ST. JOSEPH'S COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), CUDDALORE-607 001.

POST GRADUATE AND RESEARCH DEPARTMENT OF COMPUTER APPLICATIONS

BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)

SYLLABUS

2021 - 2022

BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)

CURRICULUM DESIGN TEMPLATE
2021 - 2022

Semester	Part		Subject Title	Subject Code	Hrs	Cr
I Semester	I	Language	Tamil-I	21LTC01	5	3
			Hindi-I	LH101S		
			French-I	LF101		
	II	Language	Communicative English – I	20LEC101	5	3
	III	Core-1	Programming in C	CA101S	3	3
	III	Core-2	Digital Logic Fundamentals	CA102T	4	3
	III	Practical-I	Programming in C	CAP101T	3	3
	III	Core-3	Professional English for Commerce and Management	20PECM01	3	3
	III	Allied-1	Mathematical Foundations	21AMCA11	5	4
	IV	SEC	Value Education	VE101A	2	2
				Total	**30**	**24**
II Semester	I	Language	Tamil-II	21LTC02	5	3
			Hindi-II	LH202S		
			French-II	LF202		
	II	Language	Communicative English – II	20LEC202	5	3
	III	Core-4	Object Oriented Programming using C++	CA203Q	4	3
	III	Core-5	Fundamentals of Data Structures	CA204S	3	3
	III	Practical - II	Programming in C++	CAP202T	3	3
	III	Core-6	Professional English for Commerce and Management	20PECM02	3	3
	III	Allied-2	Statistical Methods	ASCA202T	5	4
	IV	SEC	Dynamics of Personality	EPD201A	2	2
				Total	**30**	**24**

	Part		SECOND YEAR			
III Semester	III	Core-7	Programming using Java	19CA305	6	4
	III	Core-8	Computer Algorithms	19CA306	6	4
	III	Practical-III	Java Programming	19CAP303	5	3
	III	Allied-3	Management And Professional Leadership	19ACA31	5	4
	III	Allied-4	Numerical Methods	AMTCA302	5	4
	IV	AECC	Environmental Science	EVS301S	3	2
				Total	**30**	**21**
IV Semester	III	Core-9	Internet Technologies	CA407T	6	4
	III	Core-10	Advanced Java Programming	CA408T	6	4
	III	Practical-IV	Advanced Java Programming	CAP404T	5	3
	III	Allied-5	Resource Management Techniques	20AMCA43	5	4
	III	Allied-6	Financial Accounting	ACCA401	5	4
	IV	SEC	Soft Skill	AOSS401S	3	2
				Total	**30**	**21**

			THIRD YEAR			
V Semester	III	Core-11	Relational Database Management Systems	19CA509	5	4
	III	Core-12	Programming in ASP.Net using C-SHARP	19CA510	5	4
	III	DSE-I	Data Communication Networks*	ECA511	5	4
			Computer Graphics	ECA512A		
			Multimedia and Virtual Reality	ECA512S		
	III	GE-I	Organizational Behavior	19GCA52A	5	4
			Entrepreneurial Development	19GCA52B		
	III	Practical -V	RDBMS -Oracle	CAP505T	4	3
	III	Practical -VI	Programming in ASP.Net using C-SHARP	19CAP506	4	3
	III	SEC	Python programming	19SCA51	2	2
				Total	**30**	**24**
VI Semester	III	Core-13	Open Source Technology-PHP	CA614Q	5	4
	III	Core-14	Operating Systems	CA615S	5	4
	III	DSE-II	Computer Architecture	ECA613T	5	4
			Management Information Systems	ECA616A		
			Software Engineering*	ECA616T		
	III	GE-II	Tech-Empowerment English Training*	19GCA63A	5	4
			Communication Skills and Media Awareness	19GCA63B		
	III	Practical -VII	Programming in PHP	CAP607Q	5	3
	III	Project-I	Mini –Project	JCA601	5	5
	V		Extension Activities	EU601	-	2
				Total	**30**	**26**
Total					**180**	**140**

Extra Credits

Semester	Part	Subject Title	Extra Credits
III	VI	Field Study	2
V	VI	Internship	2
VI	VI	Self-Study Online Course	2

Courses Offered to Other Department

Semester	Department	Part	Subject Title	Subject Code	Hrs	Cr
III	Commerce	III	Office Automation	19GCM31A	5	4
III	Commerce	III	Internet Technologies	19GCM31B	5	4
IV	Chemistry	III	Computers In Chemistry	ACCH401S	5	4
IV	Chemistry	III	Practical-Computers In Chemistry	ACHP401S	3	2
VI	English	III	Office Automation	19GEN61A	5	4
VI	English	III	Internet Technologies	19GEN61B	5	4
III	Bio-Chemistry	IV	Office Automation	19AOA301	3	2
I	BBA(CA)	III	Fundamentals of Information Technology	19BB102	5	3
II	BBA(CA)	III	Excel for Business	17BB204	2	2
II	BBA(CA)	III	Excel - Lab	17BP201	3	2
III	BBA(CA)	III	Management Information System	19BB302	6	5
III	BBA(CA)	IV	Multimedia and Design	19AOMD31	3	2
IV	BBA(CA)	III	RDBMS	19BB402	3	3
IV	BBA(CA)	III	E-Commerce and its Applications	19ABB46	5	4
IV	BBA(CA)	III	RDBMS Lab	19BP402	3	2
V	BBA(CA)	III	Internet and its Applications*	17EBB52A	5	4
V	BBA(CA)	III	Information System Design	17EBB52B	6	5
VI	BBA(CA)	III	Programming using Microsoft Technology (C#.net)	17BB602	3	3
VI	BBA(CA)	III	Programming using Microsoft technology (C#.net) Lab	17BBP601	3	2

Question Paper pattern for the courses offered by B.C.A

Continuous Internal Assessment (CIA) 25 Marks

Two Internal Examinations	15 Marks
Assignment / Seminar	5 Marks
Attendance	5 Marks
Total	**25 Marks**

External Examination (75 Marks)

Question Pattern

B.C.A.

Time: 3 Hrs   Max. Marks: 75

SECTION – A (5 x 5 = 25)
Answer ANY FIVE out of EIGHT

One question from each unit and three questions from important topics with problems and programs

SECTION – B (5 x 10 = 50)
Answer ANY FIVE out of EIGHT

One question from each unit and three questions from important topics with problems and programs

I BCA		PROGRAMMING IN C	CA101S
SEMESTER - I			HRS/WK- 3
CORE-1			CREDIT - 3

Objective:

To make the students abreast with the programming concepts and to master them in C Language.

Course Outcomes:

At the end of the Course the students should be able to exhibit

CO1: Knowledge pertaining to C-Language Fundamentals
CO2: Logic using Control Statements
CO3: Modular Programming using Functions
CO4: Knowledge pertaining to arrays and structures.
CO5: Advanced Programming techniques using pointers and files concepts.

SEMESTER I	COURSE CODE: CA101S					TITLE OF THE PAPER:PROGRAMMING IN "C"								HOURS: 3	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	3	4	4	3	4	4	4	4	4	2	4	4	5	3.75	
CO2	4	4	4	3	4	4	4	4	4	2	4	4	5	3.85	
CO3	4	4	4	3	4	4	4	4	4	2	5	4	4	3.90	
CO4	4	4	4	3	4	4	4	4	4	2	5	4	5	3.90	
CO5	5	5	5	3	4	4	4	5	4	2	5	4	5	4.20	
Mean Overall Score														3.92	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

I BCA		CA101S
SEMESTER - I	PROGRAMMING IN C	HRS/WK- 3
CORE-1		CREDIT - 3

UNIT-I [9 Hrs]
C Fundamentals: Character set – Identifiers - keywords - Data types-Constants –Variables – Declarations – Expressions - Statements-Operators - Library functions.

UNIT-II [9 Hrs]
Control Statements: Data Input/Output functions - Simple C programs - flow of control-control structures - switch, break and continue - Go to statement-comma operator.

UNIT-III [9 Hrs]
Functions: Defining, accessing functions - functions prototypes-passing arguments - call by value - call by reference - Recursions-storage classes.

UNIT-IV [9 Hrs]
Arrays: Defining and processing – passing arrays of functions- Arrays and string – Structures - passing structures to functions - self-referential structures - unions.

UNIT-V [9 Hrs]
Pointers: Declarations - passing pointers to functions - operation with pointers - pointer and arrays - arrays of pointers - structure and pointers – Files and its operations.

TEXT BOOK:
1. E. Balagurusamy -Programming in ANSI C -Tata McGraw Hill Pub.

REFERENCE BOOKS:
1. Byron S. Gottfied - Schaum's outline Theory and problems of programming with C. Tata McGraw Hill Pub.
2. YeshwanthKanethkar -Let us C, BPB Publications.
3. K. R. Venugopal, S. R. Prasad -Mastering C – Tata McGraw Hill Pub.

I BCA	DIGITAL LOGIC FUNDAMENTALS	CA102T
SEMESTER - I		HRS/WK- 4
CORE-2		CREDIT - 3

Objective:
To get acquainted with the internals of the System logic circuits and to know the working principles of the computers.

Course Outcomes:

At the end of the Course the students should be able to exhibit

CO1: Knowledge pertaining to Number System
CO2: Simplification Logic using K-Map and Tabulation Method
CO3: Designing Skills using Adders and Subtractors.
CO4: Designing Skills using Combinational Logic.
CO5: Advanced Designing Skills using Sequential Logic Circuit.

SEMESTER I	COURSE CODE: CA102T					TITLE OF THE PAPER:DIGITAL LOGIC FUNDAMENTALS								HOURS: 4	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	3	3	3	4	4	5	4	4	4	2	3	2	4	3.15	
CO2	4	4	4	4	4	5	5	5	4	2	2	2	5	3.50	
CO3	4	4	4	4	4	5	5	4	5	3	3	2	5	3.70	
CO4	4	4	4	4	4	5	4	5	5	3	3	2	5	3.70	
CO5	4	4	4	4	4	5	4	4	4	3	3	2	5	3.50	
Mean Overall Score														3.51	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

I BCA		CA102T
SEMESTER - I	DIGITAL LOGIC FUNDAMENTALS	HRS/WK- 4
CORE-2		CREDIT - 3

UNIT-I   **[12 Hrs]**
Number System: Binary number system - The Basic Gates - Boolean Algebra - Universal Gates - Boolean Laws and Theorem – Number system and its conversations.

UNIT-II   **[12 Hrs]**
Simplification: Sum of products - Product of Sums - K-map simplifications - Don't care conditions-QuineMcclausky tabulation method.

UNIT-III   **[12 Hrs]**
Combinational Arithmetic Circuits: Adders-Subtractors-full adder-subtractor-BCD Adder-ROM-PLA-Designing circuits using ROM/PLA

UNIT-IV   **[12 Hrs]**
Combinational Logic Circuits: Multiplexers-Demultiplexers-Decoders: 1 of 16 Decoders-seven segment decoders-Encoders.

UNIT-V   **[12 Hrs]**
Sequential Logic Circuit: Flip-Flops - Its types - RS Flip flop, JK Flip flop, D Flip flop, T and Master Slave. Counters and its types - counter Design. Shift Registers and its types.

TEXT BOOK:
1.   M. Morris Mano -Digital Logic and Computer Design- PHI.

REFERENCE BOOKS:
1. Thomas C. Bartee Digital ComputerFundamentals- McGraw Hill Pub.
2. Malvino& Leach- Digital Principles and Applications –McGraw Hill Pub.
3. S. Ramalatha - Digital Computer Fundamentals, Meenakshi Agency.

I BCA		PROGRAMMING IN C	CAP101T
SEMESTER - I			HRS/WK- 3
PRACTICAL-I			CREDIT - 3

Objective:

To make the students skilled in programming and to make them logically efficient and marketable in the Programming Industry.

Course Outcomes:
   At the end of the Course the students should be able to exhibit

   CO1: Programming Skills using Operators and Control Statements
   CO2: Programming Skills using Functions and Recursive Functions
   CO3: Programming Skills using Arrays and Structures
   CO4: Programming Skills using Pointers.
   CO5: Programming Skills using Files.

SEMESTER I	COURSE CODE: CAP101T					TITLE OF THE PAPER:PROGRAMMING IN C								HOURS: 3	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	5	4	4	4	4	5	4	5	4	4	4	4	4.2	
CO2	5	4	4	5	5	4	4	4	4	4	4	4	5	4.3	
CO3	4	5	5	5	5	5	5	5	5	4	4	4	5	4.7	
CO4	5	4	4	5	5	5	5	5	5	4	4	4	5	4.6	
CO5	4	5	4	5	5	5	5	5	5	4	4	4	5	4.6	
Mean Overall Score														4.48	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

I BCA		CAP101T
SEMESTER - I	**PROGRAMMING IN C**	HRS/WK- 3
PRACTICAL - I		CREDIT - 3

1. Write a C program to find the odd or even numbers for the range of given number.
2. Write a C program to find the sum of series
3. Write a C program to generate the Fibonacci series
4. Write a C program to check whether the given year is leap year or not.
5. Write a C program to reverse a given number.
6. Write a C program to find the given number is Armstrong or not.
7. Write a C program to display the following output
   (a) *
      * *
      ***
   (b) 1
      1 2
      1 2 3
   (c) 1
      2 2
      3 3 3
   (d) 3 3 3
      2 2
      1
8. Write a C program to find the largest number among the three numbers.
9. Write a C program to find whether the person is eligible to vote or not
10. Write a C program to display the grade of the student by using conditional statement
11. Write a C program to display the arithmetic manipulation using Switch statement
12. Write a C program to find out the Factorial with and without using recursive function.
13. Write a C program to add a 2 numbers by using all functions.
14. Write a C program to swap 2 numbers without using the temporary variables.
15. Write a C program to find the length of the string with and without using string function.
16. Write a C program to check whether the given string is Palindrome or not.
17. Write a c program for the following matrices
    (a) Addition Matrix (3X3)
    (b) Subtraction Matrix (2X2)
    (c) Multiplication Matrix (2X2)
    (d) Transpose Matrix (3X3)
18. Write a C program to generate the numbers in ascending order.
19. Write a C program to display the name, age ,mark, average and total for the 5 students By structure using array.
20. Write a C program to swap 2 numbers using pointer.

I BCA		OBJECT ORIENTED PROGRAMMING USING C++	CA203Q
SEMESTER - II			HRS/WK- 4
CORE - 4			CREDIT - 3

Objective:
To make the students get abreast with rich object oriented features with respect to C++.

Course Outcomes:
At the end of the Course the students should be able to exhibit

CO1: Knowledge pertaining to C++-Language Fundamentals
CO2 Knowledge pertaining to Principles of OOP
CO3: Knowledge pertaining to Fundamentals of OOP
CO4: Programming Skills using Functions, Polymorphism.
CO5: Advanced Programming techniques using files.

SEMESTER II	COURSE CODE: CA203Q					TITLE OF THE PAPER:OBJECT ORIENTED PROGRAMMING USING C++								HOURS: 4	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	3	4	4	3	4	4	4	4	4	2	4	4	5	4.0	
CO2	4	4	4	3	4	4	4	4	5	2	4	4	5	4.0	
CO3	4	4	4	3	4	4	4	4	5	2	5	4	4	4.0	
CO4	4	4	4	3	4	4	4	4	5	2	5	4	5	4.0	
CO5	5	5	5	3	4	4	4	5	5	2	5	4	5	4.0	
Mean Overall Score														4.0	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

I BCA		CA203Q
SEMESTER - II	**OBJECT ORIENTED PROGRAMMING USING C++**	HRS/WK- 4
CORE - 4		CREDIT - 3

UNIT-I [12 Hrs]
C++ fundamentals: Introduction to C++: Tokens, Keywords, Identifiers, Variables, Operators, Expressions and Control Structures-Arrays in C++ - CIN-COUT.

Unit-II [12 Hrs]
Principles of Object Oriented Programming(OOP): Evolution of C++ - Programming Paradigms – Key Concepts of OOP – Advantages of OOP – Usage of OOP and C++.

UNIT-III [12 Hrs]
OOPS Fundamentals: Classes and Objects: Constructors and Destructors; and Type of Constructors – Inheritance: Single Inheritance – Multilevel inheritance – Multiple inheritance – Hierarchical Inheritance – Hybrid Inheritance.

UNIT-IV [12 Hrs]
Functions: Inline Functions – Friend Function-Virtual Function-**Polymorphism:** Function Overloading - Operator Overloading.
Input and Output in C++ - Streams-Stream classes- Formatted and Unformatted console I/O operations-Member functions of istream class-manipulators-manipulators with parameters

UNIT-V [12 Hrs]
Working with Files: Classes for File Stream Operations – Opening and Closing a File – End-of-File Detection – File Pointers – Updating a File – Error Handling during File Operations – Command-line Arguments.

TEXT BOOK:
1. E. Balagurusamy-Object Oriented Programming with C++.TMH-1995

REFERENCE BOOKS:
1. H. Schildt, C++: The Complete Reference,TMH-1998
2. Robert Lafore, Object Oriented Programming in Microsoft C++, Galgotia Publication.
3. Ashok N. Kamthane, Object Oriented Programming with ANSI & Turbo C++, Pearson Education, 2006.

I BCA	FUNDAMENTALS OF DATA STRUCTURES	CA204S
SEMESTER - II		HRS/WK- 3
CORE - 5		CREDIT - 3

Objective:
This subject will make the student get acquainted with different storage techniques inside the system.

Course Outcomes:
   At the end of the Course the students should be able to exhibit

   CO1: Knowledge pertaining to Fundamentals of Data Structure
   CO2: Stacks and Queues Implementation Techniques.
   CO3: Logical Skills using Linked List.
   CO4: Traversing Programming Skills using Trees.
   CO5: Advanced Programming techniques using Graph.

SEMESTER II	COURSE CODE: CA204S				TITLE OF THE PAPER:FUNDAMENTALS OF DATA STRUCTURES +								HOURS: 3	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	4	3	4	4	4	4	3	2	3	2	4	3.50
CO2	4	4	4	3	4	4	4	4	3	2	3	2	4	3.50
CO3	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80
CO4	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80
CO5	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80
Mean Overall Score														3.68

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

I BCA		CA204S
SEMESTER - II	FUNDAMENTALS OF DATA STRUCTURES	HRS/WK- 3
CORE - 5		CREDIT - 3

UNIT-I [9 Hrs]
Introduction: Definition of a Data structure – primitive and composite Data Types, Arrays, Operations on Array, Ordered lists.

UNIT-II [9 Hrs]
Stacks and Queues: Stacks – Applications of Stack – Infix to Postfix Conversion, Recursion, Maze Problems – Queues – Operations on Queues-Queue Applications- Circular Queue.

