BHARATHI WOMEN'S COLLEGE (AUTONOMOUS) CHENNAI-600 108



DEPARTMENT OF COMPUTER SCIENCE

UG Syllabus

2019 - 2020

DEPARTMENT OF COMPUTER SCIENCE BHARATHI WOMEN'S COLLEGE (AUTONOMOUS) B.Sc., DEGREE COURSE IN COMPUTER SCIENCE CHOICE BASED CREDIT SYSTEM (To Take Effect from the Academic Year 2019-2020 and Thereafter)

REGULATIONS

1. CONDITIONS FOR ADMISSION

Candidate should have completed 10+2 or its equivalent examination with Physics, Chemistry, Computer Science (or) Biology subjects with Mathematics as a compulsory subject shall be eligible for admission to B.Sc Computer Science Degree course in Bharathi Women's College (Autonomous), Chennai-108.

2. ELIGIBILITY FOR THE AWARD OF DEGREE

Candidate shall be eligible for the award of the degree only if he/she has undergone the prescribed course of study in a college affiliated to the University for a period of not less than three academic years, passed the examination of all the six semesters prescribed earning 148 credits and fulfilled such conditions as have been prescribed thereof.

3. DURATION OF THE COURSE

The duration of the course is for three academic years consisting of six semesters.

4. EXAMINATIONS

There shall be six semesters examination: first semester examination at the middle of the first academic year and the second semester examination at the end of the first academic year. Similarly, the third and fourth semester examinations shall be held at the middle and the end of the second academic year. The fifth and sixth semester examinations are conducted in the middle and end of the third acedamic year, respectively.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI -108 B.Sc. COMPUTER SCIENCE (CBCS Syllabus for UG students admitted from the academic year 2019-2020)

Part	Course	Code	Title of the Paper	Credi	Hrs/	ESE	CIA	Total
	Component			t	week			
Ι	Lang-1	19LAA	Language	3	6	75	25	100
II	Eng-1	19GEA	English	3	4	75	25	100
III	Allied T-1	19AAP	Allied Mathematics – Paper I	5	6	75	25	100
III	Core T-1	19CHA	T-1 : C Programming	5	5	75	25	100
III	Core P-1	19CH1	P-1 : C Programming Lab	4	4	60	40	100
IV	SBE-I (Eng.for Communication -1)	19SZ1	SBE-I Essentials of language Communication	2	2	50	50	100
IV	EVS	19EVS	Environmental Sciences	2	3	75	25	100

SEMESTER – I

SEMESTER – II

Part	Course	Code	Title of the Paper	Credi	Hrs/	ESE	CIA	Total
	Component			t	week			
Ι	Lang-2	19LAB	Language	3	6	75	25	100
Π	Eng-2	19GEB	English	3	4	75	25	100
III	Allied T-2	19AAQ	Allied Mathematics – Paper II	5	6	75	25	100
III	Core T-2	19CHB	T-2 : Data Structures and Algorithms	5	5	75	25	100
III	Core P-2	19CH2	P-2 : Data Structures	4	4	60	40	100

			using C					
IV	SBE-2 (Eng.for Communication - II)	19SZ2	SBE II: Essentials of spoken & presentation skills	2	2	50	50	100
IV	VBE	19VBE	Value Based Education	3	3	75	25	100

SEMESTER III

Part	Course	Code	Title of the Paper	Credi	Hrs/	ESE	CIA	Total
Ι	Lang-3	19LAC	Language	3	6	75	25	100
Π	Eng-3	19GEC	English	3	6	75	25	100
III	Allied T-3	19AAX	Allied - Statistical Methods and their applications – Paper I	5	6	75	25	100
III	Core T-3	19CHC	OOPs Concept using Java	4	4	75	25	100
III	Core P-3	19CH3	P-3: Java Programming Lab	4	4	60	40	100
IV	SBE-3 (Comp. Skills)	19SZ3	SBE III: Office Automation	2	2	75	25	100
IV	NME - I	19NH1	NME I Computer Fundamentals I	2	2	75	25	100

SEMESTER - IV

Part	Course	Code	Title of the Paper	Credi	Hrs/	ESE	CIA	Total
	Component			t	week			
Ι	Lang-4	19LAD	Language	3	6	75	25	100
Π	Eng-4	19GED	English	3	6	75	25	100
ш	Allied T-4	19AAY	Allied Statistical Methods and their	5	6	75	25	100

			applications -Paper II					
III	Core T-4	19CHD	T-4:Python Programming	4	4	75	25	100
III	Core P-4	19CH4	P-4:Python Lab	4	4	60	40	100
IV	SBE-3 (Per. Devlp.)	19SZ4	SBE IV Personality Development	2	2	75	25	100
IV	NME - 2	19NH2	NME-II Computer Fundamentals II	2	2	75	25	100
	Ext.Act.		Extension Activity	3	-	-	-	-

SEMESTER - V

Part	Course	Code	Title of the Paper	Credi	Hrs/	ESE	CIA	Total
	Component			t	week			
	Core T-5	19CHE	T-5:Visual Basic Concepts	5	6	75	25	100
ш	Core T-6	19CHF	T-6:Data Base Management System	5	6	75	25	100
	Core T-7	19CHG	T-7: Principles of Operating System	5	6	75	25	100
	Core P-5	19CH5	P-5:Visual Basic Lab & DBMS Lab	5	6	60	40	100
	Core Elect. E-1 (Any one)	19EHA	Digital Computer Architecture	5	6	75	25	100
		19EHB	System Administration and Maintenance	5	6	75	25	100
		19EHC	Systems Programming	5	6	75	25	100

SEMESTER - VI

Part	Course	Code	Title of the Paper	Credi	Hrs/	ESE	CIA	Total
	Component			t	week			
III	Core T-8	19СНН	T-8:Web technology	5	6	75	25	100
	Core T-9	19CHJ	T-9:Multimedia Systems	5	6	75	25	100
	Core P-6	19CH6	P-6: Web Designing & Multimedia Lab	5	6	60	40	100
	Core Elect. E-2 (Any one)	19EHD	Computer networks	5	6	75	25	100
		19EHE	Linux Programming	5	6	75	25	100
		19EHF	Data Mining	5	6	75	25	100
	Core Elect. E-3 (Any one)	19EHG	Core Elective-III Software engineering	5	6	75	25	100
		19EHH	Cryptography and Network Security	5	6	75	25	100
		19EHJ	Interactive Computer Graphics	5	6	75	25	100

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI-108

DEPARTMENT OF COMPUTER SCIENCE PATTERN OF THEORY QUESTION PAPER (Effective from 2019)

TIME:3 HOURS

MAXIMUM MARKS:75

SECTION-A (10 X 2=20 MARKS)

ALL THE TEN QUESTIONS ARE COMPULSORY

SECTION-B (5 X 5=25 MARKS)

ANSWER ANY FIVE QUESTIONS OUT OF SEVEN QUESTIONS

SECTION-C (3 X 10=30 MARKS)

ANSWER ANY THREE QUESTIONS OUT OF FIVE QUESTIONS

	UNIT 1	UNIT 2	UNIT 3	UNIT 4	UNIT 5
SECTION - A	2	2	2	2	2
SECTION - B	1	1	1	2	2
SECTION - C	1	1	1	1	1

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI-108

DEPARTMENT OF COMPUTER SCIENCE

PATTERN OF THEORY QUESTION PAPER (NME,SBE) (Effective from 2019)

TIME:3 HOURS

MAXIMUM MARKS:75

SECTION-A (5 X 5=25 MARKS)

ANSWER ANY FIVE QUESTIONS OUT OF SEVEN QUESTIONS

SECTION-B (5 X 10=50 MARKS)

ANSWER ANY FIVE QUESTIONS OUT OF EIGHT QUESTIONS

	UNIT 1	UNIT 2	UNIT 3	UNIT 4	UNIT 5
SECTION - A	1	1	1	2	2
SECTION - B	1	1	2	2	2

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER – I C PROGRAMMING (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:5	SEMESTER : I
CREDITS	:5	SUBJECT CODE : 19CHA

OBJECTIVES :

- To make the students gain knowledge about C programming language.
- Give more practical exposure to C programming.

Course Outline :

UNIT I :

Introduction: Programming Languages: Overview - Requisites of a good programming language – Good programming practices – Efficiency of programming – Basic coding structures – Classification of Languages. Flowcharting Techniques: Introduction to algorithms and flowchart.

UNIT II :

C fundamentals- Character set – identifier and key-words – data types – constants - variables – declarations – Expressions - statements – Arithmetic, unary, relational and logical, assignment, bitwise, comma and conditional operators – library functions. Data input/output functions – simple C programs.

UNIT III :

Control structures – flow of control – conditional branching – if, if.. else, switch - unconditional branching – go to statement - Looping structures: while , for, do.. while, break , continue - Functions – defining , accessing functions – functions prototypes – passing arguments – recursions – storage classes .

UNIT IV:

Arrays – defining and processing – passing arrays to functions – multi dimensional arrays – working with strings – structures – passing structures to functions – self referential structures –Dynamic memory Allocation- unions.

UNIT V:

Pointers – declarations – passing pointers to functions – operations with pointers – pointer and arrays – array of pointers – structures and pointers - Files : creating , processing , opening and closing.

TEXT BOOKS

- 1. E.Balaguruswamy, "Programming in ANCI C", Sixth Edition, Tata McGraw-Hill Publications
- 2. Yashavant Kanetkar, "Let Us C", 13th Edition, BPB Publications.
- 3. Ashok N. Kamthane, "Computer programming", Pearson Education, 2009.

REFERENCE BOOKS

- 1. Yashavant Kanetkar, "Understanding Pointers in C", Fourth Edition, BPB Publications.
- 2. Herbert Schildt, "C: The Complete Reference", Fourth Edition, Tata McGraw-Hill Publications, 2010.
- 3. R.G.Dromey, "How to solve it by computer", Fifth edition, Pearson Education, 2007.

