E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI – 625 014.
(*An Autonomous Institution – Affiliated to Madurai Kamaraj University*)
Re-accredited **(3rd Cycle)** with Grade **A+** & **CGPA 3.51** by NAAC

DEPARTMENT OF COMPUTER APPLICATIONS

CBCS SYLLABUS

BACHELOR OF COMPUTER APPLICATIONS

PROGRAMME CODE - J

COURSE STRUCTURE

(w.e.f. 2021 – 2022 Batch onwards)

Annexure-14

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DEPARTMENT OF COMPUTER APPLICATIONS-UG

(w.e.f. 2021 – 2022 onwards)

COURSE STRUCTURE - SEMESTER WISE

Sem	Part	Sub. Code	Title of the Paper	Teaching hrs (per week)	Exam Duration (hrs)	Marks allotted			Credits
						C.I.A	S.E	Total	
I	I	**211T1**	**Part I:** Tamil	6	3	25	75	100	3
	II	**212E1**	**Part II:** English	6	3	25	75	100	3
	III	**21J11**	**Core :** Programming in C	4	3	25	75	100	4
	III	**21J1P**	**Core :** Programming in C Lab	5	3	40	60	100	3
	III	**21ACJ1**	**Allied :**Financial Accounting	5	3	25	75	100	5
	IV	**21SEJ1P**	**SBE :**Office Automation Lab	2	3	40	60	100	2
	IV	**21NMJ1**	**NME :**Fundamentals of Computer	2	3	25	75	100	2
II	I	**211T2**	**Part I:**Tamil	6	3	25	75	100	3
	II	**212E2**	**Part II:** English	6	3	25	75	100	3
	III	**21J21**	**Core :** Object Oriented Programming with C++	4	3	25	75	100	4
	III	**21J2P**	**Core :** Object Oriented Programming with C++ Lab	5	3	40	60	100	3
	III	**21AMJ2**	**Allied :** Resource Management Techniques	5	3	25	75	100	5
	IV	**21SEJ2P**	**SBE :**Multimedia Lab	2	3	40	60	100	2
	IV	**21NMJ2**	**NME :**Web Designing	2	3	25	75	100	2
III	I	**211T3**	**Part I:** Tamil	6	3	25	75	100	3
	II	**212E3**	**Part II:** English	6	3	25	75	100	3
	III	**21J31**	**Core :** Digital Principles & Computer Organization	4	3	25	75	100	3
	III	**21J32**	**Core :** Java Programming	4	3	25	75	100	4
	III	**21J3P**	**Core :** Java Programming Lab	3	3	40	60	100	3
	III	**21AMJ3**	**Allied :** Graph Theory	5	3	25	75	100	5
	IV	**21SEJ3P**	**SBE :**Networking Lab	2	3	40	60	100	2
IV	I	**211T4**	**Part I**:Tamil	6	3	25	75	100	3
	II	**212E4**	**Part II:** English	6	3	25	75	100	3
	III	**21J41**	**Core :** Relational Database Management System	4	3	25	75	100	3
	III	**21J42**	**Core :** Data Structures and Computer Algorithms	3	3	25	75	100	3

	III	**21J4P**	**Core :** Data Structures and Computer Algorithms Lab	4	3	40	60	100	4
	III	**21AMJ4**	**Allied :** Numerical Methods	5	3	25	75	100	5
	IV	**21SEJ4P**	**SBE :**RDBMS Lab	2	3	40	60	100	2
V	III	**21J51**	**Core :** Operating System	5	3	25	75	100	4
	III	**21J52**	**Core :** Software Engineering	6	3	25	75	100	4
	III	**21J53**	**Core :** Python Programming	5	3	25	75	100	4
	III	**21J5P**	**Core :** Python Programming Lab	5	3	40	60	100	3
	III		**Elective I**	5	3	25	75	100	5
	IV	**21SEJ5P**	**SBE :**Dot Net Programming Lab	2	3	40	60	100	2
	IV	**214EV5**	Environmental Studies	2	3	25	75	100	2
VI	III	**21J61**	**Core :** Data Communication and Computer Networks	6	3	25	75	100	4
	III	**21J62**	**Core :** Web Technology	5	3	25	75	100	4
	III	**21J6P**	**Core :** Web Technology Lab	5	3	40	60	100	3
	III		**Elective II**	5	3	25	75	100	5
	III	**21JEPR6**	**Elective III (Project)**	5	3	20	80	100	5
	IV	**21SEJ6P**	**SBE :**Android Lab	2	3	40	60	100	2
	IV	**214VE6**	Value Education	2	3	25	75	100	2
	PART V	**215NS4/ 215PE4**	Extension Activities N.S.S / Phy. Education	-	3	25	75	100	1
			Total	180				-	140