UNIT-III [9Hrs]
Linked List: Singly Linked List – Operations, Application – Representation of a Polynomial, Polynomial Addition; Doubly Linked List – Operations, Applications – Ordering Books in a Library (Alphabetical Ordering)

UNIT-IV: [9 Hrs]
Trees: Binary Trees –Representation- Conversion of Forest to Binary Tree– Tree Traversals

UNIT-V: [9 Hrs]
Graph: Definition, Types of Graphs, Representation -Graph Traversal - Shortest Path (Dijkstra's Algorithm.)

TEXT BOOK:
1. E. Horowitz and S. Shani, Fundamentals of Data Structures in C++, Galgotia Publications 1999.

REFERENCE BOOKS:
1. Alfred V. Aho, John E. Hopcroft, Jeffrey D. Ullman, Data structures and algorithms, Pearson Education India.
2. R. Kruse and N. Dale and S. C. Lily Pascal plus Data Structures Algorithms and Advanced Programming –Tata McGraw Hill-New Delhi (1990)

I BCA	PROGRAMMING IN C++	CAP202T
SEMESTER – II		HRS/WK- 3
PRACTICAL - II		CREDIT – 3

Objective:
To implement all object oriented programming Concepts and Data structure Concepts.

Course Outcomes:
      At the end of the Course the students should be able to exhibit

      CO1: Programming Skills using Basic OOP Concepts
      CO2: Programming Skills using Advanced OOP Concepts
      CO3: Application developing skills using Stack and Queue
      CO4: Traversing Programming Skills using Trees.
      CO5: Advanced Programming techniques like Recursive for Binary Tree Traversing.

SEMESTER II	COURSE CODE: CAP202T					TITLE OF THE PAPER:PROGRAMMING IN C++								HOURS: 3	CREDITS: 3
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	4	4	3	4	4	4	4	3	2	3	2	4	3.50	
CO2	4	4	4	3	4	4	4	4	3	2	3	2	4	3.50	
CO3	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80	
CO4	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80	
CO5	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80	
Mean Overall Score														3.68	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

I B.C.A.		CAP202T
SEMESTER – II	PROGRAMMING IN C++	HRS/WK- 3
PRACTICAL – II		CREDIT – 3

1. Program using Classes and Objects
2. Program using Constructor and destructor
3. Program using Function overloading and Inline functions
4. Program using Operator Overloading
5. Program using Inheritance
6. Program using friend functions

Programs using Data Structure Concepts

7. Implement PUSH, POP Operations of Stack using Arrays.
8. Implement insert, delete Operations of a queue using Arrays.
9. Conversion of infix to postfix using stacks Operations.
10. Binary tree traversals using recursion

II BCA	PROGRAMMING USING JAVA	19CA305
SEMESTER - III		HRS/WK-6
CORE - 7		CREDIT-4

Objective:
To understand the power of Core JAVA and its Object Oriented Features.

Course Outcomes:
      At the end of the Course the students should be able to implement

      CO1: Programs using Java Control Statements.
      CO2: Programs using OOP Concepts in Java.
      CO3: An Application using Packages and Interfaces
      CO4: Programs using Threads and Streams.
      CO5: Programs using String and Predefined Classes.

SEMESTER III	COURSE CODE: 19CA305					TITLE OF THE PAPER:PROGRAMMING USING JAVA								HOURS: 6	CREDITS: 4
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	4	3	4	4	4	4	4	2	3	2	4	3.60	
CO2	5	4	4	3	4	4	4	4	5	2	3	2	4	3.70	
CO3	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO4	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO5	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
Mean Overall Score														3.91	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II BCA		19CA305
SEMESTER - III	PROGRAMMING USING JAVA	HRS/WK-6
CORE- 7		CREDIT-4

UNIT – I **[18Hrs]**
Introduction to Java: Features of Java – Data Types – Variables – Arrays – Operators - Control Statements.

UNIT – II **[18Hrs]**
Classes and Objects: Constructors –Inheritance- Overloading method– Overriding methods – Using super – Abstract class.

UNIT – III **[18Hrs]**
Packages and Interfaces: Packages-Creating Packages –Importing Packages– Interfaces.
Exception Handling: Try, Catch, Throws, Throw and Finally.

UNIT –IV **[18Hrs]**
Thread: Introduction to Thread-Multithread-implementation of multithread application using synchronization.
Streams: Simple Input Streams-Simple Output Streams – File Streams-

UNIT – V **[18Hrs]**
Strings: String classes-String Buffer classes.
Predefined Classes: Vector class, Random class, Calendar class, Date Class.

TEXT BOOK:
1.   E. Balagurusamy, Programming with JAVA, TMH.

REFERENCE BOOKS:
1. Cray S. Horstman, Gray Cornell – Core Java 2 Vol. I and Vol. II – 7th Ed. PHI, 2000.
2. H. Schildt – Java 2 (The Complete Reference) – Fourth Edition, TMH 1999.
3. Wesley, K. Arnold and J. Gosling – The Java Programming Language – Third Edition Addison – Wesley, 2000.

II BCA	COMPUTER ALGORITHMS	19CA306
SEMESTER - III		HRS/WK-6
CORE - 8		CREDIT-4

Objective:

To make the student to understand Time and Space Complexity of different algorithms.

Course Outcomes:
   At the end of the Course the students should be able to implement

   CO1: Algorithm based on time and space Complexity.
   CO2: Algorithm based on Divide and Conquer method.
   CO3: Algorithm based on Dynamic Programming
   CO4: Algorithm based on Greedy Method
   CO5: Algorithm based on Graph Techniques.

SEMESTER III	COURSE CODE: 19CA306					TITLE OF THE PAPER:COMPUTER ALGORITHMS								HOURS: 6	CREDITS: 4
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	4	5	3	4	4	4	4	3	2	3	2	4	3.50	
CO2	5	5	5	3	4	4	4	4	3	2	3	2	4	3.70	
CO3	5	5	5	3	4	5	5	4	3	2	4	2	4	3.90	
CO4	5	5	5	4	4	5	5	4	3	2	4	2	4	4.0	
CO5	5	5	5	4	4	5	5	4	3	2	4	2	4	4.0	
Mean Overall Score														3.83	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II BCA		19CA306
SEMESTER - III	**COMPUTER ALGORITHMS**	HRS/WK-6
CORE - 8		CREDIT-4

UNIT-I: [18 Hrs]**Introduction:** Algorithm-Pseudocode-Time complexity - Space complexity-best case,worst case and average case analysis- asymptotic notations: Big Oh,Big Omega,theta,small Oh,small Omega.

UNIT-II : [18 Hrs]**Divide and Conquer:** General method- Complexity analysis-Binary search algorthim-Strassen's Matrix Multiplication-Merge sort.

UNIT-III: [18 Hrs]**Dynamic Programming:** General method-definition:principle of optimality-applications of dynamic programming -multistage graph: forward approach, backward approach-Traveling salesman problem .

UNIT-IV : [18 Hrs]**Greedy method:** General method-applications of Greedy method- single source shortest path algorithm- Knapsack problem.

UNIT-V : [18 Hrs]

Graph algorthims:-Depth first search- Breadth first search-applications of graph traversals-comparison between DFS and BFS-Connected components .

TEXT BOOKS:

1. E. Horowitz, S. Sahni and S. Rajasekaran, Computer Algorithms Galgotia-1999.

2. Anuradha and A.Puntambekar,Analysis and Design of Algorthims-Technical Publications(page no-1-3 to1-10, 2-1 to2-8, 5-1to5-23)

3. A. Puntambekar, Design and Analysis of Algorthims-Technical Publications Pune(page no:4-1 to4-5, 4-34 to4-36, 6-6 to6-38)

REFERENCE BOOKS:

1. G. Brassard and Brately- Fundamentals of Algorithmics, PHI 1996.

2. 2. Goodman S.E. and Hedetniemi S.T. - Introduction to the Design and Analysis of Algorithms - Tata McGraw Hill publication

II BCA	MANAGEMENT AND PROFESSIONAL LEADERSHIP (OFFERED *BY* COMMERCE DEPARTMENT TO BCA DEPARTMENT)	19ACA31
SEMESTER III		HRS/WK – 5
ALLIED - 3		CREDIT - 4

OBJECTIVES:

1. To provide knowledge and understanding of the basics of management and leadership styles.
2. To identity value of group involvement and team building.
3. To make them understand the role of communication to lead the organization.

Course Outcomes:

At the end of the Course the students should possess

CO1: The Managerial Skills and roles.
CO2: The Planning, Organizing and Decision Making Capabilities.
CO3: Effective Communication
CO4: The Leadership character.
CO5: The Motivation to achieve a Goal.

SEMESTER V	COURSE CODE: 19ACA31				TITLE OF THE PAPER:MANAGEMENT AND PROFESSIONAL LEADERSHIP								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60
CO2	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60
CO3	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90
CO4	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90
CO5	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90
Mean Overall Score														3.8

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II BCA	MANAGEMENT AND PROFESSIONAL LEADERSHIP (OFFERED *BY* COMMERCE DEPARTMENT TO BCA DEPARTMENT)	19ACA31
SEMESTER III		HRS/WK – 5
ALLIED - 3		CREDIT - 4

Unit-I: [15 Hrs]

 Management–Introduction: 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.

Unit-II: [15 Hrs]

Planning, Organizing and Decision making: Planning- process of planning, elements of planning; steps in Organizing , authority and responsibility , delegation, centralization vs. decentralization; decision making, rationality in decision making.

UNIT-III: [15 Hrs]

Communication: Meaning- Definition- Nature- elements – Types of communication - Communication process, importance of communication, communication channels, Roles and barriers to communication.

Unit IV: [15 Hrs]

Basic Concepts of Leadership: Leadership: Meaning- Definition– Nature and Characteristics of Leadership- qualities of leadership - Functions of leaders, styles of leadership,.

Unit V: [15 Hrs]

Motivation : Meaning- Definition-Nature and Characteristics -Process of motivation theories of motivation- Maslow's theory- McGregor's X and Y Theory- Herzberg's Two factor theory.

TEXT BOOKS :

1. Fundamentals of Management by Robbins, S.P. and Decenzo, D.A. Pearson Education Asia, New Delhi
2. Principles of Management. J.Jayasankar.Margam Publication

REFERENCEBOOKS :
1. Organizational Behaviour by S P Robbins, Prentice Hall of India, NewDelhi
2. Essentials of management by Chhabra T.N. , Sun India publications

QUESTION PAPER PATTERN (UG)

Time: 3 Hours   **Marks: 75**

1. Part - A = 10x2 =20 Marks – All the Questions are to be Answered.

2. Part – B = 5x5 = 25 Marks – Five Questions with Internal Choice.

3. Part – C = 3x10 = 30 Marks – Three Out of Five – Open Choice.

Note: Questions should be asked from all the units with equal weightage.

II BCA	JAVA PROGRAMMING	19CAP303
SEMESTER - III		HRS/WK-5
PRACTICAL - III		CREDIT-3

Objective:
To enable the students to learn the basic function of JAVA programming and to make students to acquire the skill in JAVA programming.

Course Outcomes:

   At the end of the Course the students should be able to implement

   CO1: Programs using Java Control Statements.
   CO2: Programs using OOP Concepts in Java.
   CO3: An Application using Packages and Interfaces
   CO4: Programs using Threads and Streams.
   CO5: Programs using String And Predefined Classes.

SEMESTER III	COURSE CODE: 19CAP303					TITLE OF THE PAPER:JAVA PROGRAMMING								HOURS: 5	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	4	3	4	4	4	4	4	2	3	2	4	3.60	
CO2	5	4	4	3	4	4	4	4	5	2	3	2	4	3.70	
CO3	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO4	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO5	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
Mean Overall Score														3.91	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

1. Finding area and Perimeter of a circle. Use Buffered Reader class.
2. Determining the order of numbers generated randomly using Random class.
3. Implementing and importing packages.
4. Implementing Interfaces-Arithmetic Manipulations
5. Exception Handling
6. Multithreading
7. String Manipulation using buffered Reader
8. Usage of Calendar Class and manipulation
9. Application using File streams(Sequential File)
10. Application using File streams(Random File)

II BCA	INTERNET TECHNOLOGIES	CA407T
SEMESTER – IV		HRS/WK-6
CORE- 9		CREDIT-4

Objective:

To give an introduction to Internet, HTML and to learn Java Script and how to add Java Script code to HTML page.

Course Outcomes:

At the end of the Course the students should be able to Exhibit

CO1: Knowledge in Internet Connection Technologies.

CO2: Knowledge in World Wide Web Concepts

CO3: Programming Skills using HTML Tags

CO4: Programming Skills using Style Sheets

CO5: Programming Skills using JavaScript.

SEMESTER IV	COURSE CODE: CA407T					TITLE OF THE PAPER:INTERNET TECHNOLOGIES								HOURS: 6	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	4	3	4	4	4	4	4	2	3	2	4	3.60	
CO2	5	4	4	3	4	4	4	4	5	2	3	2	4	3.70	
CO3	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO4	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO5	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
Mean Overall Score														3.91	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II BCA	INTERNET TECHNOLOGIES	CA407T
SEMESTER – IV		HRS/WK-6
CORE - 9		CREDIT-4

UNIT – I   **[18 Hrs]**
Internet Connection Concepts : Internet Communication Protocols – Internet Hosts –
Internet Protocol(IP) Addresses – Domain and Host Name - Servers and Clients – Ports and
Port Numbers – Types of Internet Connections – Internet Service Providers(ISPs)

UNIT – II   **[18 Hrs]**
World Wide Web Concepts : URLs and Transfer Protocols – HTML – Java and JavaScript –
VBScript – Plug-ins – XML – Cascading Style Sheets(CSS) – Websites – Portals – Web
Directories and Search Engines – Home Pages.

UNIT – III   **[18 Hrs]**
HTML tags : History of HTML – Structure of HTML – Basic Tags of HTML - List – Linking
Document – Frames – Graphics to HTML Documents.

UNIT – IV   **[18 Hrs]**
Style Sheet Basics : Introduction to CSS – Add Style to document – Creating Style Sheet rules –
Style sheet Properties – Font – text – Color and Background Color – Box Properties.

UNIT – V   **[18 Hrs]**
JavaScript : Introduction – Advantage of JavaScript – JavaScript Syntax – data type – Variable –
Array – Operator & Expressions – Looping Constructors – Function – Dialog Box .

TEXT BOOK:
1. Ivan Bayross, Web Enable Commercial Application Development using HTML, DHTML,
    Javascript, PERL CGI, BPB Publications, 2000.

REFERENCE BOOKS:
1. Thomas A. Powell – HTML and XHTML: The Complete Reference, Tata McGrawHill, 4th
   Edition 2003.
2. E. Stephen Mack and Janan Platt, HTML 4.0: No Experience Required, Sybex Inc.
3. H. M. Deitel, P.J. Deitel, A.B. GoldBerg, Internet & World Wide Web: How to Programme,
   Prentice Hall, Third Edition

II BCA	ADVANCED JAVA PROGRAMMING	CA408T
SEMESTER - IV		HRS/WK-6
CORE- 10		CREDIT-4

Objective:
To learn advanced concept of Java and make them to develop distributed application.

Course Outcomes:
> At the end of the Course the students should be able to Exhibit

> **CO1 Programming Skills using AWT.**
> **CO2: Network Programming Skills using Java.**
> **CO3: An Application developing skills using JDBC**
> **CO4: An Application developing skills using RMI**
> **CO5: An Application developing skills using Servlet**

SEMESTER IV	COURSE CODE: CA408T					TITLE OF THE PAPER:ADVANCED JAVA PROGRAMMING								HOURS: 6	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	4	3	4	4	4	4	4	2	3	2	4	3.60	
CO2	5	4	4	3	4	4	4	4	5	2	3	2	4	3.70	
CO3	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO4	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
CO5	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0	
Mean Overall Score														3.91	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II BCA		CA408T
SEMESTER - IV	**ADVANCED JAVA PROGRAMMING**	HRS/WK-6
CORE - 10		CREDIT-4

UNIT - I [18Hrs]
AWT Overview: Components, Container-AWT classes: Button, TextField, Checkbox-Layouts-Simple example using AWT. **Applet**: Introduction to Applet-Life Cycle of Applet.-Simple example using applet.

UNIT - II [18Hrs]
Networks: Network Basics-socket overview-Internet Addressing-DNS-TCP/IP-URL-Example using network concepts.

UNIT - III [18Hrs]
DataBase: JDBC-ODBC Driver-Connection class-Statement class-ResultSet class-Example using database (MS Access).

UNIT - IV [18Hrs]
RMI: Introduction to RMI-Architecture of RMI-A complete example using RMI.

UNIT - V [18Hrs]
Servlet: Servlet overview – your first servlet – servlet chaining – session management in servlet: Session Tracking-simple database program using Servlet.

TEXT BOOK:
1. H. Schildt – Java 2 (The Complete Reference] – Fourth Edition, TMH 1999.

REFERENCE BOOKS:
1. Cray S. Horstman, Gray Cornell – Core Java 2 Vol. I and Vol. II – 7th Ed. PHI, 2000.
2. Wesley, K. Arnold and J. Gosling – The Java Programming Language – Third Edition Addison – Wesley, 2000.

II BCA		SOFT SKILL	AOSS401S
SEMESTER - IV			HRS/WK-3
SEC			CREDIT-2

Objective:
To make the students to develop their aptitude, logical, reasoning and other skills needed to attend interviews.

Course Outcomes:
At the end of the Course the students should be able to Exhibit

CO1: Talent in Group Discussion
CO2: Apt Body Language during Interviews
CO3: Impeccable Mind set in solving Quantitative Aptitude Problems.
CO4: Impeccable Mind set in solving Logical Reasoning Problems
CO5:Talent in clearing all Phases of a Selection Process.

SEMESTER IV	COURSE CODE: AOSS401S					TITLE OF THE PAPER:SOFT SKILL								HOURS: 3	CREDITS: 2
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	5	4	4	4	4	4	3	2	3	4	4	4	3.45	
CO2	5	5	4	4	4	4	4	3	2	3	4	4	4	3.50	
CO3	5	5	4	5	4	5	5	3	2	3	5	5	5	4	
CO4	5	5	4	5	4	5	5	3	2	3	5	5	5	4	
CO5	5	5	4	5	4	5	5	3	2	3	5	5	5	4	
Mean Overall Score														3.8	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II BCA			AOSS401S
SEMESTER - IV		SOFT SKILL	HRS/WK-3
SEC			CREDIT-2

UNIT – I   [9 Hrs]
Group Discussion: Why Group Discussion is important – Types of Group Discussion – KTechniques in Group Discussion – Tips for Group Discussion.

UNIT – II   [9 Hrs]
Interview Preparation: Common Interview Questions – Questions to Ask Your Employer – What Emplopyers Want – Attitude & Effort – Body Language .**Types of interview:** The Mock interview – Phone interviews – Behavioural Interviews – Closing the interview – Thank You notes & Follow-Ups.

UNIT – III   [9 Hrs]
Quantitative Aptitude: Time and work - Time and Distance – Heights and Distances - **Data Interpretation:** Tabulation – Bar Graphs – Pie Charts – Line Graphs.