OUTCOMES:

- Write programs using the array and function concepts in c language.
- Paves way to understand the pointer concept and apply them practically.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PRACTICAL – I C PROGRAMMING LAB (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:	4
CREDITS	:	4

SEMESTER : I SUBJECT CODE: 19CH1

OBJECTIVES :

Enable student understand the concepts in C Language. Apply the concepts in practical problems to get an exposure in depth.

- 1. Program to use switch statement.
- 2. Program to find whether the given number is prime or not.
- 3. Program to sort elements of an array.
- 4. Program to manipulate two matrices.
- 5. Program to swap two numbers using function.
- 6. Program to illustrate string handling functions.
- 7. Program based on recursion.
- 8. Program to find the maximum number in an array using pointer.
- 9. Program to illustrate structures.
- 10. Program to perform basic file operations.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER – II DATA STRUCTURES AND ALGORITHMS (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	: 5
CREDITS :	5

SEMESTER : II SUBJECT CODE : 19CHB

OBJECTIVES

To acquaint the student with basics of Algorithms and to make the students knowledgeable in the area of Data Structures. To enable studens familiarize the fundamental concepts.

Course Outline :

<u>UNIT I</u>

Introduction-Arrays-Stacks and Queues: Fundamentals-Evaluation of Expressions-Multiple Stacks and Queues.

<u>UNIT II</u>

Linked Lists: Singly Linked Lists-Linked Stacks and Queues-Polynomial Addition-Doubly Linked Lists and Dynamic Storage Management.

UNIT III

Trees: Introduction-Binary Trees Traversal-Binary Search Trees.

<u>UNIT IV</u>

Graphs: Terminology and Representation- Traversals, Shortest Path.

<u>UNIT V</u>

Sorting – Insertion Sort – Quick Sort – Merge Sort – Heap Sort- Sorting on Several Keys - Algorithms: Divide and Conquer(Minimum and Maximum) Backtracking (8 Queen's Problem).

TEXT BOOKS

1. Ellis Horowitz and SartajSahni, "Data Structures using C", Galgotia Publications Pvt Ltd.

REFERENCE BOOKS

1. Seymour Lipschut ,"Data Structures with C", First Edition, Schaum's outline series in computers, Tata McGraw Hill.

- 2. R.Krishnamoorthy and G.Indirani Kumaravel, Data Structures using C, Tata McGrawHill 2008.
- 3. A.K.Sharma, Data Structures using C, Pearson Education India, 2011.

OUTCOMES:

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- Understand the simple and complex data structues.
- Learn the various sorting techniques and their complexities.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PRACTICAL-II DATA STRUCTURES USING C

(For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:4	SEMESTER : II
CREDITS	: 4	SUBJECT CODE : 19CH2

OBJECTIVES :

Enable student understand the concepts in Data Structures. Apply the concepts in practical problems to get an exposure in depth.

- 1. Implementation of Stack using Arrays.
- 2. Implementation of Queue using Arrays.
- 3. Implementation of Singly Linked Lists..
- 4. Implementation of Doubly Linked Lists.
- 5. Binary Tree Traversal.
- 6. Depth First Search and Breadth First Search.
- 7. Quick Sort.
- 8. Evaluation of Expressions.
- 9.Stack using Pointers.
- 10.Queue using Pointers.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER – OOPS CONCEPT USING JAVA (For the students admitted from the year 2019- 2020)

HOURS PER	WEEK:4	SEMESTER: III
CREDITS	:4	SUBJECT CODE: 19CHC

OBJECTIVES:

To inculcate knowledge on Object Oriented Programming concepts. Enable the students to know the need and significance of java programming.

Course Outline :

<u>UNIT I</u>

Concepts of Object Oriented Programming - Benefits of OOP - Applications of OOP. Java Evolution – Overview of Java Language – Constants, Variables and Data types.

<u>UNIT II</u>

Operator and Expressions - Decision Making and Branching - Decision Making and Looping

<u>UNIT III</u>

Classes, Objects and Methods - Arrays, Strings and Vectors - Interfaces: Multiple Inheritance.

UNIT IV

Packages: Putting Classes together – Multithreaded Programming – Managing Errors and Exceptions.

<u>UNIT V</u>

Applet Programming – Graphics Programming – Managing I/O Files in Java.

TEXT BOOKS

- 1.E.Balagurusamy, "Java", 4th Edition, Tata MCGraw Hill Publications.
- 2.P. Naughton and H.Schild, "Java2 the Complete Reference", Fifth Edition.
- 3.Schaum's series, "Programming with java".

REFERENCE BOOKS

- 1.K.Arnold,J.Gosling ,Java Programming Language 2nd Edition.
- 2.T.R Hubbard, Schaums Programming with Java.
- 3.Herbert Schildt, Java2 Complete Reference.

OUTCOMES:

- Understand object oriented concepts.
- Develop programs using java basic concepts and applets.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PRACTICAL – III JAVA PROGRAMMING LAB (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK : 4 CREDITS : 4

SEMESTER: III SUBJECT CODE: 19CH3

OBJECTIVES:

To gain practical knowledge and have hands on experience in java programming.

- 1. Finding area and Perimeter of a circle.
- 2. Substring removal from a string.
- 3. Create a Student File .
- 4. Sort a set of Numbers.
- 5. Application using Exception Handling.
- 6. Application which illustrates overriding.
- 7. Implementing an application using Package.
- 8. Application which uses interface.
- 9. Application using multithreading.
- 10. Perform addition of two numbers using Applet.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE SBE III – OFFICE AUTOMATION (For the students admitted from the year 2019 - 2020)

HOURS PER	WEEK:2	SEMESTER	: III
CREDITS	: 2	SUBJECT CODE	: 19SZ3

OBJECTIVES:

To acquire knowledge on Office Automation packages. Understand the preactical significance of office packages.

MS_WORD:

- 1. Create a simple News letter.
- 2. Create a Resume.
- 3. Prepare a Mail-Merge Letter.

MS_EXCEL:

- 1. Create an Excel database containing the pay details of the employee. Sort it.
- 2. Create a Pie chart for a sample data and give legends.
- 3. Create a Pivot Table and Format it.

MS_POWERPOINT:

- 1. Create a presentation with paragraph, bullets and Numbering.
- 2. Create a presentation with Table and Chart.
- 3. Create a presentation with Clip Art, Photos and multimedia content.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE NME I – COMPUTER FUNDAMENTALS I (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK :	2	SEMESTER	: III
CREDITS :	2	SUBJECT CODE	: 19NH1

OBJECTIVES:

To make the students gain knowledge about a computer and to make the student know what is hardware and software.

Course Outline :

<u>UNIT I</u>

Introduction to computers: Characteristics of Computers – Evolution of Computers - Generation of Computers.

<u>UNIT II</u>

Basic Computer Organization: Input Unit, Output Unit, Storage Unit, ALU, Control Unit, CPU, System Concept -Number Systems.

<u>UNIT III</u>

Processor and Memory: Central Processing Unit –Control Unit, ALU, Instruction set, Registers, Processor speed, Types of Processors. Main Memory: RAM, ROM, PROM, and EPROM- Cache Memory.

UNIT IV

Secondary Storage Devices : Optical Disk, Memory Storage Devices, Input and Output devices: Keyboard Devies, Point and Drag devices, Mointors and Printers.

TEXT BOOKS

1. Pradeep K. Sinha, Priti Sinha, "Computer Fundamentals", BPB Publications, Fourth Edition.

REFERENCE BOOKS

- 1. Suresh Basandra, "Computers Today", Galgotia Publications
- 2. V.Rajaraman, "Fundamentals of Computers" (II Edition)

OUTCOMES:

- Understand basci computer organization.
- Gain knowledge on the various storage devices.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER IV – PYTHON PROGRAMMING (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	: 4	SEMESTER	: IV
CREDITS	: 4	SUBJECT CODE	: 19CHD

OBJECTIVES:

Learn to program and programming paradigm brought in by python with a focus on file handling and regular expressions. The learning outcomes are to able to wave through the algorithm, Improve programming skills, appreciate python programming paradigm, hands on regular expression and to write th file handling scripts.

Course Outline :

<u>UNIT – I</u>

Introduction to python: Python-Features of python - Execution of a python program - Viewing the byte code - Python virtual machine - Memory management in python - Comparison between C , java with python - Writing our first python program - Installing python for windows –Writing our first python program - Data types in python -Operators in python

<u>UNIT – II</u>

Input and Output - Control statements - Arrays in python - String and characters

<u>UNIT –III</u>

Functions - Lists and Tuples - Dictionaries - Introduction to OOPS - Classes and Objects

<u>UNIT –IV</u>

Inheritance and polymorphism – Exceptions - Files in Python - Regular Expression in Python

UNIT –V

Data structures in Python - Graphical User Interface - Python's Database connectivity

TEXT BOOKS

Dr. R. Nageswara Rao, "Core Python programming", Dreamtech press, Second Edition.2018

REFERENCE BOOKS

- 1. Sheetal Taneja, Naveen Kumar, "Python Programming" A Modular Approach, Pearson, 2018
- 2.Barry, Paul, "Head First Python", O Rielly, 2ndEdition, 2010.
- 3. Wesley J Chun "Core Python programming", Prentice Hall, First Edition, 2000.
- 4.Lutz, "Mark, Learning Python", O Rielly, 4thEdition, 2009.

OUTCOMES:

- Have a comparative study on c, java and python.
- Develop programs using the python concepts.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PRACTICAL IV – PYTHON LAB (For the students admitted from the year 2019 - 2020)

HOURS PER	WEEK:4	SEMESTER	: IV
CREDITS	:4	SUBJECT CODE	: 19CH4

OBJECTIVES:

To acquire knowledge on python programming through practical problems.

Create a calculator program.