Semester - V

Elective I (Choose any one)

1. Computer Graphics **- 21JE5A**
2. Compiler Design **- 21JE5B**

Semester - VI

Elective II (Choose any one)

1. Data Mining **- 21JE6A**
2. Internet of Things **- 21JE6B**

Elective III

Project **- 21JEPR6**

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DEPARTMENT OF COMPUTER APPLICATIONS - UG

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Core - Programming in C
Semester : I **Contact Hours : 4**
Sub Code : 21J11 **Credits : 4**

Objectives:

To develop the basic programming language concepts in C.

Unit: I

Overview of C: History of C – Importance of C –Sample Programs-Basic Structure of C Programs-Programming Style-Executing a 'C' Program- UNIX System-MS-DOS System- Windows System. **Constants, Variables and Data Types:** Introduction – Character Set – C Tokens – Keywords and Identifiers – Constants – Variables – Data Types - Declaration of Variables – Declaration of Storage Class – Assigning Values to Variables - Defining Symbolic Constants – Declaring a Variable as Constant - Declaring a Variable as Volatile. **Operators and Expressions:** Introduction – Arithmetic Operators - Relational Operators - Logical Operators - Assignment Operators – Increment and Decrement Operators - Conditional Operators - Bitwise Operators - Special Operators-Arithmetic Expressions-Evaluation of Expressions-Precedence of Arithmetic Operators- Some Computational Problems-Type Conversions in Expressions-Operator Precedence and Associativity.

Unit: II

Managing Input and Output Operations: Introduction - Reading a Character - Writing a Character – Formatted Input - Formatted Output. **Decision Making and Branching:** Introduction – Decision Making with If Statement – Simple If Statement – The If…. Else statement – Nesting of If …. Else Statements – The Else If Ladder – The Switch Statement – The ?: Operator – The Goto Statement. **Decision Making and**

Looping: Introduction - The while Statement – The do Statement – The for Statement – Jumps in Loops-Concise Test Expression.

Unit: III

Arrays: Introduction – One-Dimensional Arrays – Declaration of One-Dimensional Arrays – Initialization of One-Dimensional Arrays – Two-Dimensional Arrays – Initializing Two-Dimensional Arrays – Multi-Dimensional Arrays – Dynamic Arrays – More about Arrays. **Character Arrays and Strings:** Introduction – Declaring and Initializing String Variables – Reading Strings from Terminal - Writing Strings to Screen – Arithmetic Operations on Characters – Putting Strings Together – Comparison of Two Strings – String-Handling Functions – Table of Strings- Other Features of String.

Unit: IV

User-Defined Functions: Introduction – Need for User-Defined Functions – A Multi-Function Program – Elements of User-Defined Functions – Definition of Functions – Return Values and Their Types – Function Calls – Function Declaration - Category of Functions – No Arguments and No Return Values –Arguments and but No Return Values - Arguments with Return Values – No Arguments and but Returns a Value –Nesting of Functions – Recursion – Passing Arrays to Functions –Searching and Sorting—Passing Strings to Functions- The Scope, Visibility and Lifetime of Variables – Multifile Programs.

Structures and Unions: Introduction - Defining a Structure – Declaring Structure Variables – Accessing Structure Members – Structure Initialization – Copying and Comparing Structure Variables – Operations on Individual Members – Arrays of Structures – Arrays within Structures – Structures within Structures – Structures and Functions – Unions – Size of Structures – Bit Fields.

Unit: V

Pointers: Introduction – Understanding Pointers - Accessing the Address of a Variable – Declaring Pointer Variables - Initialization of Pointer Variables – Accessing a Variable through its Pointer – Chain of Pointers – Pointer Expressions – Pointer Increments and Scale Factor – Pointers and Arrays – Pointers and Character Strings –

Array of Pointers – Function that Return Multiple Values-Pointers as Function Arguments – Functions Returning Pointers – Pointers to Functions – Pointers and Structures – Troubles with Pointers.

File Management in C: Introduction – Defining and Opening a File - Closing a File – Input/Output Operations on Files – Error Handling during I/O Operations – Random Access to Files – Command Line Arguments.

Text Book:

Balagurusamy. E, *Programming in ANSI C*, Tata McGraw Hill Education Pvt. Ltd., 8th Edition 2019.