UNIT – IV   [9 Hrs]
Logical Reasoning (1): Analogies – Arrangement - Causes and Effects – Family Tree – Puzzles based questions.

UNIT – V   [9 Hrs]
Logical Reasoning (2): Sequence and Series – Code based questions on letter of Alphabets – Syllogism - Statement and Conclusion.

TEXT BOOKS:

1. R.S. Aggarwal, Objective Arithmetic, S. Chand & company, New Delhi , 2005.
2. Group Discussion: A Practical Guide to Participation And Leadership by Kathryn Sue Young, Julia T. Wood, Gerald M. Phillips and Douglass J. Pedersen (Jun 25,2006).
3. How To Interview Like A Pro: Forty – Three Rules For Getting Your Next Job Paperback – July 25, 2012 –by JD Mary Greenwood (Author).

REFERENCE BOOKS:
1. Govind Prasad Singh and Rakesh Kumar, Text Book of Quickest Mathematics (for all Competitive Examinations),KiranPrakashan, 2012.
2. R.S. Aggarwal, Quantitative Aptitude, S. chand& Company, New Delhi, 2012.

II BCA	ADVANCED JAVA PROGAMMING	CAP404T
SEMESTER - IV		HRS/WK-5
PRACTICAL - IV		CREDIT-3

Objective:
To enable the students to learn advanced level of JAVA programming and to make the students to develop web oriented and distributed concepts.

Course Outcomes:
 At the end of the Course the students should be able to Exhibit
 CO1 Programming Skills using AWT.
 CO2: Network Programming Skills using Java.
 CO3: An Application developing skills using JDBC
 CO4: An Application developing skills using RMI
 CO5: An Application developing skills using Servlet

SEMESTER IV	COURSE CODE: CAP404T				TITLE OF THE PAPER:ADVANCED JAVA PROGRAMMING								HOURS: 5	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	5	4	4	3	4	4	4	4	4	2	3	2	4	3.60
CO2	5	4	4	3	4	4	4	4	5	2	3	2	4	3.70
CO3	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0
CO4	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0
CO5	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0
Mean Overall Score														3.91

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

1. To implement Bio-Data Information using Frame class with various controls.
2. Display different graphical symbols using Applet class.
3. To implement for sending a string from one system to another using TCP/IP.
4. Chatting Application using TCP/IP.
5. To develop an application for telephone directory using data base(MS access).
6. To implement student mark list using AWT classes with data base (MS access).
7. To develop a program for prime number using RMI.
8. To develop a program for Arithmetic Operation using Servlets.
9. To develop an application for simple EB Bill using Servlets with database.

III BCA SEMESTER - V CORE- 11	RELATIONAL DATABASE MANAGEMENT SYSTEMS	19CA509 HRS/WK-5 CREDIT - 4

Objective:

To make the students aware of database management concepts and basic SQL Commands.

Course Outcomes:

At the end of the Course the students should possess

CO1: Knowledge in Basic Database Concepts.
 CO2: Knowledge in Entity Relationship Model.
CO3: Knowledge in Normalization Techniques.
CO4: Programming Skill set in SQL
CO5: Programming Skill set in PL/SQL

SEMESTER V	COURSE CODE: 19CA509					TITLE OF THE PAPER:RELATIONAL DATABASE MANAGEMENT SYSTEMS								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	4	5	4	4	4	4	4	2	3	2	4	3.75	
CO2	5	4	4	5	4	4	4	4	5	2	3	2	4	3.85	
CO3	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
CO4	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
CO5	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
Mean Overall Score														4.1	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

UNIT-I :   **[15 Hrs]**

Introduction : Database system applications – Purpose of database systems – View of data : Data Abstraction – Instances and Schemas – Data Models – Database Languages: Data Manipulation Language – Data Definition Language - Data storage and querying: Storage Manager – The query processor – Database architecture- Database users and administrators: Database Users and User Interfaces – Database Administrator.

UNIT-II: **[15 Hrs]**

The Entity-Relationship Model: Entitysets – Relationshipsets – Attributes – Constraints : Mapping Cardinalities - Keys – Entity Relationship Diagrams : Basic Structure of E-R Diagram – Mapping Cardinality in   E-R diagram – Complex Attributes – Roles – Non Binary Relationshipsets – Weak Entity sets.

UNIT-III: **[15 Hrs]**

Relational database design: First normal form – Decomposition using functional dependencies: Keys and functional dependencies – Boyce Codd normal form – Third normal form – Decomposition using Multivalued dependencies: Multivalued dependencies – Fourth normal form.

UNIT-IV: **[15 Hrs]**

Introduction to Oracle SQL: DDL,DML,DCL,TCL-Integrity Constraints-Built-in- functions: Character functions – number functions – Date functions- Conversion functions - Aggregate functions – SET operations – Grouping and ordering data – Joins - Subqueries – Views.

UNIT-V: **[15Hrs]**

Introduction to PL/SQL: PL/SQL blocks – Explicit Cursors – Exception handling section – Procedures – Functions – Packages – Triggers.

TEXT BOOKS:

1. "Database System Concepts", Abraham Silberschatz, Henry F.Korth, S.Sudarshan , International Edition , McGrawHill Publications , Sixth edition, 2002.
2. "SQL, PL/SQL, The Programming Language of ORACLE" (fourth Revised Edition) – Ivan BayRoss , BPB Publications, 2009.

REFERENCE BOOKS:

1. "An Introduction to Database Systems", C.J.Date, A.Kannan, S.Swamynathan,   Eighth Edition, Pearson Education , 2007.
2. "Oracle Database 10g, The Complete Reference" , Kevin Loney , Tata McGraw Hill Publishing Company Limited , 2004.

III BCA		19CA510
SEMESTER - V	PROGRAMMING IN ASP.NETUSING C-SHARP	HRS/WK-5
CORE- 12		CREDIT – 4

Objective:

To make the student get exposed with the latest programming concept Dot net and to equip them with skills related to c# programming.

Course Outcomes:

At the end of the Course the students should possess

CO1: Knowledge in Dot Net Framework.
CO2: Programming Skill set in C#.Net
CO3: Programming Skill set in Asp.Net
CO4: Programming Skill set in C# Controls
CO5: Programming Skill set in ADO.Net

SEMESTER V	COURSE CODE: 19CA510				TITLE OF THE PAPER:PROGRAMMING USING ASP.NET AND C#								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	5	4	5	5	4	4	4	4	4	2	3	2	4	3.85
CO2	5	4	5	5	4	4	4	4	5	2	3	2	4	3.90
CO3	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
CO4	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
CO5	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
Mean Overall Score														4.14

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		19CA510
SEMESTER - V	PROGRAMMING IN ASP.NET USING C-SHARP	HRS/WK-5
CORE- 12		CREDIT – 4

UNIT - I [15 hrs]
Introduction to Dot Net:- Dot Net Framework –CLR-MSIL-JIT-Managed Code-Benefits of Dot Net.

UNIT - II [15 hrs]
C#.Net: Data types-Variables-Arrays-Properties-Namespace-Methods-Interface-Delegation.

UNIT - III [15 hrs]
Asp .Net: Difference between Asp and Asp.net-Architecture of Asp.net-Execution model-Difference between Code Behind and aspx file-Implementation of simple web application.

UNIT - IV [15 hrs]
Controls in C#: Button-Textbox-Timer-PictureBox-RadioButton-Menu. **Web Controls**: AdRotator-Validation-Calendar .

UNIT – V [15 hrs]
ADO.NET: ADO.Net Objects Model – Architecture of ADO.NET-Working with Grid control-Working with Crystal Report Viewer control.

TEXT BOOKS:
1. E. Balaguruswamy, Programming with C#, First Edition, Tata McGraw Hill Publication.
2. Matthew Macdonald, ASP.NET: The Complete Reference, McGraw Hill Publication.

REFERENCE BOOKS
1. Harvey M. Deitel& Paul J. Deitel- C# Programmers- Second Edition-Pearson Edition.
2. YashavantKanetkar, 2004 C# .Net, Motilal Books of India.
3. Peter Drayton , Ben Albahari, Ted Neward. C# in an nutshell, O'Reilley Publication.
4. Herbert Schlit. 2002 C# - A Beginner's Guide. Osborne, Tata McGraw Hill Publication.
5. Burton Harvey, Simon Robinson, Julian Templeman and KarliWaston, 'C# Programming with the Public Bata', Shroff Publishers & Distributors Pvt. Ltd (SPD) Mumbai, April 2001.
6. Ben Albahart, Peter Drayton and Brad Merrill, 'C# Essentials', SPD, Mumbai March 2001.
7. ThamariSelvei, AText Book on C#: A Systematic Approach to OOP, Pearson Ed.

III BCA	MULTIMEDIA AND VIRTUAL REALITY	ECA512S
SEMESTER - V		HRS/WK – 5
DSE –I (1)		CREDIT – 4

Objective:
To enable the students to learn the basic functions, principles and concepts of Multimedia and Virtual Reality.

Course Outcomes:
> **At the end of the Course the students should be able to**

> **CO1: Inhibit basic Knowledge about Multimedia.**
> **CO2: Explore Sound and Images Features**
> **CO3: Explore Video and Animation features.**
> **CO4: Co-ordinate a Multimedia Project**
> **CO5: Incorporate Virtual Reality wherever needed.**

SEMESTER V	COURSE CODE: ECA512S				TITLE OF THE PAPER:MULTIMEDIA AND VIRTUAL REALITY								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	5	5	4	4	4	4	4	2	3	2	4	3.75
CO2	4	4	5	5	4	4	4	4	5	2	3	2	4	3.85
CO3	4	5	5	5	4	5	5	4	5	2	3	2	4	4
CO4	4	5	5	5	4	5	5	4	5	2	3	2	4	4
CO5	4	5	5	5	4	5	5	4	5	2	3	2	4	4
Mean Overall Score														3.9

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		ECA512S
SEMESTER - V	MULTIMEDIA AND VIRTUAL REALITY	HRS/WK – 5
DSE – I (1)		CREDIT – 4

UNIT-I [15 Hrs]
Introduction: What is Multimedia: Definitions – Where to use multimedia – Introduction to Making Multimedia: What you need – Macintosh and Windows production platforms
Text: The power of meaning – About fonts and faces – Using text in multimedia – Computers and Text – Font editing and Design tools – Hypermedia and Hypertext

UNIT-II [15 Hrs]
Sound: The power of sound – Multimedia system sounds – MIDI versus Digital Audio – Digital Audio – Making MIDI audio – Audio, File formats – Working with sound on the Macintosh – Notation Interchange File Format (NIFF) – Adding sound to your multimedia project – Toward Professional sound: The Red Book standard – Production tips.
Images: Making still Images – Color – Image file formats. Animation: The Power of Motion – Principles of Animation – Making animations that works.

UNIT-III [15 Hrs]
Video: Using Video – How Video works – Broadcast video standards – Integrating computers and television – Shooting and Editing Video – Video tips – Recording formats – Digital Video. Planning and Costing: Project planning – Estimating – RFPs and Bid Proposals – Designing and producing: Designing – Producing

UNIT-IV [15 Hrs]
Introduction to virtual reality –goals of virtual reality, the human side of things, and the basic concepts of virtual reality, Evaluation of virtual reality: Improvement of communication with computers. Early vision of virtual reality. State of virtual reality: sense of sound, touch, other senses, world creating tools. Virtual reality issues: display issues, tracking issues, manipulation issues, application issues, and navigation issues.

UNIT-V [15 Hrs]
Application to virtual reality: 3D modeling, 3D architecture, 3D training, 3D science, 3D education, 3D shopping, 3D sports, Distributed interactive simulation, the responsive work bench, VR training programme for disable children, medicine and surgery. Introduction to Virtual Reality Modeling languages.

TEXT BOOK:
1. Tay Vaughan, Multimedia Making it Work, India Professional, Fifth Edition.

REFERENCE BOOKS :
1. John Hayward – Adventures in Virtual Reality, One publications.
2. John F. Koegel Buford, Multimedia Systems, Pearson Education.

III BCA	COMPUTER GRAPHICS	ECA512A
SEMESTER - V		HRS/WK-5
DSE – I (2)		CREDIT - 4

Objective:
To enable the students to learn about the working of input/output devices.And to make the student to learn the concepts of 2D and 3D Object transformation models and generation algorithms.

Course Outcomes:
      At the end of the Course the students should be able to

      CO1: Inhibit basic Knowledge about Computer Graphics
      CO2: Explore Output Primitive Features
      CO3: Explore 2D Concepts.
      CO4: Explore 3D Concepts.
      CO5: Perform Transformation based Animation.

SEMESTER V	COURSE CODE: ECA512A					TITLE OF THE PAPER:COMPUTER GRAPHICS								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	4	5	5	4	4	4	4	4	2	3	2	4	3.75	
CO2	4	4	5	5	4	4	4	4	5	2	3	2	4	3.85	
CO3	4	5	5	5	4	5	5	4	5	2	3	2	4	4	
CO4	4	5	5	5	4	5	5	4	5	2	3	2	4	4	
CO5	4	5	5	5	4	5	5	4	5	2	3	2	4	4	
Mean Overall Score														3.9	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

UNIT – I   **[15Hrs]**
Introduction to computer Graphics: Video display devices – Raster scan system – Random Scan System – Interactive input Devices – Hard copy devices – Graphics software – Output primitives – line drawing algorithms – initializing lines – Line function – circle Generating algorithms.

UNIT – II   **[15Hrs]**
Output Primitives: Attributes of output Primitives – line attributes – Color and Grayscale style – Area filing algorithms – Character attributes Inquiry functions – Two dimensional transformations – Basic transformation – composite transformation – Matrix representation – Other transformations.

UNIT – III   **[15Hrs]**
2D Concepts: Two – dimensional viewing – window – to view port co-ordinate transformation – clipping algorithms – interactive input methods – Physical Input devices – logical classification of input devices – interactive picture construction methods.

UNIT- IV   **[15Hrs]**
3D Concepts: Three – dimensional concepts – Three dimensional display methods – parallel Projection –Perspective projection – Depth Cueing – Visible line and surface identification.

UNIT – V   **[15Hrs]**
Transformations: Three dimensional transformations -Three dimensional viewing – Projection – Viewing transformation – implementation of viewing operations.

TEXT BOOK:

1.   Hearn and M.P. Baker – Computer Graphics [C Version] – Person Education.

REFERENCE BOOK:

1. W.M. Newman and RF. Sproull – Principle of Interactive Computer Graphics – McGraw Hill International Edition -1979.

III BCA	DATA COMMUNICATION NETWORKS	ECA511
SEMESTER - V		HRS/WK-5
DSE - I (3)		CREDIT - 4

Objective:
To enable the students to get acquainted with the basics of Networks and to make them concentrate on research side with respect to networks.

Course Outcomes:
> **At the end of the Course the students should be able to**
>
> **CO1: Inhibit basic Knowledge about Networks**
> **CO2: Explore OSI Model**
> **CO3: Explore Transmission Media**
> **CO4: Explore Switching Techniques**
> **CO5: Implement different Routing Algorithms.**

SEMESTER V	COURSE CODE: ECA511					TITLE OF THE PAPER:DATA COMMUNICATION NETWORKS								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	4	5	5	4	4	4	4	4	2	3	2	4	3.75	
CO2	4	4	5	5	4	4	4	4	5	2	3	2	4	3.85	
CO3	4	5	5	5	4	5	5	4	5	2	3	2	4	4	
CO4	4	5	5	5	4	5	5	4	5	2	3	2	4	4	
CO5	4	5	5	5	4	5	5	4	5	2	3	2	4	4	
Mean Overall Score														3.9	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		ECA511
SEMESTER - V	DATA COMMUNICATION AND NETWORKS	HRS/WK-5
DSE - I (3)		CREDIT - 4

UNIT -I   **[15 Hrs]**
Introduction: Networks – protocols and standard – line configuration – topology – transmission mode – categories of networks – inter networks.

UNIT -II   **[15 Hrs]**
OSI model: functions of the layers – TCP/IP protocol suite – signals – analog and digital signal – periodic and a periodic signals – analog signals – digital signal – data transmission – data terminal equipment – data circuit terminals equipment – modems.

UNIT -III   **[15 Hrs]**
Transmission media: guided media – unguided media – transmission impairments – media comparison. Multiplexing – FDM – TDM – WDM. Error detection and correction – types of errors–detection – vertical redundancy check (VRC) – longitudinal redundancy check (LRC) – cyclic redundancy check (CRC) – check sum – error correction.

UNIT -IV   **[15 Hrs]**
Switching Techniques: circuit switching – packet switching – message switching – networking and internetworking devices – repeaters – bridges – routers – gateways.

UNIT -V   **[15 Hrs]**
Routing algorithms: distance vector routing – link state routing – data link control – line discipline – flow control – error control.

TEXT BOOK:
1. Behrouz A Forouzan, Data Communications and Networks, Second Edition, McGraw Hill, 2002.

REFERENCE BOOKS:
1. William Stallings, Data & Computer Communications, Sixth Edition, Pearson   Education, 2001.
2. Andrew S. Tanenbaum, Computer Networks, Pearson Education, 3rd Edition.
3. Fred Halsall, Data Communications, Computer Networks and Open Systems, Addison Wessley, 1995.

III BCA	ORGANIZATIONAL BEHAVIOUR	19GCA52A
SEMESTER - V		HRS/WK-5
GE-I (1)		CREDIT-4

Course Outcomes:
   At the end of the Course the students should be able to

   CO1: Deliver proper behavior inside an organization.
   CO2: Deliver proper Individual Behavior
   CO3: Deliver proper Group Behavior
   CO4: Communicate and Exhibit Leadership Qualities.
   CO5: Adjust to Organizational Climate and Culture.

SEMESTER V	COURSE CODE: 19GCA52A				TITLE OF THE PAPER:ORGANIZATIONAL BEHAVIOUR								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	4	3	4	4	4	4	2	3	4	5	4	3.75
CO2	5	5	5	3	4	4	4	4	2	3	5	5	4	4
CO3	5	5	5	3	4	5	5	5	2	3	5	5	4	4
CO4	5	5	5	4	4	5	5	5	2	5	5	5	4	4.5
CO5	5	5	5	4	4	5	5	5	2	5	5	5	4	4.5
Mean Overall Score														4.2

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		19GCA52A
SEMESTER - V	ORGANIZATIONAL BEHAVIOUR	HRS/WK-5
GE-I (1)		CREDIT-4

UNIT I: [15 Hrs]
INTRODUCTION TO ORGANIZATIONAL BEHAVIOR : Definition-Key Elements of OB-Need for studying OB-Contributing Disciplines to OB-Challenges faced by the Management-OB Frame work – OB models.

UNIT II: [15 Hrs]
INDIVIDUAL BEHAVIOUR: Introduction to Personality –Determinants of Personality-Personality Types –Theories of Personality-Perceptual Process-Factors affecting Perception-Job Satisfaction-Determinants of Job Satisfaction-MotivationProcess -Need for Motivation-Maslow's Need Hierarchy Theory of Motivation.