- 1. Explore string functions.
- 2. Demonstrate use of List.
- 3. Demonstrate use of Dictionaries
- 4. Implement sequential search.
- 5. Implement stack.
- 6. Implement program using classes.
- 7. Read and write into a file.
- 8. Demonstrate the usage of basic regular expression.
- 9. Demonstrate Exception handling in python.
- 10. Connect with MySQL and create address book.
- 11. Implementing GUI in python.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE NME II – COMPUTER FUNDAMENTALS II (For the students admitted from the year 2019 -2020)

HOURS PER WEEK	X:2	SEMESTER	: IV
CREDITS	: 2	SUBJECT CODE	: 19NH2

OBJECTIVES:

To make the students gain knowledge about computer terminologies and to make the student know about application software packages.

Course Outline :

<u>UNIT I</u>

Computer Software – Algorithms and Flowcharts – Pseudo code – Computer Languages:

Machine Language-Assembly Language - High Level Language - Some High Level Languages :

C and C++, Java.

<u>UNIT II</u>

Operating Systems: What is an Operating System? - Main Functions of an Operating System-

Some popular operating system.

<u>UNIT III</u>

Application Software Packages: Word Processing Package – Spreadsheet Package – Graphics Package

Personal Assistance Package

UNIT IV

Internet-Electronic Mail-The World Wide Web.

TEXT BOOKS

1. Pradeep K. Sinha, Priti Sinha, "Computer Fundamentals", Fourth Edition, BPB Publications.

REFERENCE BOOKS

- 1. Andrew S. Tanenbaum, "Computer Networks", IV Edition for Unit IV
- 2. Suresh Basandra, "Computers Today", Galgotia Publications.
- 3.V.Rajaraman, "Fundamentals of Computers", II Edition

OUTCOMES:

- Understand different computer languages and Operating system.
- Gain basic knowledge on internet concepts.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER V – VISUAL BASIC CONCEPTS (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:6	SEMESTER	: V
CREDITS	:5	SUBJECT CODE	: 19CHE

OBJECTIVES:

To inculcate knowledge on Visual Basic concepts. Understand in depth the GUI components

and its uses.

Course Outline :

<u>UNIT I</u>

Customizing a Form – Writing Simple Programs – Toolbox – Creating Controls – Name Property – Command Button – Access Keys – Image Controls – Text Boxes – Labels – Message Boxes – Grid

<u>UNIT II</u>

Editing Tools – Variables – Data Types – String – Numbers - Displaying Information – Determinate Loops – Indeterminate Loops – Conditionals

<u>UNIT III</u>

Built-in-Functions - Functions and Procedures - Lists - Arrays- Records, Control Arrays

<u>UNIT IV</u>

Combo Boxes – Grid Control – Projects with Multiple forms – DoEvents and Sub Main – Error Trapping- VB Objects

<u>UNIT V</u>

ODBC-Data Control-Active X control-Dialog Boxes – Common Controls – Menus – MDI Forms – Testing, Debugging and Optimization – Working with Graphics.

TEXT BOOKS

1.Gary Cornell, "Visual Basic 6 from the Ground up", Tata McGraw Hill, 1999.

REFERENCE BOOKS

1.Noel Jerke, "Visual Basic 6 (The Complete Reference)", Tata McGraw Hill, 1999.

2.Schneider, "An Introduction to Programming using Visual Basic".

OUTCOMES:

- Develop applications using Visual Basic as a front end tool.
- Recognize the importance of GUI Controls and ODBC.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER VI – DATABASE MANAGEMENT SYSTEM (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	: 6	SEMESTER	: V
CREDITS	:5	SUBJECT CODE	: 19CHF

OBJECTIVES

To enable the students to learn the designing of data base systems, normal forms. On successful completion of the course the students should have understood and concepts of data base management system, design simple database models using Entity-Relationship Modelling and learn and understand SQL, PL/SQL.

Course Outline :

<u>UNIT I</u>

Database : Introduction, Basic concepts and Definitions, Components of Data Dictionaries. Database, Database System - Operations Performed on Database Systems, DA, DBA - Function and responsibilities of DBA's. File-oriented versus Database System. Data Base Language: DDL, DSDL, VDL, DML,4GL.

<u>UNIT II</u>

Entity Relationship (ER) Model: Introduction, Basic E-R Concepts. Normalization, Normal Forms: First Normal Form, second Normal Form, Third Normal Form, Boyce-codd Normal Forms (BCNF).

UNIT III

History of SQL, Categories of SQL commands, Data Retrieval with SELECT:selecting all rows from a table, filtering rows with the WHERE clause, SQL operators, Boolean Operators, Using Parentheses in Logical Expressions, GROUPBY clause, HAVING clause, Joins, ORDER BY Clause.

<u>UNIT IV</u>

Expanding Queries with set Operations, Data Manipulation Language Commands: COMMIT and ROLLBACK, INSERT, UPDATE, DELETE. SQL Functions: Scalar Character functions, Scalar Date functions, Scalar Mathematical functions, Conversion functions, Group functions. DUAL Table.

<u>UNIT V</u>

Brief History of the PL/SQL Language, Procedural constructs of PL/SQL, Data Types and variables, Cursors in PL/SQL: Declaring explicit cursors, Methods and Attributes of Explicit Cursors, Using the For Loop with Explicit cursors, cursors variable, implicit cursors.

TEXT BOOKS

- 1. Database Systems -Concepts, Designs and Application, S.K.Singh. Second Edition, Pearson
- 2. Oracle Forms Developer's Handbook, Albert Lulushi, Pearson

REFERENCE BOOKS

- 1. Database Management System, Gerald V.Post III Edition.
- 2. Raghu Ramakrishnan Database Management Systems WCB/McGraw Hill 1998.
- 3. SQL by Scott Urman.
- 4. SQL, PL/SQL, Ivan Bayross BPB publications.

OUTCOMES:

- Understand the various Data Base Languages and ER Model.
- Learn about Data base operations and PL/SQL.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER VII – PRINCIPLES OF OPERATING SYSTEM (For the students admitted from the year 2019 - 2020)

HOURS PER WEE	K : 6	SEMESTER	: V
CREDITS	:5	SUBJECT CODE	: 19CHG

OBJECTIVES:

To acquire knowledge in detail about the Operating System its Functions and its Management. The importance of the operating system and various allocation strategies are also highlighted.

Course Outline :

<u>UNIT I</u>

Introduction – Mainframe –Desktop –Multiprocessor - Distributed - Real-time Systems .Computer System Structures - I/O structure – Storage structure – storage hierarchy - Hardware protection. Operating System Structures –System components - Operating system services – System calls – System programs – System design and implementation.

<u>UNIT II</u>

Process Management: Process concept – scheduling – operations – Cooperating processes - Inter process communication. CPU scheduling – concepts – Scheduling criteria - Scheduling algorithms.

<u>UNIT III</u>

Process synchronization - Critical section problem – Synchronization hardware – Semaphores - Classic problems of synchronization. Deadlocks: Characterization, prevention, Avoidance, Detection and Recovery.

<u>UNIT IV</u>

Storage management – Swapping- Contiguous memory allocation – paging – segmentation – segmentation with paging - Virtual memory – Demand paging – page replacement algorithms.

<u>UNIT V</u>

File System Interface – concept –Access methods – Directory structure - Protection - Directory implementation - Allocation methods -- free space management- Recovery. Disk structure— Disk scheduling.

TEXT BOOKS

A.Silberschatz, P.B.Galvin and G.Gagne, "Operating System Concepts", Sixth Edition, Wiley India

REFERENCE BOOKS

- 1.Achyut.S.Godbole, "Operating Systems", Tata McGraw Hill ,2005.
- 2.D.M.Dhamdhere, "Operating Systems A concept based approach", Tata McGraw Hill 2006.

OUTCOMES:

- Understand the various functions of operating system and its management.
- Learn about Disk Scheduling and File Management.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PRACTICAL – V VISUAL BASIC & DBMS LAB (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	: 6	SEMESTER :V
CREDITS	:5	SUBJECT CODE : 19CH5

OBJECTIVES:

Give an Exposure to apply the concepts of Visual basic and DBMS in the form of practical programming.

VISUAL BASIC LAB

- 1. Building simple application using controls.
- 2. Application with multiple forms.
- 3. Application with dialogues.
- 4. Application with menus.
- 5. Application using data control and data grid.
- 6. Application using format dialogues.
- 7. Drag and Drop events.
- 8. Database Management.
- 9. Creating ActiveX controls.
- 10. Application using database connectivity and to generate data reports.

DBMS LAB

1. Create a table name called Student with the field sno, sname, sex, mark1,mark2,mark3, total and perform the following:

i) Display the table

- ii) Display the student name those obtain the total above 250
- iii) Update sno where sname= Aarthi
- 2. Create a Employee table and perform various operations using operators
- 3. Write a PL/SQL block to perform Basic Arithmetic operations (ADDITION,

SUBTRACTION, MULTIPLICATION, DIVISION)

4. Write a PL/SQL block to display the reverse of numbers from one to hundred.

5. Write a PL/SQL block to display Greatest Number from the given 3 numbers.

6. (i) Write a PL/SQL block to find odd or even.

(ii)Write a PL/SQL block to check whether a student has passed or failed.

7. Write a PL/SQL block that will set the min price to 6999 when the product id is 111 and the Cost is greater than 7000.

8. Write a PL/SQL block to display Employee Name Mobile number and Salary using

Explicit CURSORS.

9. Create employee details table and payroll table and perform various operations by using

the following method:

i) Groupby clause ii) Having clause iii) Orderby clause iv) Join

10. Using any two tables establish relationship with the tables and perform normalization(first, second, third and BCNF normal forms.)

CORE ELECTIVE I

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE I – DIGITAL COMPUTERS ARCHITECTURE (For the students admitted from the year 2019 - 2020)

HOURS PER WEE	K : 6	SEMESTER	: V
CREDITS	: 5	SUBJECT CODE	: 16EHA

OBJECTIVES:

This course is designed to teach students the fundamental theory of digital computers, the logic and the implementation of modules required for digital systems. The course will also discuss the industry specifications for the digital integrated circuits and using it for building digital systems.