Chapters:

Unit – I : Chapter 2, 3, 4

Unit – II : Chapter 5, 6, 7

Unit – III : Chapter 8, 9

Unit – IV : Chapter 10, 11

Unit – V : Chapter 12, 13

Reference Books :

1. Brian Kernighan.W & Dennis Ritchie, *C Programming Language*, Pearson Education India, 2nd Edition 2015.
2. David Griffiths , Dawn Griffiths, *Head First C: A Brain-Friendly Guide*, Shroff Publicaitons 1st edition 2012.
3. Herbert Schildt , *C: The Complete Reference*, McGraw Hill Education; 4th Edition, 2017.
4. Greg Perry, Dean Miller, *C Programming Absolute Beginner's Guide*, Person Publications 3rd Edition 2013.
5. Yashavant Kanetkar, *Let Us C*, BPB Publications, 16th Edition 2017.

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DEPARTMENT OF COMPUTER APPLICATIONS - UG

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Core - Programming in C Lab
Semester : I **Contact Hours : 5**
Sub Code : 21J1P **Credits : 3**

PROGRAM LIST

OPERATORS AND EVALUATION OF EXPRESSIONS

1. Check whether a number is even or odd using ternary operator.
2. Addition of two numbers without using + operator.
3. Evaluate the arithmetic expression ((a + b / c * d - e) * (f – g)).
4. Find the sum of individual digits of a 3 digit number.

CONTROL STRUCTURES

1. Find the sum of individual digits of a positive integer.
2. Fibonacci sequence.
3. Generate all the prime numbers between 1 and n.
4. Find ASCII values for corresponding alphabets.
5. Write a C program to calculate the following sequence

   sum = 1 – x2 /2! + x4 /4! – x6 /6! +x8 /8! – x10/10!
6. Find the roots of a quadratic equation.
7. Check whether a given 3 digit number is Armstrong number or not.
8. Print the numbers in triangular form

   1

   1 2

   1 2 3

   1 2 3 4

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ARRAYS

1. Find the second largest integer in a list of integers.
2. Addition and Multiplication of two matrices
3. Count and display positive, negative, odd and even numbers in an array.
4. Merge two sorted arrays into another array in a sorted order.

STRINGS

1. Write a C program that uses functions to perform the following operations:
    i. To insert a sub string into a given main string from a given position.
    ii. To delete n characters from a given position in a given string.
2. Write a C program to determine if the given string is a palindrome or not.
3. Write a C program to find a string within a sentence and replace it with another string.
4. Write a C program that reads a line of text and counts all occurrence of a particular word.

FUNCTIONS

1. Write C programs that use both recursive and non-recursive functions
    a. To find the factorial of a given integer.
    b. To find the greatest common divisor of two given integers.
    c. To print Fibonacci series.
2. Write a C program that uses a function to reverse a given string.

POINTERS

1. Write a C program to concatenate two strings using pointers.
2. Write a C program to find the length of string using pointers.
3. Write a C program to compare two strings using pointers.
4. Write a C program to reverse a string using pointers.

STRUCTURES AND UNIONS

1. Reading a complex number Using Structures
2. Writing a complex number Using Structures
3. Addition and subtraction of two complex numbers Using Structures

4. Multiplication of two complex numbers Using Structures
5. Write a C program to compute the monthly pay of 100 employees using each employee's name, basic pay. The DA is computed as 52% of the basic pay. Gross-salary (basic pay + DA). Print the employees name and gross salary.

FILES

1. Write a C program to display the contents of a file.
2. Write a C program to copy the contents of one file to another.
3. Write a C program to reverse the first n characters in a file, where n is given by the user.
4. Write a C program to merge the contents of two files into a third file
5. Write a C program to count the Number of characters present in the file.

COMMAND LINE ARGUMENTS

1. Write a C program to read two numbers at the command line and perform arithmetic operations on it.
2. Write a C program to read a file name at the command line and display its contents.