UNIT III: [15 Hrs]
GROUP BEHAVIOUR: Definition andCharacteristics of Group-Need for people to form and join Group-Types of Group-Stages of Group Development-Team Building-Types of Team-Team Building Process.

UNIT IV: [15 Hrs]
COMMUNICATION: Introduction-Nature and Need for Communication-Process of Communication-Channels of Communication-Barriers to Communication
LEADERSHIP: Meaning-Functions of Leadership-Leadership Styles-Factors determining Effective Leadership-Leadership Theories - Transactional and Transformational Leadership.

UNIT V: [15 Hrs]
CONFLICTS: Introduction - Sources of Conflicts – Types of Conflicts – Conflict Management
STRESS: Introduction - Sources of Stress – Consequences of Stress.
ORGANIZATIONAL CLIMATE: Definition-Dimensions of Organizational Climate -Determinants of Organizational Climate
ORGANIZATIONAL CULTURE: Organizational Culture: Definition and Characteristics - Types of Culture.

TEXT BOOK:
1. Dr. S.S. Khanka, Organizational Behaviour, S.Chand Publication, 4th Revised Edition

REFERENCE BOOKS:
1. Stephen P. Robins, Organisational Behavior, PHI Learning / Pearson Education, 11th edition, 2008.
2. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001.

III BCA	ENTREPRENEURIAL DEVELOPMENT	19GCA52B
SEMESTER V		HRS/WK – 5
GE – I (2)		CREDIT - 4

Objectives

To make and create interest among the students to become an entrepreneur and
Facilitates the students to avail the incentives and schemes available for MSMEs

Course Outcomes:

      At the end of the Course the students should Exhibit

      CO1: The Qualities of an Entrepreneur
      CO2: Explore Rural Entrepreneurship and Agri-Preneurship
      CO3:Effective functioning of Family Business
      CO4: Explore MSME
      CO5: Knowledge on Institutional Support and Subsidies.

SEMESTER V	COURSE CODE: 19GCA52B					TITLE OF THE PAPER:ENTREPRENEURIAL DEVELOPMENT								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60	
CO2	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60	
CO3	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
CO4	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
CO5	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
Mean Overall Score														3.8	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		19GCA52B
SEMESTER V	ENTREPRENEURIAL DEVELOPMENT	HRS/WK – 5
GE – I (2)		CREDIT - 4

UNIT-I [15 Hrs]

Introduction: Entrepreneurship: Meaning- Nature-Importance-Theories-Entrepreneur: Meaning-Definition-Characteristics-Qualities-Types and roles of Entrepreneur-Entrepreneur vsIntrapreneur - Factors promoting an Entrepreneur-Role of Entrepreneurs in India's Economic Development.

UNIT-II : [15 Hrs]

Rural Entrepreneurship and Agri-Preneurship: Rural Entrepreneurship**:** Meaning -Need - Problems of Rural Entrepreneurship- Developing Rural Entrepreneurship-NGOs and Rural Entrepreneurship.

Agri-Preneurship**:** Introduction-Need for Developing Agri-preneurship in India- Opportunities and Challenges Involved in Developing Agri-preneurship-Suggestions for Developing Agri-preneurship

UNIT-III : [15 Hrs]

Family Business: Meaning – Characteristics -Types - Advantages of Family Business- Disadvantages of Family Business-Major Challenges Faced by Family Business in India- Business Succession Planning-Making Family Business More Effective

UNIT-IV : [15 Hrs]

New Venture and MSME- An Introduction: New venture-meaning-Promoting New Venture- Sources of business Ideas-Idea Generation Techniques-Project Identification-Project selection- Procedures to start a New Venture-Project: Meaning-Types-Formulation of Project Report- Project Appraisal-MSME: Introduction-Classification of Enterprises-Memorandum of MSME's- Registration of MSME's.

UNIT- V [15 Hrs]

Institutional Support and Subsidies: Sources of raising funds-need for institutional finance- various Institutions Supporting entrepreneurship. Incentives and Subsidies: Meaning, needs, incentives and subsidies is available for entrepreneur- District Industries Centre (DIC) - Industrial Estates.

TEXT BOOK:

1. Entrepreneurial Development, Dr .S.S. Khanka, S. Chand Publications-2018.

REFERENCE BOOKS:
1. Vasant Desai, Small-Scale Industries and Entrepreneurship, Himalaya Publishing House, 2017
2. C B Gupta &Srinivasan : Entrepreneurship Development in India, Sultan Chand.
   A Gupta : Indian Entrepreneurial Culture, New Age International.

III BCA	RDBMS – ORACLE	CAP505T
SEMESTER - V		HRS/WK-4
PRACTICAL - V		CREDIT - 3

Objective:
To make the student abreast with the Database Management concepts.

Course Outcomes:
   At the end of the Course the students should possess

   CO1: Knowledge in Basic Database Concepts.
   CO2: Knowledge in Entity Relationship Model.
   CO3: Knowledge in Normalization Techniques.
   CO4: Programming Skill set in SQL
   CO5: Programming Skill set in PL/SQL

SEMESTER V	COURSE CODE: CAP505T					TITLE OF THE PAPER:RDBMS PACKAGE – ORACLE								HOURS: 4	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	4	5	4	4	4	4	4	2	3	2	4	3.75	
CO2	5	4	4	5	4	4	4	4	5	2	3	2	4	3.85	
CO3	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
CO4	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
CO5	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
Mean Overall Score														4.1	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

SQL
1. Simple Queries using DDL,DMLand DCL
2. SQL In-Built Functions
3. SET Operations
4. Views
5. Joins
6. Sub Queries

PL/SQL
7. PL/SQL Block
8. Procedures
9. Functions
10. Packages
11. Triggers
12. Cursors

III BCA	PROGRAMMING IN ASP.NET USING C-SHARP	19CAP506
SEMESTER - V		HRS/WK-4
PRACTICAL -VI		CREDIT - 3

Objective:

To improve the programming skills of the students with respect to C# and also to develop web application using asp.net and to make the students to know the latest programming concepts.

Course Outcomes:

       At the end of the Course the students should possess

       CO1: Knowledge in Dot Net Framework.

       CO2: Programming Skill set in C#.Net

       CO3: Programming Skill set in Asp.Net

       CO4: Programming Skill set in C# Controls

       CO5: Programming Skill set in ADO.Net

SEMESTER V	COURSE CODE: 19CAP506					TITLE OF THE PAPER:PROGRAMMING IN ASP.NET USING C-SHARP								HOURS: 4	CREDITS: 3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	5	5	4	4	4	4	4	2	3	2	4	3.85	
CO2	5	4	5	5	4	4	4	4	5	2	3	2	4	3.90	
CO3	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30	
CO4	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30	
CO5	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30	
Mean Overall Score														4.14	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA	PROGRAMMING IN ASP.NET USING C-SHARP	19CAP506
SEMESTER - V		HRS/WK-4
PRACTICAL - VI		CREDIT - 3

WINDOWS APPLICATION:
1. To develop simple student bio data
2. Create a color chooser using standard control.
3. To develop Notepad Application.
4. Login Form Creation using MS Access.

WEB APPLICATION:
1. Create an application to sending a request from one page to another using session.
2. Create a simple website for an organization using Master Page.
3. To develop database application for student mark list processing using validation control (Oracle)
4. To develop database Application for Telephone Directory to store phone number, Customer name and Customer address and display it with Grid View control.(SQL server)

III BCA		19SCA51
SEMESTER - V	PYTHON PROGRAMMING	HRS/WK- 2
SEC		CREDIT - 2

Objective:
To make the students abreast with the programming concepts and to master them in Python Language.

Course Outcomes:

At the end of the Course the students should be able to exhibit

CO1: Knowledge pertaining to Python Fundamentals, Plots and Files
CO2: Logic using List, Strings and Files
CO3: Knowledge pertaining to arrays, images, matrix and operators
CO4: Knowledge pertaining to Loops, List and Sets.
CO5: Advanced Programming techniques using Functions, Python Modules and Scripts.

SEMESTER V	COURSE CODE: 19SCA51					TITLE OF THE PAPER:PYTHON PROGRAMMING								HOURS: 2	CREDITS: 2
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	3	4	4	3	4	4	4	4	4	2	4	4	5	3.75	
CO2	4	4	4	3	4	4	4	4	4	2	4	4	5	3.85	
CO3	4	4	4	3	4	4	4	4	4	2	5	4	4	3.90	
CO4	4	4	4	3	4	4	4	4	4	2	5	4	5	3.90	
CO5	5	5	5	3	4	4	4	5	4	2	5	4	5	4.20	
Mean Overall Score														3.92	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		19SCA51
SEMESTER - V	PYTHON PROGRAMMING	HRS/WK- 2
SEC		CREDIT - 2

Unit-I [6 Hrs]

Getting started with IPython-.Using plot command interactively-.Embellishing a plot-Saving plots-Multiple plots-Subplots-Additional features of IPython-Loading Data From Files-Plotting Data-Other Types Of Plots-Plotting Charts.

Unit-I [6 Hrs]

Getting started with Lists-Getting started with for-Getting started with strings-Getting started with files-Parsing data.

Unit-III [6 Hrs]

Getting started with arrays-Accessing parts of arrays-Image manipulation using Arrays-.Basic Matrix Operations-.Advanced Matrix Operations-.Least square fit-Basic datatypes and operators-Sequence datatypes.

Unit-IV [6 Hrs]

Input-output-.Conditional Statements-Loops-Manipulating lists-Manipulating strings-Getting started with tuples-.Dictionaries-Sets in Python.

Unit-V [6 Hrs]

Getting Started with Functions-Advanced Features of Functions-Using Python Modules-Writing Python Scripts-Testing and Debugging-Handling Errors and Exceptions.

TEXT BOOK and VIDEO Tutorial LINK:

1. https://python.fossee.in/
   a. Python Textbook Companion
   b. https://spoken-tutorial.org/tutorial-search/?search_foss=Python&search_language=English

REFERENCE BOOK:

1. Martin. C. Brown., Python: The Complete Reference ASIN : 9387572943,Publisher : McGraw Hill Education; Forth edition (20 March 2018),Language : English,Paperback : 720 pages,ISBN-10 : 9789387572942,ISBN-13 : 978-9387572942

III BCA	OPEN SOURCE TECHNOLOGY-PHP	CA614Q
SEMESTER - VI		HRS/WK- 5
CORE - 13		CREDIT - 4

Objective:

To impart basic knowledge of PHP and MySQL.

Course Outcomes:

   At the end of the Course the students should possess

   CO1: Knowledge in Basics of PHP.
   CO2: Programming Skill set in OOP using PHP
   CO3: Programming Skill set in Files Concept using PHP
   CO4: Programming Skill set in developing Web Pages
   CO5: Programming Skill set in developing Database Application using PHP.

SEMESTER VI	COURSE CODE: CA614Q					TITLE OF THE PAPER:OPEN SOURCE TECHNOLOGY-PHP								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	5	5	4	4	4	4	4	3	4	2	4	4	
CO2	5	4	5	5	4	4	4	4	5	3	4	2	4	4.10	
CO3	5	5	5	5	5	5	5	4	5	3	4	2	4	4.40	
CO4	5	5	5	5	5	5	5	4	5	3	4	2	4	4.40	
CO5	5	5	5	5	5	5	5	4	5	3	4	2	4	4.40	
Mean Overall Score														4.2	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA	OPEN SOURCE TECHNOLOGY-PHP	CA614Q
SEMESTER - VI		HRS/WK- 5
CORE - 13		CREDIT - 4

UNIT-I [15 Hrs]
BASICS OF PHP:-History of PHP-Language basics:-Lexical structure-Data types-variables-Expressions and operators-flow control statements:if,if-else,while,do-while,switch,for,foreach-Functions:defining functions-variable scope(global and local variables)-function parameters: call by reference-call by value-return values: return single value, multiple value-handling missing parameters-default parameters.

UNIT-II [15 Hrs]
STRING: String constants-printing string functions: print, print_r, printf, echo, var_dump-string manipulation functions: trim, ltrim, rtrim, strtolower, strtoupper, ucfirst, ucwords, strpos, substr,chartocode, strlen, strrev,str_word_count, strcmp, strcasecmp
ARRAY: Indexed – Associative-multidimensional arrays-Array Sorting: sort, asort, ksort, rsort, arsort, krsort, usort, uasort, uksort, ord functions.
OOPS IN PHP: Class, Object, Inheritance, Creating a class-creating object-accessing properties and methods-this variable –inheritance-use of extend keyword-constructor.

UNIT-III [15 Hrs]
BUILT IN FUNCTIONS IN PHP:
Mathematical functions: floor, fmod, pow, round, rand, sqrt, max, min, log, hexdec.
Date and Time Functions: data, data_default_timezone_set, strtotime, mktime.
Handling Files: create- fopen - fread - fwrite – include – fclose – unlink – fgets – fgetc – feof - require-require_once.

UNIT-IV [15 Hrs]
Handling Web Pages: HTML – HTML tags-tables-frames-images-textfiled-textarea-listbox-checkbox-select-radiobutton-button-fileupload button-file download.Javascript –Javascript basics –validating forms.
Handling Session and Cookies: Global variables:-$_Globals, $_Server, $_request, $_Post, $_files, $_Cookies, $_Session.

UNIT-V [15 Hrs]
Working with Databases: Creating a MYSQL database-Creating a new Table-Inserting data into the database-Updating databases-Deleting records- Accessing the database records from PHP.

TEXT BOOK:

1. Steven Holzner, ”The Complete Reference PHP”, Tata McGraw Hill Pvt.Ltd., 2008.

REFERENCE BOOK:
1. Leon Atkinson, ”Core PHP programming”, Pearson Education, 2004.

III BCA		CA615S
SEMESTER - VI	OPERATING SYSTEMS	HRS/WK-5
CORE- 14		CREDIT - 4

Objective:

To make the student aware of all concepts related to operating system functions and features.

Course Outcomes:

At the end of the Course the students should possess

CO1: Knowledge in Basics of Operating System.
CO2: Knowledge pertaining to process and deadlock.
CO3: Knowledge pertaining to memory management.
CO4: Knowledge pertaining to GUI and Security.
CO5: Knowledge pertaining to Unix OS.

SEMESTER VI	COURSE CODE: CA615S					TITLE OF THE PAPER:OPERATING SYSTEMS								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	5	4	5	5	4	4	4	4	3	3	3	2	4	3.80	
CO2	5	4	5	5	4	4	4	4	3	3	3	2	4	3.80	
CO3	5	5	5	5	5	5	5	4	3	3	3	2	4	4.10	
CO4	5	5	5	5	5	5	5	4	3	3	3	2	4	4.10	
CO5	5	5	5	5	5	5	5	4	3	3	3	2	4	4.10	
Mean Overall Score														4.0	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		CA615S
SEMESTER - VI	OPERATING SYSTEMS	HRS/WK-5
CORE- 14		CREDIT - 4

UNIT-I [15 hrs]
Introduction: History of Operating system - Operating system functions – File system.

UNIT-II [15 hrs]
Process Management: Inter-process communication - Dead Lock - Dead Lock prerequisites - Dead Lock Strategies

UNIT-III [15 hrs]
Memory Management: - Single Contiguous – Fixed Partitioned – Variable Partitions – Non-Contiguous allocations - Paging – Segmentation - Virtual Memory Management Systems.

UNIT-IV [15 hrs]
GUI: – Components of GUI – Requirements of Windows based GUI –Security Protection: Threats – Attacks – Worms – Virus - Design principles – Authentication – Protection mechanisms – Encryption.

UNIT-V [15 hrs]
Unix OS: Overview of Unix-Unix File System: Users View of File System-Types of Files-Internals of File System: Logical Layout of the File-The Super Block-Structure of inode-Address Translation-run-Time Data Structure for File system: UFDT-File Table-Inode Table-System Calls: Open-Read-Write-Random Seek-Close-Create a File-Unlink a File-Change Directory. Basic Commands in Unix.

TEXT BOOK:

1.   A. S. Godbole, Operating Systems, Tata McGraw Hill, 1999.

REFERENCE BOOK:
1. A. Silberschatz and P. B. Galvin- Operating system concepts, Addision-Wesley Publishing company, Fifth Edition, 1998.
2. William Stallings, Operating Systems: Internals and Design Principles, Pearson Education India.

III BCA	SOFTWARE ENGINEERING	ECA616T
SEMESTER - VI		HRS/WK-5
DSE - II (1)		CREDIT - 4

Objective:
To introduce the concepts of Software Engineering and the various phases in Software development in order to equip the students in developing a project.

Course Outcomes:
>   **At the end of the Course the students should possess**
>
>   **CO1: Knowledge on different process models**
>   **CO2: Knowledge on how requirements can be collected.**
>   **CO3: Knowledge pertaining to building an Analysis Model.**
>   **CO4: Knowledge to test Software.**
>   **CO5: Managerial Capabilities to Deploy a Project.**

SEMESTER VI	COURSE CODE: ECA616T					TITLE OF THE PAPER:SOFTWARE ENGINEERING								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	4	4	3	4	4	4	4	2	3	4	5	4	3.75	
CO2	5	5	5	3	4	4	4	4	2	3	5	5	4	4	
CO3	5	5	5	3	4	5	5	5	2	3	5	5	4	4	
CO4	5	5	5	4	4	5	5	5	2	5	5	5	4	4.5	
CO5	5	5	5	4	4	5	5	5	2	5	5	5	4	4.5	
Mean Overall Score														4.2	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

UNIT - I [15 hrs]
Introduction: Evolving Role of Software-Characteristics of Software-Software Myths-Process Models: Waterfall Model- Evolutionary Process Models.

UNIT –II [15 hrs]
Requirement Engineering: Tasks - Initiating the Requirements Engineering Process- Eliciting Requirements.

UNIT III [15 hrs]
Building Analysis Model: Requirement Analysis - Data Modeling – Flow Oriented Modeling – Class Based Modeling – Creating a Behavioral Model.

UNIT –IV [15 hrs]
Testing: Software Testing Methods - Software Testing strategies –White Box Testing – Basic Path- Control Structure – Black Box Testing.

UNIT –V [15 hrs]
Project Management: Management Spectrum - Formal Technical Reviews – Software Change Management Process – Clean Room S/W Engineering Specification-Design and Testing.

TEXT BOOK:
1. R. S. Pressman, Software Engineering, Sixth Edition, Tata McGraw Hill International Edition – 1997.

REFERENCE BOOKS:
1. Richard Fairley, Software Engineering (Design, Reliability and Management), Tata McGraw Hill edition, 1983.
2. Carlo Ghezzi, Mehdi Jazayasi, Dino Mandrioloi, Fundamentals of Software Engineering, PHI Pvt. Ltd., 1991.