Course Outline :

<u>UNIT I</u>

Binary Systems: Digital Computers And Digital Systems –Binary Numbers-Number Base Conversion – Octal And Hexadecimal Numbers – Complements – Binary Codes. Boolean Algebra and Logic Gates: Basic Definitions-Axiomatic Definition Of Boolean Algebra-Basic Theorems And Properties Of Boolean Algebra-Boolean Functions – Canonical And Standard Forms-Other Logic Operations – Digital Logic Gates.

<u>UNIT II</u>

Simplification Of Boolean Functions: The Map Method – .Two And Three Variable Maps- Four Variable Map – Product of Sums Simplification – NAND And NOR Implementation-Don't Care Conditions.

<u>UNIT III</u>

Combinational Logic: Introduction – Design Procedure- Adders- Subtractors - Code Conversion. Combinational Logic With Msi And Lsi : Decoders – Multiplexer – ROM – PLA .

<u>UNIT IV</u>

Sequential Logic – Introduction – Flip Flops - RS, JK, D And T Flip Flops – Design Of Counters – Shift Registers - Ripple Counters – Synchronous Counters .

<u>UNIT V</u>

Basic Computer organization and design – Instruction codes – Computer Registers – Computer Instructions – Timing and control – Instruction cycle – Memory Reference Instructions – Input-output and interrupt – Design of Basic Computer – Desgin of Accumulator Logic.

TEXT BOOKS

- 1. M.Morris Mano "Digital Logic and Computer Design" PHI 1994.
- 2. M.Morris Mano Computer System Architecture PHI 1998.

REFERENCE BOOKS

- 1. T.C. Bartee "Computer Architecture and Logical design" Tata McGrawHill 1991.
- 2. T.C.Bartee Digital Computer Fundamentals Tata McGrawHill 6th edition.

OUTCOMES:

- Understand the fundamental Concepts of Digital Computer Architecture.
- Learn in detail about Counters, Registers, Combinational and Sequential Circuits.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE I – SYSTEM ADMINISTRATION AND MAINTENANCE (For the students admitted from the year 2019 - 2020)

HOURS PER W	'EEK : 6	SEMESTER	: V
CREDITS	: 5	SUBJECT CODE	: 19EHA

OBJECTIVES:

This course gives insight into the administration and maintenance of systems. Enable students to know troubleshooting and expertise on hardware concepts.

Course Outline :

<u>UNIT – I</u>

Introduction to Personal Computer: Computer System – Purposes & Characteristics of Cases - Power Supplies - Internal Components - Ports - Cables - Input devices - Output devices. Safe Lab Procedures and Tool Use: Safe Working Conditions and Procedures - Tools and Software used with PC components.

<u>UNIT - II</u>

Computer Assembly: Open Case - Install Power Supply - Attach Components to Motherboard -Installation: Motherboard - Internal Drives - Drives in External Bayes -Adapter Cards. Internal cables connections -Reattach side panels - Connection of external cables - Boot the Computer. Preventive Maintenance and Troubleshooting: Purpose of Preventing Maintenance - Steps of Troubleshooting Process.

<u>UNIT - III</u>

Fundamental Operating System: Purposes - Characteristics of Modern Operating Systems - ConceptsComparisons, Limitations, and Compatibilities - Determination of Operating System based on Customer Needs - Installation of Operating System -Navigate a GUI (Windows) - Common Preventive Maintenance Techniques- Troubleshoot.
UNIT - IV

Fundamental Laptops and Portable Devices: Common Uses - Components of Laptop - Comparison of the components of Desktop and Laptops - Configure Laptops - Mobile Phone Standards - Preventive Maintenance Techniques - Troubleshoot Laptop and Portable Devices. Fundamental Printers and

Scanners: Types of Printers and Scanners - Installation and Configuration Process of Printers and Scanners - Preventive Maintenance Techniques - Troubleshoot.

UNIT -V

Fundamental Networks: Principles - Types - Concepts and Technologies - Physical Components -LAN Topologies and Architectures- Standard Organizations - Ethernet Standards - OSI and TCP/IP Models - Configuration of NIC and Modem - Establishing Connectivity - Preventive Maintenance Techniques - Troubleshoot. Fundamental Security: Security Threats - Security Procedures - Preventive Maintenance Techniques - Troubleshoot Security.

TEXT BOOK :

 David Anfinson & Ken Quamme, "IT Essentials: PC Hardware and Software Companion Guide", 3rd Edition, Pearson Publications, 2008.

<u>REFERENCE BOOK :</u>

1. Quentin Docter, Emmett Dulaneyand Toby Skandier, "CompTIA A+ Complete Review Guide: Exam 220-901, Exam 220 - 902", 3rd Edition, Wiley Publications, 2015.

OUTCOMES:

On the successful completion of this course, Students will be able to:

- Understand the Hardware Concepts and learn about Troubleshooting.
- Gain knowledge on networking concepts.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE I -SYSTEM PROGRAMMING (For the students admitted from the year 2019 - 2020)

: V

: 19EHA

HOURS PER	WEEK :6	SEMESTER	
CREDITS	:5	SUBJECT CODE	

OBJECTIVES:

Design, implement, and evaluate an integrated hardware/software system that meets a well-defined set of specifications.

Course Outline :

<u>UNIT I</u>

Evolution of the components of programming systems-general machine structure – Assemblers.

<u>UNIT II</u>

Macro language and the macro processor:macro instructions – features of a macro Facility – implemention.

<u>UNIT III</u>

Loaders: Loader schemes – Design of an absolute loader – design of a direct - Linking loader.

<u>UNIT IV</u>

Compliers : Statement of problem – phases of the complier.

<u>UNIT V</u>

Compliers: Data structures – recursion, call, and return statements – storage Classes – use, implementation – block structure – non local Go to's – interrupts- Pointers.

TEXT BOOKS

1.John J.Donavan, "System Programming", Tata McGraw Hill.

REFERENCE BOOKS

- 1. Dhamdhere, "Introduction to Systems Software", Tata McGraw Hill.
- 2. Leland L. Beck , "System Software –An Introduction to System Programming ",Addison Wesley.

OUTCOMES:

On the successful completion of this course, Students will be able to:

- Gain knowledge on Assemblers, Loaders and Linkers.
- Learn about the working principle of a Compiler.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER VIII – WEB TECHNOLOGY (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	: 6	SEMESTER	: VI
CREDITS	:5	SUBJECT CODE	: 19CHH

OBJECTIVES:

To enable students gain knowledge about web-oriented application programs and to make the students develop their own applications. Also an insight into PHP and its application is focused in this paper.

Course Outline :

<u>UNIT I</u>

Internet Basic - Introduction to HTML- Adding Graphics to HTML Doc - Lists - Creating Table - Linking documents - Frames –Dynamic HTML: Cascading Style sheets - Style sheet basic - Add style to document – Font Attributes, Color and Background Attributes, Text Attributes, Border Attributes, Class, External Style sheets, <DIV>....</DIV> Tag.

<u>UNIT II</u>

Introduction to JavaScript: Advantage of JavaScript - JavaScript Syntax – Data types - Variable - Array - Operator and Expression – Conditional Checking- Looping Constructor - Function – User defined functions-Dialog boxes.

<u>UNIT III</u>

JavaScript document object model - Introduction - Object in HTML –Browser Objects - Event Handling - Form Object - Built in Object - User defined object - Cookies.

<u>UNIT IV</u>

PHP : Basics of PHP Scripts-Flow Control Functions-Working with Functions –Working with String, Date and Time Functions.

<u>UNIT V</u>

Working with Forms, Cookies and Sessions – PHP and MySQL Integration: Learning Basic SQL Commands-Interacting with MySQL Using PHP.

TEXT BOOKS

1. Ivan Bayross, Web Enable Commercial Application Development Using HTML, Javascript, DHTML and PHP, 4th Revised Edition 2010.

2. Julie C.Meloni, Sams Teach Yourself, PHP, MySQL and Apache, 5th Edition, Pearson

REFERENCE BOOKS

1. J. Jaworski, Mastering Javascript, BPB Publications, 1999

2. T. A. Powell, Complete Reference HTML (Third Edition), TMH, 2002

3. Web Technology & Design, C.Xavier, New Age International Publishers, 2012.

OUTCOMES:

On the successful completion of this course, Students will be able to:

- Gain knowledge on HTML, Java Script and Cookies.
- Develop applications using PHP scripting language.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE PAPER – IX MULTIMEDIA SYSTEMS (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK : 6 CREDITS : 5 SEMESTER : VI SUBJECT CODE : 19CHJ

OBJECTIVES

To acquaint the student with basics of Multimedia and to make the students knowledgeable in the area of animation. To familiarize the student with multimedia concepts.

Course Outline :

<u>UNIT I</u>

What is Multimedia?- Components of Multimedia-Digital Media-Interactive and Non-Interactive Multimedia-Multimedia Hardware-Multimedia Software.

<u>UNIT II</u>

Understanding Digital Data-Media Players-Media Conversion Tools-Media Editing Tools-Multimedia Authoring Tools-Delivery Mediums-Multimedia Text-Designing Text-Text Editing Tools.

<u>UNIT III</u>

Digital Audio-Audio Sampling-Audio File Formats-Sound Cards-Audio Recording and Editing Techniques-MP3 Revolution-MIDI Fundamentals.

UNIT IV

Multimedia Graphics-Concepts of Color Displays-Touch Screen Technology-PIDS-LED-LCD-Graphics Editing-Multimedia Animation-Multimedia Video-Video Modes-Video Compression Algoriths-Digital Video Production Techniques.

<u>UNIT V</u>

Multimedia Projects-Stages of Project Development-Multimedia Authoring-Project Planning and Costing Multimedia Applications.

TEXT BOOKS

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1.S.Gokul, Multimedia Magic BPB Publications.