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DEPARTMENT OF COMPUTER APPLICATIONS -UG

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Skill Based – Office Automation Lab
Semester : I **Contact Hours : 2**
Sub Code : 21SEJ1P **Credits : 2**

List of Programs:

WORD PROCESSOR

1. i) Create a document, save it and edit the document as follows:
    a. Cut, Copy, Paste options.
    b. Find and Replace options.
    c. Undo and Redo options.

ii) Format the document:
    a. Using Bold, Underline and Italic.
    b. Change Character style and size.
    c. Formatting paragraph: Center, Left aligns & Right align
    d. Changing paragraph and line spacing, Using Bullets and Numbering in Paragraphs.
    e. Creating Hanging Paragraphs

2. Enhance the documents using Header, Footer, Page Setup, Border, Page number, watermarking, Orientation and Print Preview.
3. Insert tables and pictures in a document as follows
    a. Creating Tables in a document, Selecting Rows & Column sort the record
    b. Insert a picture – edit size and add name of the picture above it.
    c. Also do basic text formatting like – bold, italic, underline, alignments etc in table.,
4. Using mail merge, send an invitation /notice (by creating the invitation/notice) for the

following situation (at least 5 addresses to be entered) (Any one of the following)

a. For opening a new branch

b. Inauguration function

c. Informing about new scheme or offer

SPREADSHEET

5. a. Create a worksheet, moving/ copying/ inserting/ deleting rows and columns (usage of cut, paste, commands, copying a single cell, copying a range of data, filling up a cell. Undo command, inserting a row, column, deleting rows and columns).

b. Formatting worksheets Bold, Italic, Font size changing, Auto fill, date format, Currency format

6. Open an excel and create fields as follows

S.No	Name of the student	M1	M2	M3	M4	M5	Total	Avg	Result

i. Enter S.No, Name, marks for 10 students

ii. Find total and average using formula.

iii. Find Result whether the student is pass or fail and also assign grade as per our university norms.

iv. Insert a column chart showing the comparison of marks in different subjects of different students.

7.

i) Creating and running a macro.

ii) Assigning button to a defined macro.

iii) Editing a macro.

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PRESENTATION

8. Create a presentation with apply background/Themes, apply custom animation on text, Insert images/word art and animate the images with effects.
9. Create “My album” use photos, audio, and videos with necessary Transition effects.
10. Making an Organization Structure in Power Point Starting an organization chart, Entering names and Titles, Adding Members, Formatting the Boxes, Text and Lines, Rearranging the Org Chart, Finishing the chart.

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(w.e.f. 2021 – 2022 onwards)

Non Major Elective – I

Title of the Paper : Fundamentals of Computer
Semester : I **Contact Hours: 2**
Sub Code : 21NMJ1 **Credits : 2**

Objective:

The objective of the paper is to facilitate the student with applied working knowledge of computers. This is the first course of computing and does not assume any pre-requisite.

Unit-I:

Computer Basics: Algorithms – A Simple Model of a computer – Characteristics of Computers. **Data Representation:** Representation of Characters in Computers – Representation of Integer – Representation of Fractions – Hexadecimal Representation of Numbers – Decimal to Binary Conversion – Error Detecting Codes.

Unit-II:

Input/output Units: Description of Computer Input Units – Other Input Methods – Computer Output Units. **Computer Memory:** Memory Cell – Memory Organization – Read Only Memory – Serial Access Memory.

Unit-III:

Binary Arithmetic: Binary Addition – Binary subtraction – Binary Numbers – Two's Complement Representation of Numbers – Addition/Subtraction of Numbers in 2's Complement Notation – Binary Multiplication – Binary Division – Floating Point Representation of Numbers – Arithmetic operations with Normalized Floating Point Numbers. **Logic Circuits:** Introduction – Switching Circuits – AND/OR Operations – NOT Operation – Boolean Functions – Venn diagram – Truth Table – Canonical Forms for Boolean Functions – Logic Circuits.

Unit-IV:

Operation System: why Do We Need an Operating System? – Batch Operating System – Multiprogramming Operating system – Time Sharing Operating System – Other Facilities Provided by Operating Systems. **Computer Generations and Classification:** First generation of Computers – The Second Generation – The Third Generation – The Fourth Generation – The fifth Generation.

Unit-V:

Computer Networks: Need for Computer Communication Networks – Internet and the World Wide Web – Communication Protocols – Local Area Networks. **Computer Graphics:** Computer Graphics Applications – Display Devices – Overview of Display Method – Raster Scan Display Processing Unit.

Text Book:

V.Rajaraman, *Fundamentals of Computers*, PHI Learning Private Limited, 5th edition, 2011.