III BCA	MANAGEMENT INFORMATION SYSTEM	ECA616A
SEMESTER - VI		HRS/WK-5
DSE – II (2)		CREDIT - 4

Objective:
To enlighten the students with knowledge related to Management Information Systems.

Course Outcomes:
> **At the end of the Course the students should possess**

> **CO1: Knowledge on information systems.**
> **CO2: Knowledge on information systems for business operations.**
> **CO3: Capability to manage information Technology.**
> **CO4: Knowledge in ERP**
> **CO5: Capability to implement ERP.**

SEMESTER VI	COURSE CODE: ECA616A					TITLE OF THE PAPER:MANAGEMENT INFORMATION SYSTEM								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60	
CO2	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60	
CO3	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
CO4	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
CO5	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
Mean Overall Score														3.8	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA	MANAGEMENT INFORMATION SYSTEMS	ECA616A
SEMESTER - VI		HRS/WK-5
DSE – II (2)		CREDIT - 4

UNIT - I [15 Hrs]
Introduction to information systems (IS): why study IS- why business need information technology (IT) – fundamentals of IS concepts – overview of IS – solving business problems with IS – developing IS solutions.

UNIT - II [15 Hrs]
Information systems for business operations: Business IS – marketing, manufacturing, human resource, accounting and financial information systems – transaction processing system – management information and decision support systems.

UNIT- III [15 Hrs]
Managing information technology: Managing information resource and technologies – global IT management – planning and implementing business change with IT.

UNIT -IV [15 Hrs]
Enterprise Resource Planning (ERP): an overview – benefits of ERP – ERP and related technologies – business process reengineering – data warehousing – data mining – online analytical processing – supply chain management.

UNIT -V [15 Hrs]
ERP implementation: ERP implementation life cycle – implementation methodology – hidden cost – organizing the implementation – vendors, consultants and users contracts with vendors, consultants and employees project management and monitoring – ERP present and future – turbo change the ERP systems – enterprise integration applications – ERP and E-commerce – ERP and Internet.

TEXT BOOK:
1. James A O'Brien – Management Information Systems for managing IT in the internetworked Enterprise – 4th Edition, Tata McGraw Hill, New Delhi, 1999.

REFERENCE BOOKS:
1. Alexis Leon, ERP Demystified, Tata McGraw Hill, New Delhi, 2000.
2. W.S. Jaswadekar, Management Information Systems, Tata McGraw Hill, New Delhi, 1998.
3. S. Sadagopan, Management Information Systems, Prentice Hall of India, Eastern Economy Edition.
4. Robert G. Murdick, Joel E. Ross, Introduction to Management Information Systems, Prentice-Hall of India.
5. S. P. Rajagopalan, Management Information System, Margham Publications.
6. Gordon B. Davis , Computer Data Processing, McGraw Hill.
7. Kenneth C. Laudon, Jane P. Laudon, Management Information Systems: Managing the Digital Firm, Pearson Education.

III BCA	COMPUTER ARCHITECTURE	ECA613T
SEMESTER - VI		HRS/WK-5
DSE -II (3)		CREDIT - 4

Objective:
To enable the students to learn the principles of working of a Computer and its entire Internal Hardware.

Course Outcomes:

  At the end of the Course the students should be able to exhibit

  CO1: Knowledge pertaining to Central Processing Unit.
  CO2: Knowledge pertaining to Arithmetic Pipeline.
  CO3: Knowledge pertaining to Computer Arithmetic.
  CO4: Knowledge pertaining to Input and Output Organization.
  CO5: Knowledge pertaining to Advanced Memory Organization

SEMESTER VI	COURSE CODE: ECA613T					TITLE OF THE PAPER:COMPUTER ARCHITECTURE								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	3	3	3	4	4	5	4	4	4	2	3	2	4	3.15	
CO2	4	4	4	4	4	5	5	5	4	2	2	2	5	3.50	
CO3	4	4	4	4	4	5	5	4	5	3	3	2	5	3.70	
CO4	4	4	4	4	4	5	4	5	5	3	3	2	5	3.70	
CO5	4	4	4	4	4	5	4	4	4	3	3	2	5	3.50	
Mean Overall Score														3.51	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		ECA613T
SEMESTER - VI	COMPUTER ARCHITECTURE	HRS/WK-5
DSE - II (3)		CREDIT - 4

UNIT- I [15 Hrs]

Central Processing Unit: General register and stack organization - Instruction formats - Addressing modes – Data Transfer and Manipulation.

UNIT- II [15Hrs]

Pipelining: Arithmetic, instruction and RISC pipelining.

UNIT- III [15Hrs]

Computer Arithmetic : Addition and subtraction - Multiplication and Division Algorithms - Floating point Addition and Subtraction.

UNIT – IV [15Hrs]

Input-Output organization : Peripheral Devices - I/O Interface - Asynchronous data transfer - Modes of transfer - Priority interrupt - Direct memory access .

UNIT- V [15Hrs]

Memory Organization : Memory hierarchy - Main memory - Auxiliary memory - Associative, Cache and Virtual memory .

TEXT BOOK:
1. M. Morris Mano, Computer System Architecture, Pearson Education.

REFERENCE BOOKS:
1. V. Carl Hamacher, Zvonko G. Vranesic, Safwat G. Zaky, Computer Organization, McGraw Hill Higher Education.
2. John P. Hayes, Computer System Architecture, McGraw Hill Higher Education.

III BCA	Tech-Empowerment English Training	19GCA63A
SEMESTER VI		HRS/WK – 5
GE–II (1)		CREDIT - 4

Objective:
1. To enrich the students in English Competitive Examinations.
2. To create an awareness on TOEFL/IELTS Examinations.
3. To stabilize the career with Computer-English skills.

Course Outcomes:
   At the end of the Course the students should be able to exhibit

   CO1: Develop their intellectual, personal and professional abilities
   CO2: Acquire basic language skills (listening, speaking, reading and writing) in order to communicate with speakers of English language
   CO3: Comprehend the main ideas of texts or paragraphs, and guessing vocabulary from context.
   CO4: Acquire professional skills integrating three basic skills, research, information technology and critical thinking
   CO5: Gain Knowledge about the career goals and background.

SEMESTER VI	COURSE CODE:19GCA63A				TITLE OF THE PAPER : Tech Empowerment English Training								HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES (PSO)									MEAN SCORE OF CO'S
CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	Mean score
CO1	5	5	4	4	5	5	5	5	3	5	5	5	3	4.5
CO2	5	5	4	5	5	5	5	5	4	5	5	5	5	4.7
CO3	5	5	4	5	5	5	5	5	3	5	5	5	5	4.7
CO4	5	5	5	5	5	5	5	5	3	5	5	5	3	4.7
CO5	5	5	5	5	5	5	5	5	4	5	5	5	3	4.8
Mean Overall Score														4.7

The value shows that the course has **VERY HIGH association** with programme outcomes and programme specific outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA	Tech-Empowerment English Training	19GCA63A
SEMESTER VI		HRS/WK – 5
GE-II (1)		CREDIT - 4

UNIT – I: [15 Hrs]
Practical Knowledge:
1. Building Vocabulary
2. Parts of Speech
3. Sentence Formation
4. Phonetic Sounds

UNIT– II: [15 Hrs]
Understanding:
1. Listen and Repeat
2. Situational Writing
3. British / American English
   -Introduction
   -Its Use
   -Difference

UNIT– III: [15 Hrs]
Developing Ability (Practical-Lab)
1. Reading Comprehension
2. Listening Comprehension
3. American English & British English Conversation

UNIT – IV: [15 Hrs]
Practical Development
1. Situational Speaking
2. Public Speaking
3. Debate
4. Group Discussion

UNIT – V: [15 Hrs]
Career Skill :
1. Book Review
2. Interview Skills
3. Mock Interview

Note: **Units I, II, IV & V are practiced in class.**
              Unit III is engaged in Lab.

TEXT BOOK:
1. Green, David. *Contemporary English Grammar: Structures and Composition.* Chennai: Macmillan Publishers India Pvt. Ltd., 2010.

REFERENCE BOOK:
1. Balasubramanian, T. : A Text book of English Phonetics for Indian Students (Macmillan)

III BCA	Communication Skills and Media Awareness	19GCA63B
SEMESTER VI		HRS/WK – 5
GE-II (2)		CREDIT- 4

Course Outcomes:

At the end of the Course the students should be able to possess

CO1: Demonstrate a basic understanding of communication
CO2: Identify and analyze basic theories of communication
CO3: Explore the impact of social media on people's relationships, especially the family, gender, intimate relationships and friendships.
CO4: Consider the current state of the 'digital divide' and how social media relates to the Social problems.
CO5: Examine other possible welfare benefits

SEMESTER VI	COURSE CODE:19GCA63B				TITLE OF THE PAPER : An Advanced Course in Communication Skills and Media Awareness								HOURS:5	CREDITS:4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES (PSO)								MEAN SCORE OF CO'S	
CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	Mean score
CO1	5	5	4	4	5	5	5	5	3	5	5	5	3	4.5
CO2	5	5	4	5	5	5	5	5	4	5	5	5	5	4.7
CO3	5	5	4	5	5	5	5	5	3	5	5	5	5	4.7
CO4	5	5	5	5	5	5	5	5	3	5	5	5	3	4.7
CO5	5	5	5	5	5	5	5	5	4	5	5	5	3	4.8
Mean Overall Score														4.7

The value shows that the course has VERY HIGH association with programme outcomes and programme specific outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA		19GCA63B
SEMESTER VI	**Communication Skills and Media Awareness**	HRS/WK – 5
GE-II (2)		CREDIT- 4

UNIT – I:[15 Hrs]

Practical Communication Skills:

1. E-Mail
2. Presentation Skills
3. Curriculum Vitae and Cover Letters
4. Facing an Interview
5. Report Writing
6. Persuasion Skills
7. Idioms in Use

UNIT – II:[15 Hrs]

Media Awareness:

1. Kinds of News
2. Who and Which News get Prominence?
3. Who Controls the News?
4. Types of Radio Programmes
5. Types of Television Programmes
6. Elements of Advertising
7. New Media – The Internet

UNIT– III :[15 Hrs]

The Film Medium:

1. Birth of Cinema
2. Evolution of Cinema silent to sound Era
3. Techniques and trends in film making across the over 100 year existence

UNIT-IV :[15 Hrs]

The Traditional Media: Introduction to the Traditional means of communication and their influence on our cultural consumption patterns.

1. Oral and folk traditions media forms with reference to India and Tamilnadu.

UNIT- V:[15 Hrs]

The New Media: The Emergence of newer media of communication in the global village and the internet.

1. E-Mail and mobile telephony as media of cultural and socio political communication.
2. Cross cultural communication with technology.

METHODOLOGY:

Theoretical inputs through classroom lectures, visits to media organizations, seminars and interaction with practicing media persons.

TEXT BOOK:

1. Prakash.C.L.N.An Advanced course in communication skills and Media Awareness, Cambridge University Press India Pvt.Ltd, New Delhi, 2007.

REFERENCE BOOKS:

1. George Gerbner et al. The Global media Debate: Its Rise, Fall and Renewal. Norwood, Nj:Ablex 1991.
2. Richard Vincent et al. Towards Global equity in communication: MacBride Update Cresskill, NJ, Hampton Press,1999.
3. Stephens, Mitchell, A History of the news. NEWYORK, Viking Press,1988.
4. Fidler Roger, Mediamophosis, Understanding New Media. Thousand Oaks, Pine Forge Press,1977.

Question Pattern

Total Marks 100

Practical - 60

Internal - 40

Units III, IV and V for Practical Exam (Each unit carries 20 Marks) 20X3=60

Units I & II for Internal Exam (Each unit carries 20 Marks)   20X2=40

Total Marks   100

III BCA			CAP607Q
SEMESER - VI		**PROGRAMMING IN PHP**	**HRS/WK- 5**
PRACTICAL - VII			**CREDIT -3**

Objective:

To enable the student to build software applications in PHP.

Course Outcomes:
At the end of the Course the students should possess

CO1: Knowledge in Basics of PHP.
CO2: Programming Skill set in OOP using PHP
CO3: Programming Skill set in Files Concept using PHP
CO4: Programming Skill set in developing Web Pages
CO5: Programming Skill set in developing Database Application using PHP.

SEMESTER VI	COURSE CODE: CAP607Q				TITLE OF THE PAPER:PROGRAMMING IN PHP								HOURS: 5	CREDITS: 3
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**				**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	**PSO6**	**PSO7**	**PSO8**	
CO1	5	4	5	5	4	4	4	4	4	3	4	2	4	4
CO2	5	4	5	5	4	4	4	4	5	3	4	2	4	4.10
CO3	5	5	5	5	5	5	5	4	5	3	4	2	4	4.40
CO4	5	5	5	5	5	5	5	4	5	3	4	2	4	4.40
CO5	5	5	5	5	5	5	5	4	5	3	4	2	4	4.40
Mean Overall Score														4.2

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	**1**	**2**	**3**	**4**	**5**
Interval	**0<=rating<=1**	**1.1<=rating<=2**	**2.1<=rating<=3**	**3.1<=rating<=4**	**4.1<=rating<=5**
Rating	**Very Poor**	**Poor**	**Moderate**	**High**	**Very High**

III BCA	PROGRAMMING IN PHP	CAP607Q
SEMESTER - VI		HRS/WK- 5
PRACTICAL - VII		CREDIT -3

1. Simple Programs (Factorial , prime number, Fibonacci series)

2. String
   Functions:(trim,ltrim,rtrim,strtolower,strtoupper,ucfirst,ucwords,strops,substr,chartoc
   ode,strlen,strrev,str_word_count,strcmp,strcasecmp)

3. Arrays

4. Functions-Math function:-floor,pow,round,rand,sqrt,max,min,hexdec.
   Date and Time functions:-strtotime,mktime,data_default_timezone_set.

5. Create a Home Page using PHP and validating the form using javascript.

6. Form creation using POST method

7. Database Operations

8. Login form

9. Student mark list creation

10. Electricity bill preparation.

III BCA	MINI-PROJECT	JCA601
SEMESTER - VI		HRS/WK-5
PROJECT - I		CREDIT - 5

Objective:
The main objective of this Mini project is to expose the students to industry atmosphere and to get a broad idea to develop a project.

Course Outcomes:
At the end of the Course the students should possess

CO1: Project Analysis Technical Skill.
CO2: Project Designing Technical Skill.
CO3: Project Coding Technical Skill.
CO4: Project Testing Technical Skill.
CO5: Project Implementation Technical Skill.

SEMESTER VI	COURSE CODE: JCA601				TITLE OF THE PAPER:MINI-PROJECT								HOURS: 5	CREDITS: 5
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	5	4	5	5	4	4	4	4	4	3	4	4	4	4.10
CO2	5	4	5	5	4	4	4	4	5	3	4	4	4	4.20
CO3	5	5	5	5	5	5	5	4	5	3	4	4	4	4.50
CO4	5	5	5	5	5	5	5	4	5	3	4	4	4	4.50
CO5	5	5	5	5	5	5	5	4	5	3	4	4	4	4.50
Mean Overall Score														4.4

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III BCA	MINI-PROJECT	JCA601
SEMESTER - VI		HRS/WK-5
PROJECT - I		CREDIT - 5

Mini-Project on Multimedia/ Web design/Mobile Applications.

FORMAT FOR PREPARING MINI PROJECT REPORT
Arrangement of contents
1. Title Page
2. Bonafide Certificate
3. Acknowledgement
4. Table of contents
5. Abstract
6. Chapters of the Report
7. References
8. Appendices, if any
Appendices should be named as
       APPENDIX – A
       APPENDIX - B

BINDING SPECIFICATION
- Report should be found using flexible cover of thick white art paper.
- The Spine for the bound volume should be 2cms width.
- The Cover should be printed in block letters.

MARGIN SPECIFICATION
Top   :   4 cms
Bottom   :   3 cms
Left   :   4.5 cms
Top   :   2.5 cms

PAGE NUMBERING
All Page numbers should be typed without punctuation on the bottom-center portion of the page. The Preliminary pages(table of contents and abstract) should be numbered in lowercase roman literals. Papers of main text, starting with chapter-1, Should be consecutively numbered using Arabic numerals.

TITLE PAGE

TITLE OF THE PROJECT

A project report
submitted for the partial fulfillment for
the award of degree of

BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)

by
STUDENT'S NAME
(Register Number)
Under the Guidance of

GUIDE'S NAME

College Logo
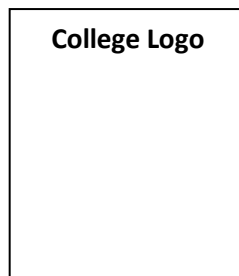
**PG AND RESEARCH DEPARTMENT OF COMPUTER APPLICATIONS
ST. JOSEPH'S COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)
CUDDALORE – 607001.**

Month and year

CERTIFICATE

CERTIFICATE

This is to certify that the mini project report entitled

TITLE OF THE PROJECT
being submitted to the
St. Joseph's College of Arts and Science (Autonomous),
Affiliated to Annamalai University, Annamalai Nagar

by
Mr./Ms. STUDENT'S NAME (Reg. No.)
for the partial Fulfillment for the award of degree of

BACHELOR OF COMPUTER APPLICATIONS
is a bonafide record of work carried out by him/her, under
my guidance and supervision.

Internal Guide   Head of the Department

Submitted for the viva-voce examination on--

Examiners:
1.

2.

II- B.Com. SEMESTER III GENERIC ELECTIVE- I (A)	OFFICE AUTOMATION	19GCM31A HRS/WK – 5 CREDIT - 4

Objective:

To enable the students to learn the features of MS OFFICE and its applications

Course Outcomes:
At the end of the Course the students should be able to exhibit

CO1: Basics of MS OFFICE.
CO2: Knowledge pertaining to MS WORD.
CO3: Basics knowledge of data handling in Excel.
CO4: Skills using different functions and format in Excel.
CO5: Knowledge pertaining to MS WORD.

SEMESTER III	COURSE CODE: 19GCM31A				TITLE OF THE PAPER:Office Automation					HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)					MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	5	4	4	4	4	5	4	5	4	4.3
CO2	5	4	4	5	5	4	4	4	4	4	4.3
CO3	4	5	5	5	5	5	5	5	5	4	4.8
CO4	5	4	4	5	5	5	5	5	5	4	4.7
CO5	4	5	4	5	5	5	5	5	5	4	4.7
Mean Overall Score											4.6

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II- B.Com. SEMESTER III GENERIC ELECTIVE- I (A)	OFFICE AUTOMATION	19GCM31A HRS/WK – 5 CREDIT - 4

Unit- I: [15 Hrs]

Introduction to Microsoft Office: Overview of the Office components(Word,Excel,PowerPoint,Access)–Identifying Common Screen Elements – Exiting a Program.

Common Office Tools and Techniques: Switching from one application to another – Sizing and Arranging Windows – Working with Menus – Working with Dialog Boxes – Working with Toolbars.- Using the Clipboard to cut, copy and paste.