REFERENCE BOOKS

1. Tay Vaughan, Multimedia Making it Work, Mc-Graw Hill Publications.

2. Ralf Steinmetz & Klara Nahrstedt, Multimedia Computing Communication & Applications, Pearson Education.

3. John F. Koegel, Multimedia Systems, Buford Addison Wesley.

OUTCOMES:

On the successful completion of this course, Students will be able to:

- Gain knowledge on Multimedia Editing Tools, File Formats and Animation.
- Develop Multimedia Projects.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600108. B.Sc. - COMPUTER SCIENCE CORE PRACTICAL VI – Web Technology & Multimedia Lab (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK :	6	SEMESTER: VI
CREDITS :	5	SUBJECT CODE: 19CH6

OBJECTIVES:

To enable students gain practical knowledge on web based projects and expertise in multimedia packages.

Web Technology:

Creation of web pages using:

- HTML (4 programs)
- HTML with CSS (2 programs)
- Javascript (3 programs)
- PHP (4 programs)
- PHP and MySQL (1 program)

Multimedia:

Tool: Flash

- 1. Move an object and move an object in a path.
- 2. Create a link using text and object, change the color of the object.
- 3. Create a banner using Shape Tweening and Motion Tweening
- Create an animation using Charter Animation Object Animation and Drawing Images
- 5. Create an application to show the Masking Effect
- 6. Create an Slide Show Presentation
- 7. Create an advertisement using text flip and text color change.

Tool: Photoshop

- 1. Create a Greeting card with background picture.
- 2. Design a webpage
- 3. Edit an image using color and buttons with text effect and photo effect.

CORE ELECTIVE II

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE II – COMPUTER NETWORKS (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:6	SEMESTER	: VI
CREDITS	:5	SUBJECT CODE	: 19EHB

OBJECTIVES:

To inculcate knowledge on Networking concepts and Technologies like Wireless, Broadband, and Bluetooth.

Course Outline :

<u>UNIT I</u>

Uses of Computer Networks- Network Hardware – Network Software –Reference Models – Network Topology.

<u>UNIT II</u>

Physical layer: Guided Transmission media, The Public switched telephone network .Data Link Layer design issues - error detection and correction - elementary data link protocols - sliding window protocols - Protocol Verification.

<u>UNIT III</u>

Network layer Design issues - Routing Algorithms - Congestion, Control Algorithms

UNIT IV

Transport layer : The Transport service - Elements of Transport Protocols.

<u>UNIT V</u>

The Application Layer: Domain Name System- Network security-Cryptography – Communication security.

TEXT BOOKS

1. Andrew S. Tannenbaum, "Computer Networks", Prentice Hall of India Ltd, Fourth Edition 1991.

REFERENCE BOOKS

- 1. William stallings, "Data and computer Communication".
- 2. Dimitri Bertsekar and Robert Gall, "Data Networks", Prentice hall.

OUTCOMES:

After the completion of this course students will

- Master the terminology and concepts of the OSI reference model and the TCP-IP reference model.
- Master the concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE II- LINUX PROGRAMMING (For the students admitted from the year 2019 - 20)

HOURS PER WE	EK :6	SEMESTER	: VI
CREDITS	:5	SUBJECT CODE	: 19EHB

OBJECTIVES:

The objective of this paper is to enable students to have an exposure on LINUX operating. To learn commands to work with files, Shell programming, Threads, Semaphores.

Course Outline :

<u>UNIT I</u>

Getting Started : An Introduction to UNIX, Linux and GNU, Programming Linux, Navigating the File System: File, Parent-Child relationship, pwd, HOME directory, absolute path, cd, mkdir, rmdir, ls, relative path, UNIX file system, Handling Ordinary File: cat, cp, rm ,mv, more, lp, file, wc, od, split, cmp, comm, diff, Basic File Attributes: ls, chmod, file permissions, filters. The Linux Environment : Program Arguments, Environment Variables, Time and Date, Temporary Files, User Information, Host Information, Logging, Resources and Limits.

UNIT II

Working with Files : Linux File Structure, System Calls and Device Drivers, Library Functions, Low-Level File Access, The Standard I/O Library, Formatted Input and Output, File and Directory Maintenance, Scanning Directories, Errors, The /proc File System, cntl and mmap. Debugging: Types of Errors, General Debugging Techniques, Debugging with gdb, More Debugging Tools, Assertions, Memory Debugging.

<u>UNIT III</u>

Shell Programming: Shell, Pipes and Redirection, The Shell as a Programming Language, Shell Syntax, Processes and Signals: Process, Process Structure, Starting New Processes, Signals.

<u>UNIT IV</u>

POSIX Threads : Thread, Advantages and Drawbacks of Threads, A First Threads Program, Simultaneous Execution, Synchronization, Thread Attributes, Canceling a Thread, Threads in Abundance, Inter-Process Communication, Pipes : Pipe, Process Pipes, Sending Output to popen, The Pipe Call, Parent and Child Processes, Named Pipes: FIFOs.

<u>UNIT V</u>

Semaphores, Shared Memory, and Message Queues: Semaphores, Shared Memory, Message Queues, IPC Status Commands, Sockets: Socket, Socket Connections, Network Information, Multiple Clients, Datagrams.

TEXT BOOKS

1.Neil Matthew, Richard Stones, "Beginning Linux® Programming", Wiley Publishing, Inc, 4th Edition,2008.

2.Sumitabha Das, "UNIX Concepts and Applications", Tata McGrawHill, 4th Edition.

REFERENCE BOOKS

1.ROBERT LOVE ,"Linux System programming", O Reilly, First Edition.

OUTCOMES:

After the completion of this course students will be

- Familiar with Unix Commands. Able to develop programs using shell Commands.
- Also gain knowledge on Semaphores, Sockets and interprocess communication.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE II - DATA MINING (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:6	SEMESTER	
CREDITS	:5	SUBJECT CODE	: 19EHB

OBJECTIVES:

This course introduces the fundamental concepts of Data Preprocessing and Mining techniques.

Course Outline :

<u>UNIT I</u>

Introduction: Data mining – Functionalities – Classification – Introduction to Data Warehousing – Data Preprocessing: Preprocessing the Data – Data cleaning – Data Integration and Transformation – Data Reduction

<u>UNIT II</u>

Data Mining, Primitives, Languages and System Architecture:Data Mining – Primitives – Data Mining Query Language,. Architectures of Data mining Systems. Concept Description, Characterization and Comparison: Concept Description, Data Generalization and Summarization, Analytical Characterization, Mining Class Comparison – Statistical Measures.

UNIT III

Mining Association Rules: Basics Concepts – Single Dimensional Boolean Association Rules From Transaction Databases, Multilevel Association Rules from transaction databases – Multi dimension Association Rules from Relational Database and Data Warehouses.

UNIT IV

Classification and Prediction: Introduction – Issues – Decision Tree Induction – Bayesian Classification – Classification of Back Propagation. Classification based on Concepts from Association Rule Mining – Other Methods. Prediction – Introduction – Classifier Accuracy.

<u>UNIT V</u>

Cluster Analysis: Introduction – Types of Data in Cluster Analysis, Petitioning Methods – Hierarchical Methods Density Based Methods – GRID Based Method – Model based Clustering Method.

TEXT BOOKS

1.J.Han and M. Kamber," Data Mining Concepts and Techniques", Harcourt India Pvt. Ltd , New Delhi, 2001.

REFERENCE BOOKS

1.K.P. Soman , Shyam Diwakar, V.Ajay , "Insight into Data Mining Theory and Practice", Prentice Hall of India Pvt. Ltd - New Delhi, 2006.

OUTCOMES:

After completing this course, students will be familiar with

- Basic data mining concepts for solving real world problems.
- Gain knowledge on various data mining techniques.

CORE ELECTIVE III

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE III – SOFTWARE ENGINEERING (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	: 6	SEMESTER	: VI
CREDITS	:5	SUBJECT CODE	: 19EHC

OBJECTIVES:

The subject is extremely useful for developing of software application. It covers systematic approach from analysis phase, designing phase, software development phase and implementing phase. After completion of the course student will occur knowledge regarding the development.

Course Outline :

<u>UNIT I</u>

Introduction to software engineering- definition- size factors- quality and productivity factors – managerial issue. planning a software project: defining the problem- developing a solution strategy-planning the development process- planning an organization structure- other planning activities

<u>UNIT II</u>

Software cost estimation: software- cost factors- software cost estimation techniques specification techniques – level estimation – estimating software maintenance costs.

<u>UNIT III</u>

Software requirements definition: the software requirements specification- formal languages and processors for requirements specification.

<u>UNIT IV</u>

Software design: fundamental design concepts – modules and modularizing criteria- design notations – Design Techniques – detailed design consideration-real time and distributed system design-test planmile stones walk through and inspection-design guide lines.

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<u>UNIT V</u>

Verification and validation techniques: quality assurance – static analysis – symbolic exception – unit testing and debugging – system testing – formal verification. Software maintenance: enhancing maintainability during development- managerial aspects of software maintenance- Configuration management- source code metrics – other maintenance tools and techniques.

TEXT BOOKS

1. Richard E. Fairley, "Software Engineering Concepts", Tata McGraw Hill book company.

REFERENCE BOOKS

- 1. R.S. Pressman, "Software Engineering", McGraw Hill, Fourth Edition, 1997.
- 2. Rajib Mall," Fundamentals of software engineering".

OUTCOMES:

After completing this course, students will be able to

- Understand about Software Analysis and Design.
- Gain knowledge about software development process.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE III-CRYPTOGRAPHY AND NETWORK SECURITY (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:6	SEMESTER	: VI
CREDITS	:5	SUBJECT CODE	: 19EHC

OBJECTIVES:

To introduce the concepts of cryptography and network security.

Course Outline :

<u>UNIT I</u>

Introduction: Services, Mechanisms and Attacks - Classical Encryption Techniques - DES.