Chapters:

Unit I : 1.1 - 1.3, 2.1 – 2.6

Unit II : 3.1 – 3.3, 4.1 – 4.4

Unit III : 6.1 – 6.9, 7.1-7.5, 7.10 – 7.13

Unit IV : 10.1 – 10.5, 12.1 – 12.5

Unit V : 14.1 – 14.4, 15.1 – 15.4

Reference Books:

1. Nagpal O. P., *Computer Fundamental,* S Chand & Co Ltd, 2005.
2. Pradeep K. Sinha, Priti Sinha, *Foundations Of Computing*, BPB Publications, 3rd Edition, 2007.
3. Saurabh Agrawal, *Fundamentals Of Computer*, Sahitya Bhawan Publishers & Distributors Pvt. Ltd., 1st Edition, 2015.
4. Thareja Reema, *Fundamentals of Computers*, OUP India,1st edition, 2014.
5. H.N Tiwari Hem Chand Jain , *Fundamentals of Computer Application in Business*, ODISHA Limited, 1st edition, 2017.

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DEPARTMENT OF COMPUTER APPLICATIONS - UG

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Core - Object Oriented Programming with C++
Semester : II **Contact Hours : 4**
Sub Code : 21J21 **Credits : 4**

Objectives:

To acquire knowledge on Object Oriented concepts and develop programming skills in C++ language.

Unit: I

Principles of Object-Oriented Programming: Basic concepts of Object Oriented Programming - Benefits of OOP – Object-Oriented Languages – Application of OOP. **Tokens , Expressions and Control Structures :** Introduction - Tokens – Keywords – Identifiers and Constants – Basic Data Types – User –Defined Data Types – Storage Classes - Derived Data Types – Symbolic Constants – Type Compatibility – Declaration of Variables – Dynamic Initialization of Variables – Reference Variables – Operators in C++ - Scope Resolution Operator – Member Dereferencing Operators – Memory Management Operators – Manipulators – Type Cast Operator.

Unit: II

Functions in C++ : Introduction - The Main Function – Function Prototyping – Call by Reference – Return by Reference – Inline Functions – Default Arguments – Const Arguments – Recursion - Function Overloading – Friend and Virtual Functions – Math Library Functions. **Classes and Objects :** Introduction – Specifying a Class – Defining Member Functions – A C++ Program with Class – Making an Outside Function Inline – Nesting of Member Functions – Private Member Functions – Arrays within a Class – Memory Allocation for Objects – Static Data Members – Static Member Functions - Arrays of Objects – Objects as Function Arguments – Friendly Functions.

Unit: III

Constructors and Destructors : Introduction – Constructors – Parameterized Constructors – Multiple Constructors in a Class – Constructors with Default Arguments – Dynamic Initialization of Objects – Copy Constructor – Dynamic Constructors – Constructing Two Dimensional Arrays – Const Objects – Destructors. **Operator Overloading and Type Conversion :** Introduction – Defining Operator Overloading – Overloading Unary Operators – Overloading Binary Operators – Manipulation of Strings using Operators – Rules for Overloading Operators .

Unit: IV

Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single Inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritances - Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes. **Pointers, Virtual Functions and Polymorphism:** Introduction – Pointers – Pointers to Objects – this Pointer - Virtual Functions – Pure Virtual Functions.

Unit: V

Managing Console I/O Operations: Introduction – C++ Streams – C++ Stream Classes – Unformatted I/O Operations, Formatted Console I/O Operations – Managing Output with Manipulators . **Working with Files :** Introduction – Classes for File Stream Operations – Opening and Closing a File – Detecting end-of-file – More about Open(): File Modes – File Pointers and their Manipulations – Sequential Input and Output Operations – Updating a File : Random Access – Error Handling during File Operations - Command-line Arguments.

Text Book:

Balagurusamy.E , *Object Oriented Programming with C++* ,McGraw Hill Education (India) Private Limited , New Delhi , 7th Edition,2017.

Chapters :

Unit – I : 1.5 - 1.8 , 3.1 – 3.19

Unit – II : 4.1 – 4.12 , 5.1 , 5.3 – 5.15

Unit – III: 6.1 - 6.11 , 7.1 -7.4 , 7.6 , 7.8

Unit – IV: 8.1 – 8.9 , 9.1 – 9.4 , 9.6 , 9.7

Unit – V : 10.1 – 10.6 , 11.1 – 11.10

Reference Books:

1. Herbert Schildt, *C++:The complete Reference* , TMH Publications,New Delhi, 4th Edition, 2017.
2. Mike McGrath, *C++ Programming in easy steps*, Dreamtech Press,New Delhi,5th Edition, 2017.
3. Debasish jana.P , *C++ And Object-Oriented Programming Paradigm* , PHI Learning Pvt. Ltd, New Delhi,3rd Edition, 2014.
4. Ravichandran.D, *Programming with C++* , TMH Publications,New Delhi, 3rd Edition, 2011.
5. Stanley B.Lippman, Josee Lajoie, Barbara E.Moo *C++Primer*, Pearson Education India,5th Edition, 2013.