Unit-II: [15 Hrs]

Starting Word: Starting a New Document – Opening an Existing File – Saving a Document – Printing a Document – Closing a Document.

Word Basics :–Typing Text – Inserting, Selecting and Deleting Text – Using Undo and Redo – Inserting Special Characters or symbols – Formatting Characters (Changing Fonts and Font Sizes, Applying Bold, Italic or Underline, Changing Text Case – Drop Caps) – Margins & Gutters - Working with Bulleted or Numbered Lists – Aligning Text – Borders and Shading - Formatting Paragraphs – Line Spacing

Unit-III: [15 Hrs]

Working with AutoCorrect and AutoFormat: Using Find and Replace – Correcting Spelling and Grammatical Errors – Working with Headers and Footers – Working with Tabs - Working with Tables.

Working with Graphics: Importing Graphics – ClipArt Gallery – Drawing Objects.

Unit-IV: [15 Hrs]

Using Excel: Creating s Simple Spreadsheet – Editing a Spreadsheet – Working with Functions and Formulas – Formatting Worksheets – Creating Charts.

Unit-V: [15 Hrs]

Using PowerPoint: Creating& Viewing Presentations – Editing a Presentation – Working with Presentation Special Effects.

TEXT BOOKS:
1. Microsoft Office XP fast & easy by Diane Koers, Prentice-Hall of India, New Delhi,2001.
2.“Working in Microsoft Office”,by Ron Mansfield, Tata McGraw-Hill Publishing Company Limited, New Delhi,1997.

REFERENCE BOOKS:
1. “Microsoft Excel 2016 BIBLE” by John Walkenbach, DurgaPrinto Graphics, Delhi
2. “Microsoft Office Professional Instant Reference” by Sheila S. Dienes, BPB Publications, New Delhi.
3. “Mastering Word 2000” by Ron Mansfield & J.W Olsen, BPB Publications, New Delhi.

II- B.Com. SEMESTER III GENERIC ELECTIVE-I (B)	INTERNET TECHNOLOGIES	19GCM31B
		HRS/WK – 5
		CREDIT - 4

Objective: To give an introduction to Internet, HTML and to learn Java Script and how to add Java Script code to HTML page.

Course Outcomes:

 At the end of the Course the students should be able to Exhibit

 CO1: Knowledge in Internet Connection Technologies.
 CO2: Programming Skills using HTML Tags
 CO3: Programming Skills using Style Sheets
 CO4: Programming Skills using JavaScript.
 CO5: Basics of Internet and E-Commerce.

SEMESTER V	COURSE CODE: 19GCM31B					TITLE OF THE PAPER:Internet Technologies					HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)					MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5		
CO1	4	5	4	4	4	4	3	4	3	3	3.8	
CO2	4	4	4	4	4	4	4	4	3	3	3.8	
CO3	4	3	5	4	4	3	3	4	3	3	3.6	
CO4	4	4	4	3	3	4	4	4	3	3	3.6	
CO5	4	3	4	3	3	3	4	4	4	3	3.5	
Mean Overall Score											3.7	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II- B.Com. SEMESTER III GENERIC ELECTIVE-I (B)	INTERNET TECHNOLOGIES	19GCM31B HRS/WK – 5 CREDIT - 4

Unit-I [15 Hrs]

Internet Basics: What is Internet?-Origin of Internet-IP address-Domain name-Host Name-DNS-Port Number-WWW-URL-Web server-Web browser-Search Engine-Types of Internet Connections-Hardware Requirements-Internet accounts-Network-Types of Network-Network Topologies.

Unit-II [15 Hrs]

Introduction to HTML: History of HTML-Structure of HTML-Basic HTML tags-Linking HTML document-Adding images into HTML document-List

Unit-III [15 Hrs]

HTML and CSS: Tables creation in HTML-Frames in HTML-Cascading Style Sheet (CSS)-Uses of CSS-Types of CSS

Unit-IV: [15 Hrs]

Java Script: Java Script Syntax-Input and Output in Java Script-Data types- Variables-Arrays-Expressions-Dialog box-Looping structure.

Unit-V: [15 Hrs]

Uses of Internet: E-mail-Chat-On line Transaction-credit card transaction-Debit card transaction-Net banking-E-Business-Uses of internet in education-E-Shopping-Web publishing

TEXT BOOKS:

1. Ivan Bayross-Web Enabled Commercial Application Development HTML, Java Script, DHTML and PHP-4TH Edition
2. H.Schildt Complete Reference-Internet

REFERENCE BOOK:
1. Thomas.A.Powel., The Complete Reference-HTML & CSS., Fifth Edition., Tata McGraw Hill

II- B.Sc. BIO CHEMISTRY SEMESTER III SKILL	OFFICE AUTOMATION	19AOA301
		HRS/WK – 3
		CREDIT - 2

Objective:

To enable the students to get acquainted with skills involving the usage of Office Automation package.

Course Outcomes:
At the end of the Course the students should be able to exhibit

CO1: Knowledge regarding the Basics of OFFICE tools.
CO2: Knowledge pertaining to MS Word.
CO3: Basic knowledge pertaining to AutoCorrect , AutoFormat and Graphics.
CO4: Skills in handling different functions and format in Excel.
CO5: Knowledge pertaining to Power Point Presentation.

SEMESTER III	COURSE CODE:19AOA301					TITLE OF THE PAPER:Office Automation					HOURS: 3	CREDITS: 2
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)					MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5		
CO1	4	5	4	4	4	4	5	4	5	4	4.3	
CO2	5	4	4	5	5	4	4	4	4	4	4.3	
CO3	4	5	5	5	5	5	5	5	5	4	4.8	
CO4	5	4	4	5	5	5	5	5	5	4	4.7	
CO5	4	5	4	5	5	5	5	5	5	4	4.7	
Mean Overall Score											4.6	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II- B.Sc. BIO CHEMISTRY SEMESTER III SKILL	OFFICE AUTOMATION	19AOA301
		HRS/WK – 3
		CREDIT - 2

Unit -I: **[9 Hrs]**

    Introduction to Microsoft Office: Overview of the Office components(Word,Excel,PowerPoint,Access)–Identifying Common Screen Elements – Exiting a Program.

    Common Office Tools and Techniques: Switching from one application to another – Sizing and Arranging Windows – Working with Menus – Working with Dialog Boxes – Working with Toolbars.- Using the Clipboard to cut, copy and paste.

Unit-II: **[9 Hrs]**

    Starting Word: Starting a New Document – Opening an Existing File – Saving a Document – Printing a Document – Closing a Document.

    Word Basics :–Typing Text – Inserting, Selecting and Deleting Text – Using Undo and Redo – Inserting Special Characters or symbols – Formatting Characters (Changing Fonts and Font Sizes, Applying Bold, Italic or Underline, Changing Text Case – Drop Caps) – Margins & Gutters - Working with Bulleted or Numbered Lists – Aligning Text – Borders and Shading - Formatting Paragraphs – Line Spacing

Uni- III: **[9 Hrs]**

    Working with AutoCorrect and AutoFormat: Using Find and Replace – Correcting Spelling and Grammatical Errors – Working with Headers and Footers – Working with Tabs - Working with Tables.

    Working with Graphics: Importing Graphics – ClipArt Gallery – Drawing Objects.

Unit-IV: **[9 Hrs]**

    Using Excel: Creating a Simple Spreadsheet – Editing a Spreadsheet – Working with Functions and Formulas – Formatting Worksheets – Creating Charts.

Unit-V: **[9 Hrs]**

    Using PowerPoint: Creating& Viewing Presentations – Editing a Presentation – Working with Presentation Special Effects.

TEXT BOOKS:

1. Microsoft Office XP fast & easy by Diane Koers, Prentice-Hall of India, New Delhi,2001.
2."Working in Microsoft Office",by Ron Mansfield, Tata McGraw-Hill Publishing Company Limited, New Delhi,1997.

REFERENCE BOOKS:

1. "Microsoft Excel 2016 BIBLE" by John Walkenbach, DurgaPrinto Graphics, Delhi
2. "Microsoft Office Professional Instant Reference" by Sheila S. Dienes, BPB Publications, New Delhi.
3. "Mastering Word 2000" by Ron Mansfield & J.W Olsen, BPB Publications, New Delhi.

QUESTION PAPER PATTERN

Time: 3 Hours   **Marks: 75**

QUESTION PAPER PATTERN:

1) Part - A   10x1=10   Objective Questions

2) Part-B   5x2 =10   All the Questions are to be Answered.

3) Part –C   5x5 = 25   Five out of Eight - Open Choice.

4) Part – D   3x10 = 30   Three Out of Five – Open Choice.

Note: Questions should be asked from all the units with equal weightage.

II- B.Sc. CHEMISTRY	COMPUTERS IN CHEMISTRY	ACCH401S
SEMESTER IV		HRS/WK – 5
ALLIED		CREDIT - 4

Objective:

To enable the students to get acquainted with programming skills in solving problems related to chemistry and to expertise the student in Designing software related to Chemistry.

Course Outcomes:
At the end of the Course the students should be able to exhibit

CO1: Knowledge regarding programming language and C-Fundamentals.
CO2: Knowledge pertaining to Control Statements in "C".
CO3: Basic knowledge pertaining to Functions in "C" and solving problems through "C".
CO4: Skills in handling Arrays in "C" and solving problems through "C"
CO5: Knowledge pertaining to CHEMDRAW and ISIS DRAW

SEMESTER IV	COURSE CODE: ACCH401S					TITLE OF THE PAPER:COMPUTERS IN CHEMISTRY								HOURS: 5	CREDITS: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	3	4	4	3	4	4	4	4	4	2	4	4	5	3.75	
CO2	4	4	4	3	4	4	4	4	4	2	4	4	5	3.85	
CO3	4	4	4	3	4	4	4	4	4	2	5	4	4	3.90	
CO4	4	4	4	3	4	4	4	4	4	2	5	4	5	3.90	
CO5	5	5	5	3	4	4	4	5	4	2	5	4	5	4.20	
Mean Overall Score														3.92	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II- B.Sc. CHEMISTRY		ACCH401S
SEMESTER IV	COMPUTERS IN CHEMISTRY	HRS/WK – 5
ALLIED		CREDIT - 4

UNIT-I [15Hrs]
Programming Language: History of Computer-Introdution to Algorithm-Flowchart-Structure of ProgrammingLanguages
C Fundamentals: Character set – Identifiers - keywords - Data types-Constants –Variables – Declarations – Expressions – Statements.

UNIT-II [15Hrs]
Control Statements: Data Input/Output functions - Simple C programs - Operators - Library functions-flow of control-control structures - switch, break and continue - Go to statement.

UNIT-III [15Hrs]
Functions: Defining, accessing functions - functions prototypes-storage classes.
Problems:
Determination of Electro negativity of an atom from bond energy data using pauling's relation – determination of Lattice Energy of a Crystal using born-Lande equation – shapes of molecules or ions using VSEPR theory - deriving empirical formula from elemental analysis – calculation of PH and POH – determination of solubility of sparingly soluble salts – calculation of inter planar spacing for different planes in an orthorhombic crystal.

UNIT-IV [15Hrs]
Arrays: Defining and processing – Types of Arrays- string Functions-strlen()–strcpy()-strcat()- strcmp()-strlwr()-strupr()-strrev()- Structures.
Problems:
Determination of Half Life and Average Life of a Radio active nucleus-Determination of Normality, Molarity and Molality of Solutions –Calculation of Equivalent weight of acids, bases and salts.

UNIT-V [15Hrs]
CHEM DRAW: Introduction to CHEM DRAW-Application of CHEM DRAW and ISIS Draw for ORGANIC and INORGANIC molecules

TEXT BOOKS:
1. E. Balagurusamy -Programming in Ansi C -Tata McGraw HillPub
2. Byron S.Gottfied - Schaum's outline Theory and problems of programming with C. Tata McGraw Hill Pub
3. Computers in Chemistry-K.V.Raman-TMH-VIIEdition-2005

REFERENCE BOOKS
1. Yeshwanth Kanethkar -Let us C -.BPB Publications
2. K.R.Venugopal, S.R.Prasad -Mastering C – Tata McGraw HillPub

II- B.Sc. CHEMISTRY	PRACTICAL-COMPUTERS IN CHEMISTRY	ACHP401S
SEMESTER IV		HRS/WK – 3
ALLIED PRACTICAL		CREDIT - 2

Objective:

To enable the students to get acquainted with programming skills in solving problems related to chemistry and to expertise the student in Designing software related to Chemistry.

Course Outcomes:
At the end of the Course the students should be able to exhibit

CO1: Programming skills to determine the electro negativity of an atom from Bond Energy data using Paulings relation and Lattice energy of a crystal using Born-Lande Equation.
CO2: Programming skills to determine the Empirical Formula from Elemental Analysis and find out PH and POH.
CO3: Programming skills to determine the Solubility of sparingly soluble salts and Normality, Molarity and Molality of the solution.
CO4: Programming skills to determine the Half life and average life of a radioactive nucleus and Inter-Planar Distance for Planes
CO5: Programming skills to determine the Equivalent Weight of Acids, Base and Salts

SEMESTER IV	COURSE CODE: ACHP401S					TITLE OF THE PAPER:PRACTICAL-COMPUTERS IN CHEMISTRY								HOURS: 3	CREDITS: 2
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8		
CO1	3	4	4	3	4	4	4	4	4	2	4	4	5	3.75	
CO2	4	4	4	3	4	4	4	4	4	2	4	4	5	3.85	
CO3	4	4	4	3	4	4	4	4	4	2	5	4	4	3.90	
CO4	4	4	4	3	4	4	4	4	4	2	5	4	5	3.90	
CO5	5	5	5	3	4	4	4	5	4	2	5	4	5	4.20	
Mean Overall Score														3.92	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

II- B.Sc. CHEMISTRY		ACHP401S
SEMESTER IV	**PRACTICAL-COMPUTERS IN CHEMISTRY**	HRS/WK – 3
ALLIED PRACTICAL		CREDIT - 2

1. Determination of electro negativity of an atom from Bond Energy data using Paulings relation
2. Determination of Lattice energy of a crystal using Born-Lande Equation
3. Deriving the Shapes of molecules or ions using VSEPR Theory
4. Deriving Empirical Formula from Elemental Analysis
5. Determination of PH and POH
6. Determination of Solubility of sparingly soluble salts
7. Determination of Normality, Molarity and Molality of the solution
8. Determination of Half life and average life of a radioactive nucleus
9. Determination of Inter-Planar Distance for Planes
1. 10.Determing the Equivalent Weight of Acids, Base and Salts

III- B.A. ENGLISH SEMESTER VI GENERIC ELECTIVE- I (A)	OFFICE AUTOMATION	19GEN61A HRS/WK – 5 CREDIT - 4

Objective:

To enable the students understand use of MS OFFICE.

Course Outcomes:
At the end of the Course the students should be able to exhibit

CO1: Basics of MS OFFICE.
CO2: Knowledge pertaining to MS WORD.
CO3: Basics knowledge of data handling in Excel.
CO4: Skills using different functions and format in Excel.
CO5: Knowledge pertaining to MS WORD.

SEMESTER VI	COURSE CODE: 19GEN61A				TITLE OF THE PAPER:Office Automation								HRS 5	CR: 4
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)				PROGRAMME SPECIFIC OUTCOMES(PSO)								MEAN SCORE OF CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO 1	PSO 2	PSO 3	PSO 4	PSO5	PSO6	PSO7	PSO8	
CO1	4	5	4	4	4	4	5	4	5	4	4	5	4	4.3
CO2	5	4	4	5	5	4	4	4	4	4	4	4	4	4.3
CO3	4	5	5	5	5	5	5	5	5	4	5	5	4	4.8
CO4	5	4	4	5	5	5	5	5	5	4	5	5	4	4.7
CO5	4	5	4	5	5	5	5	5	5	4	5	5	4	4.7
Mean Overall Score														4.6

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III- B.A. ENGLISH SEMESTER VI GENERIC ELECTIVE- I (A)	OFFICE AUTOMATION	19GEN61A
		HRS/WK – 5
		CREDIT - 4

Unit I: [15 Hrs]

Introduction to Microsoft Office: Overview of the Office components(Word,Excel,PowerPoint,Access)–Identifying Common Screen Elements – Exiting a Program.

Common Office Tools and Techniques: Switching from one application to another – Sizing and Arranging Windows – Working with Menus – Working with Dialog Boxes – Working with Toolbars.- Using the Clipboard to cut, copy and paste.

Unit II: [15 Hrs]

Starting Word: Starting a New Document – Opening an Existing File – Saving a Document – Printing a Document – Closing a Document.

Word Basics :–Typing Text – Inserting, Selecting and Deleting Text – Using Undo and Redo – Inserting Special Characters or symbols – Formatting Characters (Changing Fonts and Font Sizes, Applying Bold, Italic or Underline, Changing Text Case – Drop Caps) – Margins & Gutters - Working with Bulleted or Numbered Lists – Aligning Text – Borders and Shading - Formatting Paragraphs – Line Spacing

Unit III: [15 Hrs]

Working with AutoCorrect and AutoFormat: Using Find and Replace – Correcting Spelling and Grammatical Errors – Working with Headers and Footers – Working with Tabs - Working with Tables.

Working with Graphics: Importing Graphics – ClipArt Gallery – Drawing Objects.

Unit IV: [15 Hrs]

Using Excel: Creating s Simple Spreadsheet – Editing a Spreadsheet – Working with Functions and Formulas – Formatting Worksheets – Creating Charts.

Unit V: [15 Hrs]

Using PowerPoint: Creating& Viewing Presentations – Editing a Presentation – Working with Presentation Special Effects.

TEXT BOOKS:
1. Microsoft Office XP fast & easy by Diane Koers, Prentice-Hall of India, New Delhi,2001.
2.“Working in Microsoft Office”,by Ron Mansfield, Tata McGraw-Hill Publishing Company Limited, New Delhi,1997.

REFERENCE BOOKS:
1. “Microsoft Excel 2016 BIBLE” by John Walkenbach, DurgaPrinto Graphics, Delhi
2. “Microsoft Office Professional Instant Reference” by Sheila S. Dienes, BPB Publications, New Delhi.
3. “Mastering Word 2000” by Ron Mansfield & J.W Olsen, BPB Publications, New Delhi.

III- B.A. ENGLISH SEMESTER VI GENERIC ELECTIVE- I (B)	INTERNET TECHNOLOGIES	19GEN61B
		HRS/WK – 5
		CREDIT - 4

Objective: To give an introduction to Internet, HTML and to learn Java Script and how to add Java Script code to HTML page.

Course Outcomes:

At the end of the Course the students should be able to Exhibit

CO1: Knowledge in Internet Connection Technologies.
CO2: Programming Skills using HTML Tags
CO3: Programming Skills using Style Sheets
CO4: Programming Skills using JavaScript.
CO5: Basics of Internet and E-Commerce.

