIVE ASSESMENT MARKS	50
END SEMESTER EXAM DURATION	2 hrs
LAST REVISION DATE	

INSTRUCTIONS: All questions are compulsory. Each question may have multiple options and will cover all units.

OBJECTIVES:

The aim of this subject is to develop understanding on different aspects related to oral and written linguistic skills of expressing and exchanging information / interacting & communicative competencies to enhance skills as mentioned below:

1. To prepare students to develop basic understanding on professional & corporate communication.
2. To acquire study skills and communication skills in formal and informal situations.
3. To understand fundamental syntax and semantics of communication.
4. To achieve an understanding & confidence in formal and informal contexts of communication.

LEARNING OUTCOMES:

1. Able to understand the Importance of professional & corporate communication.
2. Exposure to various principles, concepts, types, advantages and disadvantages of professional communication.
3. Improve the language proficiency with an emphasis on Speaking, Listening, Reading and Writing skills.
4. Communicate confidently in formal and informal contexts.

MODULE CONTENTS

UNIT I:- INTRODUCTION TO COMMUNICATION –

- Definition
- Types of Communication
- Language as a tool of communication
- Levels of communication – Interpersonal, Organizational, Mass communications
- The flow & Channels of Communication - Downward, Upward, Lateral or Horizontal (Peer group)
- Barriers to Communication

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UNIT II: PRESENTATION STRATEGIES & LISTENING SKILLS –

- Defining Purpose
- Organizing Contents;
- Preparing Outline
- Audio-visual Aids
- Nuances of Delivery
- Body Language
- Dimensions of Speech - Syllable, Accent, Pitch, Rhythm, Intonation
- Paralinguistic features of voice
- Listening Skills - Active Listening, Passive Listening
- Methods for improving Listening Skills

UNIT III: BUSINESS COMMUNICATION–

- Letter Writing – formal & Informal
- Letters of inquiry & complaint
- Job application and Resumes
- Reports- Types, Significance, Structure, Style & Writing of Reports
- Technical Proposal – Parts, Types, Writing of Proposal
- Negotiation & Business Presentation skills

UNIT IV: VALUE BASED TEXT READING-

Value based critical reading of following Short Stories for making the Students acquaint with the styles of great Writers of World-

- | | |
|-------------------------|--------------------------|
| • O.H. Henry : | The Gift of the Magi |
| • R.N. Tagore : | The Renunciation |
| • Katherine Mansfield : | The Fly |
| • A.P. Chekhor : | The Lament |
| • M.R. Anand : | The Barber’s Trade Union |
| • Ruskin Bond : | The Eyes Are Not Here |
| • D.H. Lawrence : | The Rocking Horse Winner |

RECOMMENDED BOOKS:

TEXT BOOKS	<ol style="list-style-type: none"> 1. Communication Skills for Engineers and Scientists, Sangeeta Sharma et.al. PHI Learning Pvt.Ltd,2011, New Delhi. 2. Improve Your Writing ed. V.N.Arora and Laxmi Chandra, Oxford Univ. Press, 2001, New Delhi.
REFERENCE BOOKS	<ol style="list-style-type: none"> 1. Manual of Practical Communication by L.U.B.Pandey: A.I.T.B.S. Publications India Ltd.; Krishan Nagar, 2013, Delhi.

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MAPPING OF COURSE LEARNING OUTCOMES

Program Outcomes	a	b	c	d	e	f	g	h	i	j	k
Course Learning Outcomes											

METHODS OF TEACHING AND STUDENT LEARNING

The subject is delivered through lectures, on-line support, text book / course material reading and practical exercises. Some videos will be shown to demonstrate certain concepts and research areas will be discussed. Resource material is provided with the help of PDM Educational Directory Services (PEDS).

ASSESSMENT METHODOLOGIES:

This subject will be evaluated for a total of 100 marks for theory.

Theory:

Assessment #	Type Of Assessment	Per Semester	Maximum Mark
1.	Class Test	1	10
2.	Sessional Test	2	15
3.	End Semester Written Exam	1	50
4.	End Semester Oral Exam	1	25

MAPPING OF ASSESSMENT METHODS AGAINST THE LEARNING OUTCOMES

Theory:

Assessments	1	2	3	4
Class Test				
Quiz				
Assignment				

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EVALUATION

At the end of semester, course faculty will submit an evaluation / review report. The purpose of this report is to identify aspects that will be highlighted by students and faculty's feedback for the course with respect to its strengths as well as those areas which could be improved. The review report contains the following areas:

- Problems encountered in the content delivery;
- Suggested remedies / corrective measures;
- Approved refinement decisions due for implementation;
- Actions taken based on previous course review; and
- Report discussed and analysed; actions taken as a result of this process and are communicated to the main stakeholders.