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(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Core - Object Oriented Programming with C++ Lab
Semester : II **Contact Hours : 5**
Sub Code : 21J2P **Credits : 3**

List of Programs:

1. Printing Prime numbers between two given numbers.
2. Printing 3 digit numbers as a series of words. (Ex. 543 should be printed out as Five Four Three).
3. Finding area of geometric shapes using function overloading.
4. Inline functions for simple arithmetic operations.
5. Demonstrating the use of Pre-defined Manipulators.
6. Demonstrating the use of friend function.
7. Creating student mark list using array of objects,
8. Demonstrating constructor overloading.
9. Overloading the unary – operator.
10. Demonstrating single inheritance.
11. Demonstrating the use of "this" pointer.
12. Designing our own manipulator.
13. Illustrating function templates.
14. Illustrating class templates
15. Overloading the binary + operator.
16. Demonstrating Multiple inheritance.
17. Demonstrating Multilevel inheritance.
18. Demonstrating Hierarchical inheritance.
19. Demonstrating Virtual functions.
20. Processing mark list using binary file.

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DEPARTMENT OF COMPUTER APPLICATIONS - UG

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Skill Based – Multimedia Lab
Semester : II **Contact Hours : 2**
Sub Code : 21SEJ2P **Credits : 2**

List of Programs:

Photoshop:

1. Basic tools used in Photoshop.
2. Design an image by cutting the objects from 3 files and organize them in a single file and apply feather effects.
3. Design an image by applying mirror effect.
4. Design an image by extracting flower only from given photographic image
5. Design an image by applying Text and Transform Tool.
6. Design an image by using patch or healing brush tool to remove damaged parts of an image.
7. Design an image by applying Color Balance to change the color of an image.
8. Design an image by applying Lighting effect Filter.
9. Design an image by applying Blending options to make a text effect.
10. Design an image by applying rainbow effect.
11. Design an image by applying text masking effect.
12. Design a college id card using any tools.
13. Design a banner for your college with images and text.

Flash:

1. Basic tools used in Flash.
2. Develop a Flash application using motion tween.
3. Develop a Flash application using shape tween.
4. Develop a Flash application for ball bouncing using motion guide path.
5. Develop a Flash application for masking effect.
6. Develop a Flash application using layer based animation.
7. Develop a Flash application to represent the growing moon
8. Write action script to play and stop an animation.
9. Create an appealing animation movie of your choice combining both Motion tweening and Shape tweening. Also add appropriate sound effects.

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DEPARTMENT OF COMPUTER APPLICATIONS - UG

(w.e.f. 2021 – 2022 onwards)

Non Major Elective – II

Title of the Paper : Web Designing
Semester : II **Contact Hours : 2**
Sub Code : 21NMJ2 **Credits : 2**

Objectives:

To enable to create their own website in internet, Database: SQL, MySQL, LINQ and Java DB, Cascading Style Sheets.

Unit-I:

Introduction to HTML: Designing a Home Page – History of HTML – HTML Generations – HTML Documents – Anchor Tag – Hyper Links. **Head and Body Sections:** Header Section – Title – Prologue – Links – Colorful Web Page – Comment Lines.

Unit-II:

Designing the Body Section: Heading Printing – Aligning the Headings – Horizontal Rule – Paragraph. **Ordered and Unordered Lists:** Lists – Unordered Lists – Headings in a List - Ordered Lists.

Unit-III:

Table Handling: Tables – Table Creation in HTML – Width of the Table and Cells – Cells Spanning Multiple Rows/Columns – Coloring Cells. **DHTML and Style Sheets:** Defining Styles – Elements of Styles – Linking a Style Sheet to an HTML Document – In-Line Style – External Style Sheets – Internal Style Sheets.

Unit-IV:

Frames: Frameset Definition – Frame Definition – Nested Framesets. **Forms:** Action Attribute – Method Attribute – Enctype Attribute – Drop Down List.

Unit-V:

Introduction to the Internet: Computers in Business – Networking – Internet – Electronic Mail (E-Mail) – Resources Sharing – Gopher – world Wide Web – Usenet – Telnet. **Internet Technologies:** Modem – Internet Addressing – Physics Connections – Telephone Lines.