<u>UNIT II</u>

Public Key Cryptography and RSA- Other Public- Key Crypto systems.

<u>UNIT III</u>

Message Authentication & Hash Functions- Hash Algorithms.

<u>UNIT IV</u>

Network Security Practice: Authentication Applications-Electronic Mail Security.

<u>UNIT V</u>

System Security: Intruders-Malicious Software – Firewalls.

TEXT BOOKS

1. William Stallings, "Cryptography and Network Security", Principles & Practice, Prentice Hall, 3rd Edition 2002.

REFERENCE BOOKS

Atul Kahate, "Cryptography and Network Security", Tata McGraw Hill Publishing Co.Ltd.
Ankit Fadia and Manu Zacharia, "Intrusion Alert an Ethical Hacking guide to Intrusion Detection".

OUTCOMES:

After completing this course, students will be able to

- Understand the fundamentals of networks security, security architecture, threats and vulnerabilities.
- Apply the various Authentication schemes to simulate different applications.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.Sc. - COMPUTER SCIENCE CORE ELECTIVE III -INTERACTIVE COMPUTER GRAPHICS (For the students admitted from the year 2019 - 2020)

HOURS PER WEEK	:6	SEMESTER	: VI
CREDITS	:5	SUBJECT CODE	: 19EHC

OBJECTIVES

To study the graphic techniques and algorithms and to enable the students to develop graphic applications.

Course Outline :

<u>UNIT I</u>

Overview of Graphics Systems: Video Display Devices – Raster Scan Systems – Input Devices – Hard Copy Devices – Graphics Software

<u>UNIT II</u>

Output Primitives - Attributes of Output Primitives - Two - Dimensional Transformation

UNIT III

Clipping – Window – view port mapping.

<u>UNIT IV</u>

User dialogue – Input of Graphical Data - Input Function- Input Device Parameters – Picture Construction Techniques- Three Dimensional Concepts – 3D Transformations.

<u>UNIT V</u>

Visible – Surface Detection : Back-Face Detection – Depth – Buffer Method – Scan Line Method – A-Buffer Method .

TEXT BOOKS

1.W.M.Neumann and R.F. Sproull , "Principle of Interactive Computer Graphics", McGraw Hill, 1979.

REFERENCE BOOKS

1.Hearn and M.P. Baker, "Computer Graphics", PHI, Second Edition, 1996.

2. Foley, Van Dan, Feiner, Hughes, "Computer Graphics", ddison Wesley, 2000.

OUTCOMES:

After completing this course, students will be able to

- Understand the fundamentals of Graphic Primitives.
- Gain Knowledge on various Interactive Graphical Methods.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.A./B.Sc./B.Com. GENERAL ENGLISH PAPER- I (For the students admitted from the year 2019)

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OBJECTIVES:

- To provide the students with an enjoyable literary experience through the genres like Prose, Poetry, Biography, Short Story And One Act Plays.
- To ensure an appreciable level of skill acquisition among students.

UNIT- I: POETRY

- 1) The Village School Master Oliver Goldsmith
- 2) The House of My Childhood Dilip Chitre

UNIT- II: PROSE

- 1) Dream Children: A Reverie Charles Lamb
- 2) The Beauty Industry Aldous Huxley

UNIT- III: SHORT STORY

1) The Blind Dog - R. K. Narayan

UNIT- IV: GRAMMAR

- 1) Tense Identification of Tense
- 2) Articles Fill in the Blanks
- 3) Parts of Speech Identification

UNIT- V: COMPOSITION

- 1) Reading Comprehension (Textual)
- 2) Hints Development

BOOK FOR STUDY:

WOR (L) D VIEW - Mainspring Publication

BOOKS FOR REFERENCE:

- High School English Grammar And Composition Wren & Martin
- A Junior English Grammar And Composition N. K. Agarwal

LEARNING OUTCOME:

On completion of this course the students

- Familiarize themselves with basics of English through the literary texts from different genres
- Progress effectively in fundamental usage of Grammar
- Writing skills are tuned through Composition exercises

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.A./B.Sc./B.Com. GENERAL ENGLISH PAPER II (For the students admitted from the year 2019) HOURS PER WEEK : 4

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OBJECTIVES:

- To enable students to communicate effectively in English.
- To fine tune reading and writing skills with emphasis on basic grammar.

UNIT- I: POETRY

- 1) A Poison Tree William Blake
- 2) The Professor Nissim Ezekiel

UNIT-II: PROSE

- 1) I Won't Let Him Go Madhavan Kutty
- 2) The Beautiful Ruskin Bond

UNIT-III: BIOGRAPHY

1) Dr. Ambedkar

UNIT- IV: GRAMMAR

- 1) Tense Writing Sentences
- 2) Article Cloze Test
- 3) Parts of Speech Fill in the blanks with the suitable parts of speech

UNIT- V: COMPOSITION

- 1) Reading Comprehension
- 2) Letter Writing Requisition Letter for Transfer Certificate or Bonafide Certificate or Attendance Certificate

BOOK FOR STUDY:

WOR (L) D VIEW - Mainspring Publication

BOOKS FOR REFERENCE:

- High School English Grammar And Composition Wren & Martin
- A Junior English Grammar And Composition N. K. Agarwal

LEARNING OUTCOME:

On completion of this course the students

- Enter into next phase of learning English through interesting texts
- Gain more skills in the application of Grammar
- Enhance writing skills through composition

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.A./B.Sc./B.Com. GENERAL ENGLISH PAPER III (For the students admitted from the year 2019) HOURS PER WEEK : 4

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OBJECTIVES:

- To enhance language learning through literature
- To prepare the students for employability.

UNIT- I: POETRY

- 1) Red, Red, Red Rose Robert Burns
- 2) Poor Girl Maya Angelo
- 3) Clouds And Waves- Rabindranath Tagore

UNIT-II: PROSE

- 1) My Greatest Olympic Prize Jesse Owens
- 2) A Simple Philosophy Seathe
- 3) Toasted English R K Narayan

UNIT- III: EXTENSIVE READER

- 1) Mother's Day J. B. Priestley
- 2) Diamond Necklace Guy De Maupassant

UNIT- IV: GRAMMAR

- 1) Voice- Identification
- 2) Question Tag (with options)
- 3) Degrees of Comparison- Identification

UNIT- V: COMPOSITION

- 1) Reading Comprehension
- 2) Letter Writing Asking permission to attend competition / Permission to go home.

BOOK FOR STUDY:

WOR (L) D VIEW - Mainspring Publication

BOOKS FOR REFERENCE:

- High School English Grammar And Composition Wren & Martin
- A Junior English Grammar And Composition N. K. Agarwal

LEARNING OUTCOME:

On completion of this course the students

- Enrich themselves in basic English by absorbing the themes, Characters and Life narratives
- Move to a well-defined Grammar-learning phase
- Augment their writing skills through composition

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.A./B.Sc./B.Com. GENERAL ENGLISH PAPER IV (For the students admitted from the year 2019) HOURS PER WEEK : 4 CREDITS : 3

SUBJECT CODE : 19GED

OBJECTIVES:

- To create an interest among students towards English language learning and making it a continuous process in life.
- To equip the students with the skills required for employability.

UNIT- I: POETRY

- 1) A Little Boy's Dream Katherine Mansfield
- 2) This is Going to Hurt just a Little Ogden Nash
- 3) All Is Life Ruskin Bond

UNIT-II: PROSE

- 1) To Know When to Say "It's None of Your Business" Mark Mccomack
- 2) Lottery Ticket Anton Chekov
- 3) How To Be A Doctor Stephen Leacock

UNIT- III: EXENSIVE READER

- 1) Refund Fritz Krithy
- 2) Karma Khushwant Singh

UNIT- IV: GRAMMAR

- 1) Voice Conversion of Sentences
- 2) Reported Speech
- 3) Degree of Comparison Conversion of Sentences

UNIT- V: COMPOSITION

- 1) Job Application with Cover Letter & CV
- 2) Lodging Complaints

BOOK FOR STUDY:

WOR (L) D VIEW - Mainspring Publication

BOOKS FOR REFERENCE:

- High School English Grammar And Composition Wren & Martin
- A Junior English Grammar And Composition N. K. Agarwal

LEARNING OUTCOME:

On completion of this course the students

- Benefit with a wide range of English learning through Literary texts
- Strengthen their Grammar skills
- Are facilitated to write in simple English meaningful to their day to day situations

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.A./B.Sc./B.Com. SKILL BASED ELECTIVE – ENGLISH FOR COMMUNICATION I

(For the students admitted from the year 2019)

HOURS PER WE	EK : 2	SEMESTER : I
CREDITS	:2	SUBJECT CODE : 19871
OBJECTIVES:		

• To enable the student

- shed inhibitions and gain confidence
- acquire proficiency in language.

ORAL COMPONENT

UNIT I

Greeting, Introducing, Seeking Permission

UNIT II

Telephone Etiquettes Handling Calls – Mock Calls

UNIT III

Reading and Responding

WRITTEN COMPONENT

UNIT I

Giving Instructions and Directions

UNIT II

Leaving a Message Asking for / Giving Message

UNIT III

Dialogue Writing(Guided)

- At an interview hall
- At the service centre
- In the library
- At the bank
- Making an apology

U

Descripti, Writing (Guided)

Technical (Features of a Cell Phone, Laptop, Camera, Television, Fridge)

UNIT V

Descriptive Writing (Guided)

General (Describing your locality/town/city libray, college campus, a place of historical importance, a festival.)