SEMESTER VI	COURSE CODE: 19GEN61B					TITLE OF THE PAPER:Internet Technologies								HRS 5	CR: 4
COURSE OUTCOMES	**PROGRAMME OUTCOMES(PO)**					**PROGRAMME SPECIFIC OUTCOMES(PSO)**								**MEAN SCORE OF CO'S**	
	PO1	PO2	PO3	PO4	PO5	PSO 1	PSO 2	PSO 3	PSO 4	PSO5	PSO6	PSO7	PSO8		
CO1	4	5	4	4	4	4	5	4	5	4	4	5	4	4.3	
CO2	5	4	4	5	5	4	4	4	4	4	4	4	4	4.3	
CO3	4	5	5	5	5	5	5	5	5	4	5	5	4	4.8	
CO4	5	4	4	5	5	5	5	5	5	4	5	5	4	4.7	
CO5	4	5	4	5	5	5	5	5	5	4	5	5	4	4.7	
Mean Overall Score														4.6	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes.

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

III- B.A. ENGLISH SEMESTER VI GENERIC ELECTIVE- I (B)	INTERNET TECHNOLOGIES	19GEN61B
		HRS/WK – 5
		CREDIT - 4

Unit-I [15 Hrs]

Internet Basics: What is Internet?-Origin of Internet-IP address-Domain name-Host Name-DNS-Port Number-WWW-URL-Web server-Web browser-Search Engine-Types of Internet Connections-Hardware Requirements-Internet accounts-Network-Types of Network-Network Topologies.

Unit-II [15 Hrs]

Introduction to HTML: History of HTML-Structure of HTML-Basic HTML tags-Linking HTML document-Adding images into HTML document-List

Unit-III [15 Hrs]

HTML and CSS: Tables creation in HTML-Frames in HTML-Cascading Style Sheet (CSS)-Uses of CSS-Types of CSS

Unit-IV: [15 Hrs]

Java Script: Java Script Syntax-Input and Output in Java Script-Data types- Variables-Arrays-Expressions-Dialog box-Looping structure.

Unit-V: [15 Hrs]

Uses of Internet: E-mail-Chat-On line Transaction-credit card transaction-Debit card transaction-Net banking-E-Business-Uses of internet in education-E-Shopping-Web publishing

TEXT BOOKS:

1. Ivan Bayross-Web Enabled Commercial Application Development HTML, Java Script, DHTML and PHP-4TH Edition
2. H.Schildt Complete Reference-Internet

REFERENCE BOOK:
1. Thomas.A.Powel., The Complete Reference-HTML & CSS., Fifth Edition., Tata McGraw Hill

YEAR - I	FUNDAMENTALS OF INFORMATION TECHNOLOGY	CODE – 19BB102
SEMESTER - I		HOURS / WEEK – 5
CORE THEORY -2		CREDIT – 3

Course Outcomes:

At the end of the Course the students should be able to exhibit

CO1: Knowledge pertaining to Fundamentals of Computer Model.

CO2: Knowledge pertaining to Data Storage.

CO3: Basics knowledge of CPU.

CO4: Knowledge pertaining to Fundamentals of Computer Networking.

CO5: Fundamentals of output devices and programming Languages.

Semester	Course Code				Title of the paper								Hours	Credit
I	19BB102				Fundamentals of Information Technology								5	3
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO1	PSO2	PS O3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	4	3	4	4	4	4	3	2	3	2	4	3.50
CO2	4	4	4	3	4	4	4	4	3	2	3	2	4	3.50
CO3	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80
CO4	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80
CO5	5	4	4	3	4	5	5	4	3	2	4	2	4	3.80
									Mean Overall Scores					3.68

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - I	FUNDAMENTALS OF INFORMATION TECHNOLOGY	CODE – 19BB102
SEMESTER - I		HOURS / WEEK – 5
CORE THEORY -2		CREDIT - 3

Objective:

To enable the students understand the basic concepts of information technology.

Unit-I Data and Information [15 Hrs]

Data and Information- Introduction-Types of Data-Simple Model of a Computer-Data Processing using a Computer-Desktop Computer. Acquiring Text data-Acquiring Image Data-Acquiring Audio Data-Acquiring video Data.

Unit-II Data Storage [15 Hrs]

Data Storage **-** Introduction-Storage Cell-Physical Device used as Storage Cells-Random Access Memory-read Only Memory-Secondary Storage-CDROM-Archival store.

Unit-III Central Processing Unit [15 Hrs]

Central Processing Unit - Introduction-Structure of a CPU-Specifications of CPU-Interconnections of CPU with memory and I/O Unit-Embedded Processors.

Unit-IV Computer Networks [15 Hrs]

Computer Networks - Introduction- Local Area Network-Applications of LAN-Wide Area Network-Internet-Naming Computers Connected to Internet-Future of Internet Technology.

Unit-V Output Devices [15 Hrs]

Output Devices - Introduction-Video display Devices-Touch Screen Display-E-Ink Display-Printers-Audio Output. Computer Software - Introduction-Operating system-Programming Languages-Classification of Programming Languages-Classification of Programming Languages based on applications

Text Book

1. V.Rajaraman-Introduction to Information Technology-Second Edition-PHI Learning Private Limited-Delhi-2013.

Reference Books

1. James A. Senn -Information Technology: Principles, Practices, and Opportunities - Prentice Hall publication - January 2004.

2. Alexis Leon, Mathews Leon - Fundamentals Of Information Technology –LeonVikas Publishing house pvt ltd – 1999

YEAR - I		CODE – 17BB204
SEMESTER – II	EXCEL FOR BUSINESS	HOURS / WEEK – 2
CORE THEORY - 4		CREDIT – 2

Course Outcomes: At the end of the Course the students should be able to exhibit

CO1: Basics of Excel.

CO2: Knowledge pertaining to spreadsheet.

CO3: Basics knowledge of data handling in Excel.

CO4: Knowledge pertaining to Pivot tables.

CO5: knowledge pertaining to formatting in Excel.

Semester	Course Code				Title of the paper								Hours	Credit
II	17BB204				Excel for Business								2	2
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO1	PSO2	PS O3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	5	4	4	4	4	4	4	3	2	3	2	4	3.50
CO2	4	4	4	3	4	5	4	3	3	2	3	2	4	3.50
CO3	5	3	4	4	4	5	4	5	3	2	4	2	4	3.80
CO4	5	3	4	4	4	5	5	3	4	2	4	2	4	3.80
CO5	5	3	4	3	5	5	5	4	3	2	4	2	4	3.80
											Mean Overall Scores			3.68

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - I		CODE – 17BB204
SEMESTER – II	**EXCEL FOR BUSINESS**	HOURS / WEEK – 2
CORE THEORY -4		CREDIT -2

Unit – I: Foundation [6 Hrs]

Foundation- Excel Introduction – The Excel Interface Basic Navigation and Editing – Getting Going

Unit-II: Orientation and Efficiency [6 Hrs]

Orientation and Efficiency- Editing – Viewing- Spreadsheet Structure- Cell References - Named Range - Basic Macros – Design- Administration- Customizing Excel – Housekeeping-Connecting Workbooks - Documentation - Protecting and Sharing-Google Sheets- Excel Troubleshooting

Unit-III: Data Handling [6 Hrs]

Data Handling- Sorting and Filtering - Controlling User Input - Working with Dates and Times- Working with Text - Lookup and Reference - Logical Functions

Unit-IV: Data Analysis [6 Hrs]

Data Analysis- Working with Numbers- Summarizing Data - PivotTables 1 – Simple Summaries - PivotTables 2 – Manipulating Data - PivotTables 3 – Interpreting Data. - Power Pivot: Handling Big Data- Formula Auditing - Advanced Macros and VBA – Modelling Presentation

Unit-V: Cell Formatting [6 Hrs]

Cell Formatting - Number Formatting - Conditional Formatting - Charts and Graphs-Page and Print Setup

Text book:

1. Paul Buggs, TeachYourself Excel 2016 Advanced,CreateSpace IndependentPublishing Platform, 27-Feb-2016

Reference Book:

1. John Walkenbach, Excel 2016 Bible, John Wiley & sons Publications

YEAR - I		CODE – 17BP201
SEMESTER – II	EXCEL - LAB	HOURS / WEEK – 3
CORE PRACTICAL		CREDIT - 2

Course Outcomes:
At the end of the Course the students should be able to exhibit
CO1: Skills using editing, formatting in Excel.
CO2: Skills using filtering and sorting in Excel.
CO3: Skills using different functions in Excel.
CO4: Programming Skills in Macros.
CO5: Skills using Pivot Tables in Excel.

Semester		Course Code		Title of the paper									Hours	Credit
II		17BP201		Excel -Lab									3	2
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S
	PO 1	PO 2	PO 3	PO 4	PO5	PSO 1	PSO 2	PS O3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	
CO1	4	5	4	4	4	4	5	4	5	4	4	4	4	4.2
CO2	5	4	4	5	5	4	4	4	4	4	4	4	5	4.3
CO3	4	5	5	5	5	5	5	5	5	4	4	4	5	4.7
CO4	5	4	4	5	5	5	5	5	5	4	4	4	5	4.6
CO5	4	5	4	5	5	5	5	5	5	4	4	4	5	4.6
										Mean Overall Scores				4.48

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - I	EXCEL- LAB	CODE – 17BP201
SEMESTER – II		HOURS / WEEK – 3
CORE PRACTICAL		CREDIT - 2

1. Editing and Cell References
2. Named Range
3. Protecting and Sharing
4. Sorting and Filtering
5. Working with Dates and Times
6. Lookup and Reference
7. Logical Functions
8. Pivot Tables
9. Formula Auditing
10. Macros
11. VBA – Modelling Presentation
12. Number Formatting
13. Conditional Formatting
14. Charts and Graphs

YEAR - II	MANAGEMENT INFORMATION SYSTEM	CODE – 19BB302
SEMESTER – III		HOURS / WEEK – 6
CORE THEORY -6		CREDIT - 5

Course Outcomes: At the end of the Course the students should possess

CO1: Knowledge on information systems.

CO2: Knowledge on information systems for business operations.

CO3: Capability to manage information Technology.

CO4: Knowledge in ERP

CO5: Capability to implement ERP.

Semester	Course Code				Title of the paper								Hours	Credit
III	19BB302				Management Information System								6	5
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60
CO2	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60
CO3	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90
CO4	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90
CO5	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90
										Mean Overall Scores				3.80

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - II		CODE – 19BB302
SEMESTER – III	**MANAGEMENT INFORMATION SYSTEM**	HOURS / WEEK – 6
CORE THEORY -6		CREDIT - 5

Unit I: Introduction to information systems [18hrs]

Introduction to information systems(IS): why study IS- why business need information technology (IT) – fundamentals of IS a concept – overview of IS – solving business problems with IS – developing IS solutions.

Unit II: Information systems for business operations [18 Hrs]

Information systems for business operations: Business IS – marketing, manufacturing, human resource, accounting and financial information systems – transaction processing system – management information and decision support systems.

Unit III: Managing information technology [18 Hrs]

Managing information technology: Managing information resource and technologies – global IT management – planning and implementing business change with IT.

Unit IV: Enterprise Resource Planning - Overview [18 Hrs]

Enterprise Resource Planning (ERP): an overview – benefits of ERP – ERP and related technologies – business process reengineering – data warehousing – data mining – online analytical processing – supply chain management.

Unit V: Enterprise Resource Planning- Applications [18 Hrs]

ERP implementation: ERP implementation life cycle – implementation methodology – hidden cost – organizing the implementation – vendors, consultants and users contracts with vendors, consultants and employees project management and monitoring – ERP present and future – turbo change the ERP systems – enterprise integration applications ERP and E-commerce – ERP and Internet.

Text Books:
1. James A O'Brien – Management Information Systems for managing IT in the internetworked Enterprise – 4th Edition, Tata McGraw Hill, New Delhi, 1999.

Reference Books:
1. Alexis Leon – ERP Demystified – Tata McGraw Hill, New Delhi, 2000.
2. W.S. Jaswadekar – Management Information Systems – Tat McGraw Hill, New Delhi, 1998

YEAR - II	MULTIMEDIA AND DESIGN	CODE – 19AOMD31
SEMESTER – III		HOURS / WEEK – 3
NME		CREDIT - 2

Course Outcomes: At the end of the Course the students should possess

CO1: Inhibit basic Knowledge about Multimedia.

CO2: Basic knowledge about software, hardware and multimedia tools.

CO3: Fundamentals of peripheral devices.

CO4: Fundamentals of Photoshop.

CO5: Explore Photoshop features.

Semester	Course Code				Title of the paper								Hours	Credit
III	19AOMD31				Multimedia and Design								3	2
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO1	PSO2	PS O3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	5	5	4	4	4	4	4	2	3	2	4	3.75
CO2	4	4	5	5	4	4	4	4	5	2	3	2	4	3.85
CO3	4	5	5	5	4	5	5	4	5	2	3	2	4	4
CO4	4	5	5	5	4	5	5	4	5	2	3	2	4	4
CO5	4	5	5	5	4	5	5	4	5	2	3	2	4	4
									Mean Overall Scores					3.9

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - II		CODE – 19AOMD31
SEMESTER – III	MULTIMEDIA AND DESIGN	HOURS / WEEK – 3
NME		CREDIT - 2

Objective:

-To enable the students to acquire knowledge on Multimedia and Photoshop.

UNIT I: [9 Hrs]

Introduction to Multimedia:Introduction to making Multimedia- Multimedia Skills and training-Text: Using text in Multimedia, Computer and Text- Font Editing and Design Tools- Hypermedia and Hypertext.

UNIT II: [9 Hrs]

Hardware, Software and Multimedia Authoring Tools: Multimedia Hardware: Macintosh and Windows production platforms.

UNIT-III: [9 Hrs]

Hardware Peripherals: Memory and Storage Devices, Input Devices, Output Devices, Communication Devices, Basic Software Tools.

UNIT-IV: [9 Hrs]

PHOTOSHOP

Create animated buttons which is used for web design using Adobe Photoshop-Create image morphing using adobe Photoshop.

UNIT-V: [9 Hrs]

PHOTOSHOP

To perform image editing using basic tool, masking effect and rendering effects using Photoshop.

Text Books:

1. Multimedia Making it Work – TayVaughan,McGrawHill Publication
2. Adobe Photoshop- Eileen Mullin -Muska&Lipman/Premier-Trade; 1 edition (April 1, 2002)

Reference Book:

1. John F.Koegel Buford, Multimedia systems,Pearson Education

YEAR - II	RDBMS	CODE – 19BB402
SEMESTER – IV		HOURS / WEEK – 3
CORE THEORY -8		CREDIT - 3

Course Outcomes: At the end of the Course the students should possess

CO1: Knowledge in Basic Database Concepts.

 CO2: Knowledge in Different Function concepts.

CO3: Knowledge in basic SQL commands.

CO4: Programming Skill set in database integrity

CO5: Programming Skill set in SQL.

Semester	Course Code				Title of the paper								Hours	Credit
IV	19BB402				RDBMS								3	3
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO 1	PSO 2	PS O3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	
CO1	5	4	4	5	4	4	4	4	4	2	3	2	4	3.75
CO2	5	4	4	5	4	4	4	4	5	2	3	2	4	3.85
CO3	5	5	5	5	4	5	5	4	5	2	4	2	4	4
CO4	5	5	5	5	4	5	5	4	5	2	4	2	4	4
CO5	5	5	5	5	4	5	5	4	5	2	4	2	4	4
										Mean Overall Scores				4.1

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - II		CODE – 19BB402
SEMESTER – IV	RDBMS	HOURS / WEEK – 3
CORE THEORY -8		CREDIT - 3

Unit -I Introduction [9 Hrs]

Introduction - Relational Database - Using SQL*plus - Understanding the Common Oracle Data types -Structured Query Language(SQL):Data Query Language (DQL) Statements-Data Manipulation Language(DML)Statements-Data Definition Language(DDL) Statements-Data Transaction Language(DTL)Statements-Data Control Language(DCL)statements-Filtering and Ordering rows.

Unit -II Overview of Operators and Functions [9 Hrs]

Overview of Operators and Functions: Comparison or Relational operators-Arithmetic operators-Logical operators-Special operators-String operators-SET operators Built-in SQL functions: Character functions-Numeric functions-Date functions-Conversion functions-Aggregate functions-using Grouping rows and filter Group of Rows.

Unit -III SQL*Plus Reports and Commands [9 Hrs]

SQL*Plus Reports and Commands - Viewing the Structure of a table-Editing SQL statements-Saving, Retrieving and Running Files-Formatting Columns-Setting the Page Size-Setting the Line Size-Clear Column Formatting-Using Variables-Creating Simple Reports.

Unit -IV Database Integrity [9 Hrs]

Database Integrity - Primary key-Unique-Not null-Check-Foreign key. Database Security-Users-Grant and Revoke-System privileges-Object privileges- Synonyms- Roles, Creating table from another table- Sequences-Indexes-Views.

Unit -V Subqueries [9 Hrs]

SUBQUERIES - Single Row sub queries-Multiple Row sub queries-Multiple Column sub queries-Inline sub queries-Scalar sub queries-Nested Sub queries. JOINS - Cartesian products-Equi joins-Non-equijoins-Outer joins-Self joins.

Text Book:
1. Oracle Database 10g SQL-Jason Price-Oracle Press-Exclusively From McGraw-Hill/Osborne
Reference Book:
2. Oracle Database 10g-The complete reference- **Kevin Lonely**, Tata McGraw-HillPublishing Company Ltd 2004

YEAR - II		CODE – 19BP402
SEMESTER – IV	**RDBMS LAB**	**HOURS / WEEK – 3**
CORE PRACTICAL		**CREDIT - 2**

Course Outcomes: At the end of the Course the students should possess

CO1: Knowledge in Basic Database Concepts.

CO2: Knowledge in Entity Relationship Model.

CO3: Knowledge in Normalization Techniques.

CO4: Programming Skill set in SQL

CO5: Programming Skill set in PL/SQL

Semester	Course Code				Title of the paper								Hours	Credit
IV	19BP402				RDBMS Lab								3	2
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO1	PSO2	PS O3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	5	4	4	5	4	4	4	4	4	2	3	2	4	3.75	
CO2	5	4	4	5	4	4	4	4	5	2	3	2	4	3.85	
CO3	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
CO4	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
CO5	5	5	5	5	4	5	5	4	5	2	4	2	4	4	
									Mean Overall Scores					4.1	

This Course is having **VERY HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - II		CODE – 19BP402
SEMESTER – IV	RDBMS LAB	HOURS / WEEK – 3
CORE PRACTICAL		CREDIT - 2

1. Simple Queries using DML, DDL, DCL commands.
2. Writing Queries using Operators.
3. Built-In SQL functions.
4. Generating Reports using SQL*PLUS Commands.
5. Working with Constraints.
6. Creating VIEWS.
7. SUB-QUERIS.
8. JOINS

YEAR - II	E-COMMERCE AND ITS APPLICATIONS	CODE – 19ABB46
SEMESTER – IV		HOURS / WEEK – 5
ALLIED - 6		CREDIT - 4

Course Outcomes: At the end of the Course the students should be able to exhibit
CO1: Basic Knowledge pertaining to E-Commerce
CO2: Basic Knowledge pertaining to HTML Language.
CO3: Skills in Marketing on the web.
CO4: E-Commerce Web site, Security Services.
CO5: E-Commerce Payment Models.