Text Book:

C.Xavier, *World Wide Web design with HTML*, TMH Publications, New Delhi, 5th Edition 2015.

Chapters:

Unit I : 4.1 – 4.6, 5.1 – 5.6

Unit II : 6.1 – 6.4, 7.1 – 7.4

Unit III : 8.1 – 8.5, 9.1 – 9.6

Unit IV : 10.1 – 10.3, 12.1 – 12.4

Unit V : 1.1 – 1.9, 2.1 – 2.4

Reference Books:

1. Dr. Vaka Murali Mohan,S.Pratap Singh,*The Modern Approach to Web Technologies* , Scirech Publication ,1st Edition , 2013.
2. Akilandeswari.J & Gopalan.NP, *TCP/IP to Internet Application Architecture, PHI Publications,* New Delhi,2nd Edition, 2014.
3. Ivan Bayross, *Web Technologies part II*, BPB publications, NewDelhi, 2nd Edition, 2012.
4. Rajkamal,*Web Technologies*, TMH Publications, New Delhi, 1st Edition, 2011.
5. Schafer Steven M , *HTML, XHTML&CSS*, Wiley Publishing, 5th Edition, 2013.

Annexure-14a

E.M.G. YADAVA WOMENS COLLEGE, MADURAI -14.

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CBCS

DEPARTMENT OF COMPUTER APPLICATIONS-UG

ADD ON COURSE

(w.e.f. 2021 – 2022 onwards)

Open Source Technology

1. This Course is offered for the first year Students
2. Period of study : I Semester

COURSE STRUCTURE

Contact Hours: 30 hrs

Credit: 1

S.No.	Sem	Subject Code	Title of the Paper
1.	**I**	**21JAOC**	**Theory:** Open Source Technology
2.	**I**	**21JAOCP**	**Practical:** Open Source Technology Lab

Annexure-14a

E.M.G.YADAVA WOMEN'S COLLEGE, MADURAI-14

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CBCS

DEPARTMENT OF COMPUTER APPLICATIONS-UG

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Open Source Technology
Semester : I **Contact Hours: 30**
Sub Code : 21JAOC **Credit : 1**

Objective:

This course is to enable the students to learn about Evaluation of PHP, Basic Syntax, Defining variable and constant, PHP Data type, Operator and Expression.

Unit-I:

Understanding the Languages of the Web: Understanding How the Web Works-Understanding Web Page Languages-Understanding the Language of Web Servers - **Installing PHP:** Checking the PHP Installation-Obtaining PHP-Installing PHP-Configuring Your Web Server for PHP-Configuring PHP-Testing PHP-Troubleshooting.

Unit-II:

Understanding PHP Basics: Writing PHP Code-Displaying Content in a Web Page-Using PHP Variables-Using PHP Constants-**Building PHP Scripts:** Setting Up Conditions-Using Conditional Statements-Repeating Actions with Loops.

Unit-III:

PHP and Your Operating System: Managing Files-Using Operating System Commands-Using FTP-Reading and Writing Files-Exchanging Data with Other Programs-Using SQLite.

Unit-IV:

Object-Oriented Programming: Introducing Object-Oriented Programming-Developing an Object-Oriented Script-Defining a Class-Using a Class in a Script-Using Abstract Methods in Abstract Classes and Interfaces.

Unit-V:

Considering PHP Security: Securing the Server-Securing Apache-Setting Security Options in php.ini-Handling Errors Safely-Sanitizing Variables-**Tracking Visitors with Sessions:** Understanding Sessions and Cookies-Using Sessions to Pass Data.

Text Book:

Janet Valade, *PHP & MySQL,Java Script & HTML5 All-in-one For Dummies*, A Wiley Brand,4th edition, 2018.

Chapters:

Unit-I : Book I: Getting Started with PHP & MySQL
Chapter 1,3
Book IV: PHP

Unit-II : Chapter 1,2

Unit-III : Chapter 3

Unit-IV : Chapter 4

Unit-V : Chapter 5,6

Reference Books :

1. Jamie Chan, *PHP: Learn PHP in One Day and Learn It Well*, 2nd Edition 2020.
2. Lokesh Gupta,*CodeIgniter: Web Framework (PHP Book 1),* Oxford University Press, 2nd edition 2018.
3. Steven Holzner, *PHP: The Complete Reference*, McGraw Hill Education, 2nd edition, 2017.
4. Code Well Academy, *PHP: Programming*, Pearson Education, 1st Edition 2015.
5. Pradeep Kumar, *Cracking PHP Interviews*, Pearson Education, 2nd Edition 2019.