BOOKS FOR STUDY:

- 1. Spoken English for You by Radhakrishna Pillai, Emerald Publishers
- 2. Creative English For Communication by N. Krishnaswamy & T. Sriraman, Macmillan
- 3. Developing Communication Skills by Krishna Mohan & Meera Banerji, Macmillan

BOOKS FOR REFERENCE:

- 1. Form and Function by V. Sasikumar and V. Shyamala, Emerald Publishers
- 2. Developing Communication Skills by Krishna Mohan and Meera Bannerjee, Macmillan
- 3. Functional English by Dr. Malathi, New Century Book House

LEARNING OUTCOME:

On completion of this course the students

- Acquire the basics of Speaking and Presentation skills
- Understand the importance Non-verbal communication, gestures and
- general work place ethics
- Develop Writing skills for official purpose

UL

Descriptive Writing (Guided)

Technical (Features of a Cell Phone, Laptop, Camera, Television, Fridge)

UNIT V

Descriptive Writing (Guided)

General (Describing your locality/town/city libray, college campus, a place of historical importance, a festival.)

BOOKS FOR STUDY:

- 1. Spoken English for You by Radhakrishna Pillai, Emerald Publishers
- 2. Creative English For Communication by N. Krishnaswamy & T. Sriraman, Macmillan
- 3. Developing Communication Skills by Krishna Mohan & Meera Banerji, Macmillan

BOOKS FOR REFERENCE:

- 1. Form and Function by V. Sasikumar and V. Shyamala, Emerald Publishers
- 2. Developing Communication Skills by Krishna Mohan and Meera Bannerjee, Macmillan
- 3. Functional English by Dr. Malathi, New Century Book House

LEARNING OUTCOME:

On completion of this course the students

- Acquire the basics of Speaking and Presentation skills
- Understand the importance Non-verbal communication, gestures and
- general work place ethics
- Develop Writing skills for official purpose

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600 108. B.A./B.Sc./B.Com.

SKILL BASED ELECTIVE - ENGLISH FOR COMMUNICATION II

(For the students admitted from the year 2019)

HOURS PER WEEK : 2SEMESTER : IICREDITS: 2SUBJECT CODE : 19SZ2

OBJECTIVE:

• To equip the graduating students with skills essential for the workplace and facilitate a smooth mobility from the institution to the industry.

ORAL COMPONENT

UNIT I

Impromptu Talks

UNIT II

Group Discussion

UNIT III

Mock Interview (FAQs)

WRITTEN COMPONENT

UNIT I

Interviews Managing nonverbal cues

UNIT II

Publicity Literature - Writing / Responding to Advertisements

UNIT III

Essay writing- Argumentative Essays (Guided) Cell Phones/ Technology a boon or a bane Role of youth in politics Mother tongue as the medium of instruction Dress code in colleges Social Media - a distraction Today's Youth- useless or used less?

UNIT IV

Reporting Events - Sports Day, Association Meeting, Cultural Celebration

UNIT V

Business Letters- Requests, Complaints, Placing Orders

BOOKS FOR STUDY:

- 1. Developing Communication Skills by Krishna Mohan & Meera Banerji, Macmillan
- 2. English for Business Communication by Dr. T.M. Farhathullah, Prism Books Pvt. Ltd.,
- 3. English for Competitive Exams by R.P. Bhatnagar

BOOKS FOR REFERENCE:

- 1. English and Softskills by S.P. Dhanavel, Orient Blackswan
- 2. Art of Interviewing by H.S Bhatia, Ramesh Publishing House, New Delhi
- 3. Written English for You by Radhakrishna Pillai & Rajeevan, Emerald Publishers

LEARNING OUTCOME:

On completion of this course the students

- comprehend the significance of Interviewing and Group Discussion skills
- Develop an inclination towards argument and knowledge of the current topics which are most debated
- Learn Basic approaches to communication skills and prepare themselves for their careers

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600108. B.A., B.Sc., B.Com ENVIRONMENTAL STUDIES

சுற்றுச்சூழல் கல்வி

(For the students admitted from the year 2019-20)

HOURS PER WEEK: 3SEMESTER: ICREDITS: 2SUBJECT CODE: 19EVS

Objective

- 1. To develop awareness about the environment and the interaction of various components.
- 2. To understand about various ecosystems.
- 3. To make an awareness about various effects of pollution and its management.
- 4. To create an awareness about the biodiversity and need for its conservation.

millan

Unit 1 : Introduction to Environment

Components of environment –atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance

Ecosystem- Structure and function of ecosystem; Energy flow in an ecosystem: food chain, food web and ecological succession; Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems

Unit 2 : Natural Resources: Renewable and Non-renewable Resources

Land Resources- Land degradation, soil erosion and desertification.

Forest resources- Deforestation: Causes and impacts due to mining, dam building on environment,

Water resources- Use and over-exploitation of surface and ground water, floods, droughts,

Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources

Unit 3 : Biodiversity and Conservation

Levels of biological diversity: genetic, species and ecosystem diversity; Biogeography zones of India, hotspots

India as a mega-biodiversity nation; Endangered and endemic species of India, Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value

Unit 4 : Environmental Pollution

Environmental pollution : types, causes, effects and controls; Air, water, soil, chemical and noise pollution

Nuclear hazards and human health risks

Solid waste management: Control measures of urban and industrial waste.

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Unit 5 : Environmental Policies & Human Communities

Environment Laws : Environment Protection Act; Air (Prevention & Control or Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act Forest Conservation Act

Disaster management: floods, earthquakes, cyclones and landslides.

Environmental movements: Chipko, Silent valley

Books for Study:

- 1. Odum, E.P., Odum, h.T. & Andrews, J.1971. Fundamentals of Ecology. Philadelphia: Saunders.
- 2. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
- 3. Vijay Kumar Tiwari., 2017. A Text Book of Environmental Studies. Himalay Publishing House.

Books for Reference:

- Carson, R. 2002. Silent Spring. Houghton Mifflin Harcourt. Gadgil, M., & Guha, R.1993. This Fissured Land: An Ecological History of India. Univ. of California Press.
- 1. Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge.
- 2. Gleick, P.H. 1993. Water in *Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
- 3. Groom, Martha J. Gary K. Meffe, and Carl Ronald carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
- 4. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatement*. Oxford and IBH Publishing Co. Pvt. Ltd.
- 5. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
- 6. Rosencranz, A., Divan, S., & Noble, M.L. 2001. Environmental law and policy in India. Tripathi 1992.
- 7. Sengupta, R. 2003. Ecology and economics: An approach to sustainable development. OUP.
- 8. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. Conservation Biology: Voices from the Tropics. John Wiley & Sons.
- 9. www.nacwc.nic.in

10. www.opcw.org
BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI - 600108. B.A., B.Sc., B.Com VALUE BASED EDUCATION

(For the students admitted from the year 2019-20) HOURS PER WEEK: 2 CREDITS: 2

SEMESTER: III SUBJECT CODE: 19VBE

UNIT I

Value Education - Introduction - relevance to present day - concept of human values – personal values – the qualities of humanity to be followed by an individual – self introspection - self esteem.

அறிமுகம் - மதிப்புக்கல்வி விளக்கம் - இன்றைய சூழலில் மதிப்புக்கல்வி — மனித நேயத்தின் கருத்துகள் (அல்லது) மனித மதிப்புகள் - தனிமனிதன் பின்பற்ற வேண்டிய மனித நேயப் பண்புகள் - சுய சோதனை — சுய மரியாதை.

UNIT II

Family values - dependent - responsibility of the family - neutralization of anger - adjustability - threats of family life - status of women in family and society - the problems of day to day life faced by Indian women - caring for needy and elderly - the time allotment for sharing ideas and concerns.

குடும்பம் சார்ந்த மதிப்புகளும் - சார்ந்திருத்தல் -குடும்பமும் பொறுப்புகள் - கோபத்தைத் தணிப்பது — அனுசரித்துச் செல்வது — குடும்பத்திற்கு ஏற்படும் குடும்பத்தின் ஆபத்துகள் - ஆபத்துகளைப் போக்குவதற்கான வழிகள் - குடும்பத்திலும் சமுதாயத்திலும் பெண்களின் நிலை — தினசரி வாழ்க்கையில் இந்தியப் பெண்கள் சந்திக்கும் பிரச்சனைகள் - முதியோா் மற்றும் இயலாதோா் பாதுகாப்பும் பராமாிப்பும் - கருத்துப் பாிமாற்றத்திற்கு நேரம் ஒதுக்குதல்.

UNIT III

Ethical values - professional ethics - mass media ethics - advertisement ethics influence of ethics on family life - psychology of children and youth.

Social values - faith, service and secularism - social sense and commitment students and politics.

நெறிமுறைகள் - தொழில் நெறிமுறைகள் - மக்கள் தொடர்புச் நெறிமுறைகள் - விளம்பர சாதனங்களின் நெறிமுறைகள் நெறிமுறைகளும் குழந்தைகள், இளைஞர்கள் இவர்களின் உளவியல். குடும்பங்களும்

சமுதாய மதிப்புகள் - சமய சார்பற்ற நம்பிக்கை, சேவை, மதச்சார்பின்மை சமுகச் சிந்தனைகளும், கடமைகளும் - மாணவா்களும் அரசியலும்.

nillan Pvt. Ltd.,

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<u>UNIT IV</u>

Consumer's awareness, rights, responsibilities. Global issues – effect of international affairs on values of life – issues of globalization – modern war fare and terrorism – mutual respect for different culture, religion and their values.

நுகர்வோர் விழிப்புணர்ச்சி,உரிமைகளும்,கடமைகளும் - உலகம் சார்ந்தமதிப்பு— உலகநிகழ்வுகளால் ஏற்படும் தாக்கங்கள் - உலகஅளவில் ஏற்படும் மாற்றம் - நவீனபோர் முறையும் தீவிரவாதமும் - பிறமதங்கள் கலாசாரம் இவற்றைமதித்தல்.

BOOK FOR STUDY

மதிப்புக் கல்வி

K.R லஷ்மிநாராயணன்

ம. உமாமகேஸ்வரி

நெல்லையப்பர் பதிப்பகம்,

நெ.7,பிளாட் 7 கதவுஎண் ஏ1

39 ஆவதுதெரு,நங்கநல்லூர்,

சென்னை– 600 0611.

BOOK FOR REFERENCE

Value Education

Prof. N.S. Raghunathan M.A., M.Phil.