Semester	Course Code				Title of the paper								Hours	Credit
IV	19ABB46				E-Commerce and its Applications								5	4
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO1	PSO2	PS O3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	4	4	4	3	4	4	4	4	2	3	4	5	4	3.75
CO2	4	3	4	3	4	3	3	4	2	3	4	4	4	3.5
CO3	4	3	5	3	4	4	4	4	2	3	3	5	4	3.7
CO4	5	4	4	4	4	4	4	4	2	4	4	4	4	3.9
CO5	5	5	5	4	4	4	4	4	2	5	5	5	4	4.3
											Mean Overall Scores			3.8

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - II		CODE – 19ABB46
SEMESTER – IV	E-COMMERCE AND ITS APPLICATIONS	HOURS / WEEK – 5
ALLIED - 6		CREDIT - 4

Unit I: **Introduction to E-Commerce** [15 hrs]
Introduction to E-Commerce **-** Categories of E-Commerce, the Development and Growth of Electronic Commerce, Advantages and Disadvantages of E-Commerce.Technology Infrastructure **-** The Internet and the World Wide Web-Origins of the Internet-Growth of the Internet**.** Packet Switched Networks - Routing Packets. Internet Protocols -TCP/IP, IPAddressing, DomainNames, Electronic Mail Protocols.

Unit II: Mark-up Languages and The web [15 Hrs]
Mark-up Languages and The web - Mark-upLanguages, HypertextMark-up Language, Html Tags and Links Intranets and Extranets **-** Public and Private Networks, Virtual Private Network (VPN) - Internet Connection Options – ConnectivityOverview, Voice Grade Telephone Connections, BroadbandConnections, Leased Line Connections, Wireless Connections

Unit III: Marketing on the Web [15 Hrs]
Marketing on the Web **-** Web marketing Strategies-Product Based Marketing Strategies, Customer Based Marketing Strategies.**Advertising On the Web**-Banner Ads, Text Ads and other web Ads.

Unit IV: Electronic Commerce Security [15 Hrs]
Electronic Commerce Security - Security for Client Computers, Communication Channel Security, Security for Server Computers, Organization that promote Computer Security.

Unit V: Payment System for E Commerce [15 Hrs]
Payment System for E Commerce - online payment Basics-Payment Cards,E-Cash,
E-Wallets,Stored Value Cards, Internet Technologies and the Banking Industry, Criminal Activity And the payment Systems - Phishing and Identity Theft.

Text Book:
1.Gary P.Schneider, Ph.D., CPA,Electronic Commerce, Joe Sabatino Publications, 9th Edition.

Reference book:
1.Ravi Kalakota, Andrew B.Whinston—Electronic Commerce:A Manager's Guide, Addison-Wesley

YEAR - III SEMESTER – V DISCIPLINE SPECIFIC ELECTIVE -2	INTERNET AND ITS APPLICATIONS	CODE – 17EBB52A HOURS / WEEK – 5 CREDIT - 4

Course Outcomes: At the end of the Course the students should be able to exhibit

CO1: Knowledge in Internet Connection Technologies.
CO2: Basics of HTML.
CO3: Programming Skills using Basic HTML Tags
CO4: Programming Skills to create tables in HTML tags.
CO5: Programming Skills to create forms in HTML.

Semester	Course Code				Title of the paper								Hours	Credit
V	17EBB52A				Internet And Its Applications								5	4
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
CO1	5	4	4	3	4	4	4	4	4	2	3	2	4	3.60
CO2	5	4	4	3	4	4	4	4	5	2	3	2	4	3.70
CO3	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0
CO4	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0
CO5	5	5	5	3	4	5	5	4	5	2	4	2	4	4.0
											Mean Overall Scores			3.91

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - III		CODE – 17EBB52A
SEMESTER – V	INTERNET AND ITS APPLICATIONS	HOURS / WEEK – 5
DISCIPLINE SPECIFIC ELECTIVE -2		CREDIT - 4

Unit – I Web Design Principles: **[15 Hrs]**

Basic principles involved in developing a web site - Planning process - Five Golden rules of web designing - Designing navigation bar - Page design - Home Page Layout - Design Concept. Brief History of Internet - What is World Wide Web - Why create a web site - Web Standards.

Unit – II Introduction to HTML: **[15 Hrs]**

What is HTML - HTML Documents - Basic structure of an HTML document - Creating an HTML document - Mark up Tags - Heading-Paragraphs - Line Breaks - HTML Tags.

Unit – III Elements of HTML: **[15 Hrs]**

Text level tags: Bold - Italic - Underlined - Strike-through - superscript - subscript. Horizontal Rules **Colors' in web page**: Background color - Text color - Link color. Lists: Ordered Lists - Unordered Lists - Definition List - Nesting lists - **Images**: Image formats.

Unit - IV Using Tables in HTML: **[15 Hrs]**

Creating Tables - Editing of rows and columns of table – rowspan –colspan - **formatting tables using** attributes border - Border colour - back ground - align - width - cell spacing - cell height.

Unit – V Creating Forms: **[15 Hrs]**

Forms controls: text controls - Password fields - Radio Buttons - Check boxes - Reset and Submit buttons. Introduction to frames - Advantages and disadvantages of frames - creating basic frames Frame targeting.

Text Book:

1. Castro, HTML 4 for World Wide Web, 3rd edition. Pearson education.

Reference Books:

1. HTML 5 in simple steps Dreamtech Press, Kogent Learning Solutions Inc.

2. A beginner's guide to HTML, NCSA,14th May,2003.

YEAR - III	INFORMATION SYSTEM DESIGN	CODE – 17EBB52B
SEMESTER – V		HOURS / WEEK – 5
DISCIPLINE SPECIFIC ELECTIVE -2		CREDIT - 4

Course Outcomes: At the end of the Course the students should possess

CO1: Knowledge on information systems.

CO2: Basic Knowledge on Computers.

CO3: Knowledge on System Analysis.

CO4: Capability to manage information Technology.

CO5: Skill set in Decision support system.

Semester	Course Code					Title of the paper								Hours	Credit
V	17EBB52B					Information System Design								5	4
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO 1	PSO 2	PS O3	PSO 4	PSO 5	PSO 6	PSO 7	PSO8		
CO1	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60	
CO2	4	4	5	5	4	4	4	3	2	2	3	3	4	3.60	
CO3	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
CO4	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
CO5	4	5	5	5	4	5	5	3	2	2	3	4	4	3.90	
											Mean Overall Scores			3.80	

This Course is having **HIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - III		CODE – 17EBB52B
SEMESTER – V	**INFORMATION SYSTEM DESIGN**	**HOURS / WEEK – 5**
DISCIPLINE SPECIFIC ELECTIVE -2		**CREDIT - 4**

Unit– I [15 Hrs]

Definition of Management Information System - Structure of MIS - Information system for decision making - The role of system analyst - Data base management system.

Unit - II [15 Hrs]

Computes and Information Processing - Classification of computers - Main frames – Mini Computers - workstations - microcomputers - super computers - Personal Computers -Input Devices - Computer mouse - touch screen - MICA - OCR - pen based input – digital scanners - voice input devices - sensors - Output devices - video display terminals - printers- plotters - voice output devices - Secondary storage - magnetic disk storage – magnetic tape storage - optical disk storage.

Unit - III [15 Hrs]

System Analysis - System Planning and the mutual investigation - Information gathering MIS Organization - Top management - Data processing group's responsibility

Unit - IV [15 Hrs]

Management and MIS - MIS as competitive advantage – MIS support for planning, organizing, operating, controlling an knowledge work - specific function - finance - personnel - production - materials –marketing -Data representation in computers – Batch Processing Vs online processing.

Unit – V [15 Hrs]

Decision Support System - definition - examples of DSS - components - building DSS –Group Decision Support System - GDSS tools - role of GDSS - Executive System– role developing DSS - benefits – examples.

TEXT BOOK:

1. Gordon Bitter Davis, Margrethe H. Olson, Management Information System: conceptual foundations, structure, and development, McGraw Hill, 2nd Reprint.

REFERENCE BOOKS:

1. S. Sadagopan, Management Information Systems, Prentice Hall of India, Eastern Economy Edition.
2. Robert G. Murdick, Joel E. Ross, Introduction to Management Information Systems, Prentice-Hall of India.
3. S. P. Rajagopalan, Management Information System, Margham Publications.

YEAR - III	PROGRAMMING USING MICROSOFT TECHNOLOGY (C#.net)	CODE – 17BB602
SEMESTER – VI		HOURS / WEEK – 3
CORE THEORY - 13		CREDIT - 3

Course Outcomes: At the end of the Course the students should possess
CO1: Knowledge in Dot Net Framework.
 CO2: Programming Skill set in C#.Net
CO3: Programming Skill set in windows forms using C#.
CO4: Programming Skill set in different controls using C#.
CO5: Programming Skill set in ADO.Net

Semester	Course Code				Title of the paper								Hours	Credit
VI	17BB602				Programming Using Microsoft Technology (C#.Net)								3	3
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)								Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO 1	PSO 2	PS O3	PSO 4	PSO 5	PSO 6	PSO 7	PSO8	
CO1	5	4	5	5	4	4	4	4	4	2	3	2	4	3.85
CO2	5	4	5	5	4	4	4	4	5	2	3	2	4	3.90
CO3	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
CO4	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
CO5	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
								Mean Overall Scores						4.14

This Course is having **VERYHIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - III SEMESTER – VI CORE THEORY - 13	PROGRAMMING USING MICROSOFT TECHNOLOGY (C#.net)	CODE – 17BB602 HOURS / WEEK – 3 CREDIT - 3

UNIT-I [9 Hrs]
Introduction to Dot Net- Introducing C# and its features- Variables-data types and Operators.

UNIT -II: [9 Hrs]
Control Structures-Array-Classes-Methods-Namespace-Interface-Simple example using Console Application.

UNIT-III: [9 Hrs]
Introduction to C# Window Forms-Standard Controls: Label,Button,Textbox,Radio Button,Combo Box.

UNIT-IV: [9 Hrs]
Picture Box,Timer Control, Richtext Box, Progress Bar, Datetime Picker, MenuStrip.

UNIT –V: [9 Hrs]
Introduction to ADO .Net Objects – Creating new data Connection – Accessing data using Connection class, Command Class and DataReader Class.

Text books:
1. YashavantKanetkar, 2004 C#.Net.Motilal Books of India.
2. Peter Drayton , Ben Albahari, Ted Neward. C# in an nutshell. O'Reilley Publication.
3. E.Balaguruswamy. Programming with C# - 1- Edition. Tata McGraw – Hill Publication.

Reference books:
1. Herbert Schlitz. 2002 C# - A Beginner's Guide.Osborne/ McGraw – Hill Publication.
2. Burton Harvey, Simon Robinson, julianTempleman and KarliWaston, 'C# Programming with the Public Bata', Shroff Publishers & Distributors Pvt.Ltd(SPD) Mumbai, April 2001.
3. Ben Albahart, Peter Drayton and Brad Merrill, _C# Essentials', SPD, Mumbai March 2001.
4. ThamariSelvei, A text Book on C#: A Systematic Approach

YEAR - III SEMESTER – VI CORE PRACTICAL	PROGRAMMING USING MICROSOFT TECHNOLOGY (C#.net) LAB	CODE – 17BBP601 HOURS / WEEK – 3 CREDIT – 2

Course Outcomes: At the end of the Course the students should possess

CO1: Basic Programming skill set in C#.

CO2: Object Oriented Programming Skill set in C#

CO3: Programming Skill set in windows forms using C#.

CO4: Programming Skill set in different controls using C#.

CO5: Programming Skill set in ADO.Net

Semester		Course Code		Title of the paper								Hours	Credit
VI		17BBP601		Programming Using Microsoft Technology (C#.Net) Lab								3	2
Course Outcomes (COS)	Programme Outcomes (POS)					Programme Specific Outcomes (PSOS)							Mean Score Of CO'S	
	PO 1	PO 2	PO 3	PO 4	PO5	PSO 1	PSO 2	PS O3	PSO 4	PSO 5	PSO 6	PSO 7	PSO8	
CO1	5	4	5	5	4	4	4	4	4	2	3	2	4	3.85
CO2	5	4	5	5	4	4	4	4	5	2	3	2	4	3.90
CO3	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
CO4	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
CO5	5	5	5	5	5	5	5	4	5	2	4	2	4	4.30
										Mean Overall Scores				4.14

This Course is having **VERYHIGH** association with Programme Outcomes and Programme Specific Outcomes

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

YEAR - III	PROGRAMMING USING MICROSOFT	CODE – 17BBP601
SEMESTER – VI	TECHNOLOGY (C#.net) LAB	HOURS / WEEK – 3
CORE PRACTICAL		CREDIT - 2

Console Application:
1.   Factorial Number using methods.
2.   Implement Arithmetic Manipulation using Namespace.
3.   Prime number using Interface.

Windows Application:
4.   Create a simple Window Forms in c#.
5.   Create a simple Bio data.
6.   Login Form Creation using MS Access
7.   Database Application to store phone numbers along with your name.
8.   Database Application for Student mark list processing.

THEORY EXAMINATION (B.C.A.)

Question Paper pattern for the courses offered by B.C.A

Continuous Internal Assessment (CIA) 25 Marks

Two Internal Examinations	15 Marks
Assignment / Seminar	5 Marks
Attendance	5 Marks
Total	**25 Marks**

External Examination (75 Marks)

Question Pattern

Time: 3 Hrs   Max. Marks: 75

SECTION – A (5 x 5 = 25)
Answer ANY FIVE out of EIGHT

One question from each unit and three questions from important topics with problems and programs

SECTION – B (5 x 10 = 50)
Answer ANY FIVE out of EIGHT

One question from each unit and three questions from important topics with problems and programs

DIPLOMA IN SOFT SKILLS

Total Hours: 90

MODULE 1: [4 Hrs]

Ice-Breaking Sessions: Candy Introduction - Collaborative Drawings – Hot Seat Games – Sorts and Mingle.

MODULE 2: [4 Hrs]

Verbal AbilityTraining: Basic Grammar: Tenses – Prepositions – Conjunctions. English for Competitive Exams: Sentence Error Correction – Synonyms and Antonyms – Comprehension. Vocabulary Building Exercises: Homophones – Plainer Alternatives –Confusing words. Conversation Building: Monologue – Dialogue – Sample Conversations- Figure of Speech.

MODULE 3: [4 Hrs]

Confidence Building: Positive Thinking – Self Esteem – Exhibiting Leadership Qualities – Identifying the area of expertise – Demonstrating Proficiency.

MODULE 4: [4 Hrs]

Personality Traits: Analytical Thinking –Critical Thinking – Optimistic Thinking –Out of Box Thinking – Decision Making & Problem Solving.

MODULE 5: [4 Hrs]

GD and Extempore Skills: Essential of GD & Extempore – GD Demo-Sessions- GD Practice Sessions - Debate Shows - Verbattles

MODULE 6: [4 Hrs]

Effective Communication & Presentation: ABC of Effective Communication –Listening, Visualizing& Questioning Techniques – Body Languages(Posture, Gesture & Eye-contact) – Newspaper Reading and Anchoring – Public Speaking Practice.

MODULE 7: [4 Hrs]

Interview Skills: Self Introduction Practice – F.A.Q's in Corporate Interview – CADET Rule – Dressing and Grooming – Stress Interview Management.

MODULE 8: [4 Hrs]

Manners VsEtiquette: Personal Behavioral Skills – Public Behavioral Skills – E-mail Etiquette – Telephonic Etiquette – Corporate Culture

MODULE 9: [4 Hrs]

CompetencyBuilding: Self Analysis – SWOT Analysis (Strength & Weakness) – Goal Setting (Realistic & Measureable) – Ad-Zap Shows – One – on one Interviews

MODULE 10:   [4 Hrs]

Resume Building: Bio-data vs CV and Resume-Do's and Dont's in a Resume-Building Resume for Corporate Companies-5C's in a Resume –Profiles and Port-Folio Designing.

MODULE 11:   [4 Hrs]

Personal Interviews: Interviews using Contemporary- Interview Bloopers (Do's and Dont's-Model Interview Practice- Mock Interviews with Corporate HR's-Telephonic Interview Practice.

MODULE 12:   [4 Hrs]

Dressing vsGrooming: Dressing Knowledge-Dressing Sense-Dressing Attitude-Male Grooming Measures-Female Grooming Measures.

MODULE 13:   [4 Hrs]

Team Building & Time Management Activities: Chain Reactions – Story Board – Escape Gaming – Domain Really – Group Juggling

MODULE 14:   [19 Hrs]

Quantitative Aptitude -1: Men & Work – Time & Distance – Profit and Loss – Ration and Proportions – Simple Interest and Compound Interest – Discounts –Average Calculations – Percentage Calculations – Number Theory – Set Theory & Venn Diagrams.

MODULE 15:   [19 Hrs]

Quantitative Aptitude – 2: Square, cube roots & LCM, HCF's – Pipes &Cisterns – Permutation and Combination – Logarithms – Probability – Series and Sequences – Data Coding and Decoding – Problem on Ages – Relationship Models – Direction Analysis & Seating Arrangement – Data Analysis – Quibbles – Digit Aptitude – Syllogisms – Brain Teaser

Text Book:
1. R.S. Aggarwal, Quantitative Aptitude, S. Chand & Company, New Delhi, 2012.
2. Dr. K. Alex, Soft Skills, S. Chand & Company, New Delhi, 2011.

References:
1. Group Discussion: A Practical Guide to Participation and Leadership by Kathryn Sue Young, Julia T. Wood, Gerald M. Phillips and Douglass J. Pedersen (Jun 25,2006).
2. How To Interview Like A Pro: Forty – Three Rules For Getting Your Next Job Paperback – July 25, 2012 –by JD Mary Greenwood (Author).
3. R.S. Aggarwal, Objective Arithmetic, S. Chand &Company, New Delhi, 2005.
4. Govind Prasad Singh and Rakesh Kumar, Text Book of Quickest Mathematics (for allCompetitive Examinations),KiranPrakashan, 2012.

QUESTION PAPER PATTERN

SECTION I –APTITUDE TEST

TIME: 2 HOURS   **MARKS : 50**

1. PART – A = 10 X 2 =20 – All the Questions are to be Answered.

2. PART – B = 30 X 1 =30 – All the Questions are to be Answered.

Note: Questions should be asked from all units. Equal importance should be given to all Units.

SECTION II – PRACTICAL

1. Group Discussion& Oral Test – 50 Marks