Annexure-14a

PRACTICALS

Title of the Paper : Open Source Technology Lab

Subject-Code : 21JAOCP

List of Programs:

1. Program using String.
2. Program using PHP Time zone
3. Program using Sorting Array.
4. Program using Global Array
5. Program using Function.
6. Program for reading data in Web pages.
7. Program using browser handling Power.
8. Program using Oops concept.
9. Program using File.
10. Program using Form Validation.
11. Program using PHP XML Parser
12. Program using PHP Filter
13. Program using MySQL Database Creation.
14. Program using MySQL Database table
15. Program using Session , Cookies and FTP.
16. Program using Web application Security.

Annexure-14b

E.M.G. YADAVA WOMENS COLLEGE, MADURAI -14.

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DEPARTMENT OF COMPUTER APPLICATIONS-UG

VALUE ADDED COURSE

(w.e.f. 2021 – 2022 onwards)

Digital Marketing

1. This Course is offered for the third year Students
2. Period of Study : V Semester

COURSE STRUCTURE

Contact Hours: 30 hrs

Credit: 1

S.No.	Sem	Subject Code	Title of the Paper
1.	**V**	**21JVAC**	**Theory:** Digital Marketing
2.	**V**	**21JVACP**	**Practical:** Digital Marketing Lab

Annexure-14b

E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI-14.

(An Autonomous Institution – Affiliated to Madurai Kamaraj University)
Re-accredited (3rd Cycle) with Grade A+ & CGPA 3.51 by NAAC

CBCS

DEPARTMENT OF COMPUTER APPLICATIONS - UG

(w.e.f. 2021-2022 Onwards)

Title of the Paper : Digital Marketing
Semester : V **Contact Hours: 30 hrs**
Sub Code : 21JVAC

Objective:

This course is to enable the students to learn about digital marketing world, as it available for advertising, planning for online marketing that help them to plan.

Unit-I:

SEO & SMM Syllabus:Introduction to SEO - search engines- search engines work- SEO- SEO techniques (On page and Off page) – Ranking- Google ranks a website.

Unit-II:

Keyword Research: Introduction to Keyword research- How and why to choose the right keywords- Different types of keywords- Keyword analysis- Keywords density analysis- Tools for keyword research- Competition analysis- Localized keywords research.

Unit-III:

On Page Optimization Steps: Introduction to On-page optimization- Title, Description, and Keywords tag- Length of titles, meta description, and Snippets- H1 to H6 Tags and their importance-The keywords can be placed- Difference between Internal links and External links- Anchor Text- Headers optimization- Image tag optimization - Content Optimization- SEO friendly content - Page naming, URL Structure, Permalink - Difference between HTTP / HTTPS - Broken link analysis- Google webmaster tool - Google analytics - Creating effective landing pages.

Unit-IV:

Off-Page Optimization: Introduction to Off-page optimization- Introduction of link building and its types - Directory submission - Blog submission - Forum posting - Press release submission - Video submission -Image submission

Unit-V:

Business listing submission- Guest blog- Infographics sharing - Document Sharing- Web 2.0 submission- Importance of backlinks / Link building - Strategies to build qualitative and relevant backlinks - Competitors backlink research and submission - Submission to do follow websites.

PRACTICALS

Title of the Paper : Digital Marketing Lab

Subject-Code : 21JVACP

List of Programs:

SEO – SEARCH ENGINE OPTIMIZATION

1. Program to implement SEO techniques and google ranking for a website
2. Program for keyword research and keyword analysis
3. Program for implementing on-page optimization steps
4. Program for content optimization
5. Program to analyse google webmaster
6. Program for analysing effective landing page
7. Program to implement off-page optimization
8. Program for generating different types of Backlinks
9. Program for web 2.0 submission
10. Program for business listing

SMM – SOCIAL MEDIA MARKETING

1. Program for social media posting content creation and Hash tag creation
2. Program for creating facebook profile, group and page
3. Program for group adding and sharing on all social media channels
4. Program for creating Instagram profile

5. Program for creating Twitter profile
6. Program for creating LinkedIn profile
7. Program for creating Pinterest profile
8. Program for creating Youtube profile
9. Program for publishing Youtube video
10. Program for increasing followers and friends
11. Program for image or content posting in all social media profiles
12. Program for taking insights in Facebook, LinkedIn, Twitter, Instagram and Youtube