MARGHAM PUBLICATIONS.

T.NAGAR, CHENNAI - 17.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI – 600108. B.Sc.B.A.B.COM SKILL BASED ELECTIVE – III COMPUTING SKILLS-BASIC (For the students admitted from the year 2019-20)

HOURS PER WEEK : & CREDITS: &

SEMESTER : III SUBJECT CODE : 1987.3

<u>UNIT I</u>

Introduction to computers – characteristic of computers – computer generation – basic computer organization.

UNIT II

Processor and memory: Central Processing Unit – control unit – Arithmetic and Logic Unit (ALU) – instruction set – registers.

Main memory: main memory organization - RAM, ROM, PROM & EPROM.

<u>UNIT III</u>

Word processing: Creating a word document – saving word document – applying basic formatting – applying bulleted and numbers lists – using Find, Replace, Spell checker, Headers and Footers.

UNIT IV

Spreadsheets: Creating a new excel work book – saving excel work book – adding data to cells – insertion and deletion of cells – working with tables and charts – formulas and functions.

References:

- Computer fundamentals, 4th edition, Pradeep, K. Singh and Priti Sinha, BPB publications.
- Microsoft 2003, Jenifer Ackerman Kettell, Guy Hat, Davis Curt Simmons, Tata McGraw Hill.

BHARATHI WOMEN'S COLLEGE(AUTONOMOUS), CHENNAI-600 108. B.Sc/B.A/B.Com.

SKILL BASED ELECTIVE - PERSONALITY DEVELOPMENT (For the students admitted from the year 2019-2020)

HOURS/WEEK · 2	
CREDITS 2	SEMESTER : IV
	SUBJECT CODE, 10574

OBJECTIVES:

To provide the strategy for the growth of an individual. To create an awareness of interpersonal relations. To familiarize with the knowledge regarding the various causes of stress, types of stresses and various stress management strategies.

<u>UNIT-1</u>: Introduction to Personality Development:

Meaning of personality - Components of personality - Determinants of personality -Personality type - Role of personality development - Features of personality development-Need or Skills for personality development - Ways to develop personality - Tips to improve

UNIT-2: Self Awareness and Self Motivation:

Components of Self Awareness - Importance of Self Awareness-Developing Self Awareness - Self Motivation in life - Self Motivation techniques - Steps for Self Motivation- Term selfesteem - Symptoms - Advantages - Do's and Don'ts to develop positive self-esteem.

UNIT-3: Interpersonal Relationships and Stress Management:

Interpersonal Relationships - Defining the difference between aggressive, submissive and assertive behaviours – Lateral thinking - Table Manners – Table Etiquettes in Multicultural Environment- Do's and Don'ts of Table Etiquettes - Stress Management - Meaning -Sources of Stress - Symptoms of Stress - Consequences of Stress - Managing Stress.

UNIT - 4: Time Management, Leadership and Decision Making:

Planning & Goal Setting - Dealing with other people - Analysis of goals and objectives -Systemization of processes - Prioritization- Leadership and qualities of a successful leader -Decision making steps for making an effective decision - Guideline to problem solving and

<u>UNIT -5</u>: Communication and Group Discussion:

Communication - Definition - Importance of communication - Process of communication -Communication Symbols - Communication network - Barriers in communication -Overcoming Communication Barriers - Group Discussion - Meaning - Personality traits required for Group Discussion- Process of Group Discussion.

BOOKS FOR STUDY:

1. Dr.K.R.Dhanalakshmi & Prof.N.S.Raghunathan, Personality Enrichment, Margham

- 2. Stephan P.Robbins, Organisational Behaviour, Tenth Edition, Prentice Hall of India Private Limited, New Delhi,2008.
- 3. Hurlock, E.B, Personality Development, 28th Reprint. New Delhi: Tata McGraw Hill, 2006. 4. Heller, Robert., Effective leadership. Essential Manager series. Dk Publishing, 2002.

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS) NORTH CHENNAI CHENNAI-600108.



SYLLABUS-2019 DEPARTMENT OF HINDI

BHARATHI WOMEN'S COLLEGE (Autonomous) Part-1 Windi For B.A/B.Sc/B.Com Semester-1

Hours Per Week: 6 Code 191 BA Credits: 3 Stories grammar, technical terms and business & Official Letter Writing I. Stories -4

- 1. Baadae ghar ki beti-Premchand
- 2. Majuburi-Mannu Bandri
- 3. Vo teraghar, Aac meraghar-Malathi Jhoshi
- 5. Ta1ii-Vishbhas Nath Sharma kaushik

Text Book: Kath Shree Edit By Dr. Vijaayapal Singh, Premchand Yadgiri Kahni Manu Bandri, Kahai book.

II. Grammar

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1. Vilom shabdh/Pariyavachi Samanarti (1-20)

2. shudh Vakya Banyae (Make Sentence)

III. Letter Writing

1. Business Letters: Placement (Ordering books, A/c Open, Change of Address in post)

2. Official Letters:

- 1. Sarkari Letter
- 2. Order
- 3. Circular

SEMESTER-II

Prose/One act play (Detailed Text) & Journalism /General Essays/Annuvaad Practice

Hours per Weeks: 6 Credits: 3 I. Prose

Code: 19LBB

- 1. Sabiyatha ka rahisya (Santritik Niband)
- Sikisha Aur Sanskar (Vyangya)
- Sans-Bhuv private Limited (Sudrusan Mijitiya)

II. One Act play,

Nakud natak

III. Journalism:-

- 1. Paribasha
- 2. Mahtwa
- Prakar
- Samachar Lekan

IV. General Essay (Any Five)

- L.Audinik Naari
- 2. Auvudodikkaran (Vigyan & takniki)
- 3.Cell Phone
- 4.Global Warming (Pariyaran Pariskahan)
- 5.Internet

-

SEMESTER-III

PROSODY,ANCIENT POETRY,HISTORY OF HINDI LITERATURE Hours per week : 6 Code: 19LBC Credit: 3

1. PROSODY: Alankaar, upma, Rupak, Anupras, Athishyokthi

Any Five Question: All nine Ras

2. HISTORY OF HINDI LITERATURE:

(ADIKAL, BAKITIKAL AND REETIKAL PRAVITAY AHAN), KABIR KI PRAVITI

3. ANCIENT POETRY:

Kabir ka doha: 1 to 10

surdas: 2 paadh

Rahim: 1 to 10

Bihari: 1 to 10

Ref: University syllabus

SEMESTER-IV

Modern poetry & Morden Literature Authors

Transalation Practice diacik kat 1 Code: 191.BD rougover Devitation 2. Modern Literature Authors

- I. Premchand
- 2. Bartendhu Harichandra
- Mahadevi Varma
- Harivansh Bachan
- 5 Janendra

II. Morden Poetry:-

1 Sukh-Dukh

Dinakar

2 Murjaya Huva

Phool - Mahadevi Verma

3. Apna Sansar

Mythili Sharan Gurt

4. Bachae Kaam Parja Rahae Hain

Rajesh Joshi

5. Unko pranam

Nagarajan.

III. Transulation

English to Hindi

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RECTION - A	
Answer ALL Bu quantization	UBul-m
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A Unit D	
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B	
9	
10. Unit V	
SECTION - B	
Answer any FIVE questions out of seven.	5x5+25
14	
12Unit 11	
13Unit III	
14Unit IV	
15 Unit V	
16 Any Unit	
17 Any Unit	
SECTION - C	1.10-30
Answer THREE questions out of five:	3410-34
18 Unit I	
19 Unit H	
20Umit EII	
21Unit IV	
22Unit V	

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BHARATHI WOMENS COLLEGE (AUTONOMOUS) CHENNAI-108

Hours Per Week: 2 Credit: 2 I YEAR B.A./B.Sc.,/B.Com.,

Department of Hindi

Non Major Elective Course

II Semester

BASIC HINDI-1

OBJECTIVE :

To impart the knowledge of Hindi Language with the grammatical, per

UNIT 1:

Alphabets-Combined Letters-Combination of Vowels and consonants-word construction-word building along with meanings.

UNIT II :

Vocabulary using words-Vocabulary sentence construction direct and indirect speech.

UNIT III :

Noun, Pronoun, change of gender and number, use of prepositions, opposite, Colour

UNIT IV:

Tense (Past tence, Presentence and Future tense

Max Marks : 100 Code: 19NBX

Department of Hindi Non Major Elective Course IV Semester BASIC HINDI-II

Hours Per Week: 2 Credit: 2 TEX BOOK :

Sarai Hindi Bodhini-Pub. By D.B.Hindi Prachar Sabha, T.Nagar, Chennai-17 (14 to 23 lessons)

UNIT 1 : (Any 5)

Functional and situational practice of conversational and dialogues contexts 1) Personal contacts family members, friends, Travellers, enquiries etc. 2) Market, Purchasing complaints.

UNIT II:

Word making using suffixes and prefixes, sentences, types of sentences, 1, Presentence, Past tense, Future Tense

UNIT III::

Reading skills and comprehension topic (My family, college, Chennai) coding and decoding with sighs of communicated

UNIT IV :

Adjectives, Conjunction, Antonyms and Synonyms and numerical (30050)

Code: 19NBY

BHARATHI WOMEN'S COLLEGE (AUTONOMOUS), CHENNAI - 198.

UG DEPARTMENT

U.G - NON MAJOR ELECTIVE, SBE & VBE - QUESTION PAPER

2019-20 Batch

Time: 3 Hrs	SECTION - A	Marks: 75
Answer any FIVE questions	out of seven:	515-25
1 Unit 1		
2 Unit II		
3 Unit III		
4 Unit IV		
5Any Unit		

SECTION - B

Answer any FIVE questions out of seven:

8.Unit l

6.....Any Unit 7.Any Unit

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9.Unit II

10.....Unit III

11..... Unit IV

12..... Any Unit

13.....Any Unit

14.....Any Unit

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5x10=50