

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 SCIENCE



CBCS SYLLABUS

BACHELOR OF SCIENCE

PROGRAMME CODE - S

COURSE STRUCTURE

(w.e.f. 2021 – 2022 Batch onwards)



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





CRITERION - I

1.1.3 Details of courses offered by the institution that focus on employability / entrepreneurship / skill development during the year.

Syllabus copies with highlights of contents focusing on
Employability / Entrepreneurship / Skill Development



To be Noted:

HIGHLIGHTED COLORS	COURSES
	Employability
	Skill Development
	Entrepreneurship
	Skilled & Employability

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 SCIENCE - 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
						CIA	SE	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	21S11	Core : Programming in C	4	3	25	75	100	4
	III	21S1P	Core : Programming in C Lab	5	3	40	60	100	3
	III	21AMS1	Allied : Discrete Mathematics	5	3	25	75	100	5
	IV	21SES1P	SBE: Office Automation Lab	2	3	40	60	100	2
	IV	21NMS1	NME : Introduction to Computers	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	21S21	Core : Object Oriented Programming with C++	4	3	25	75	100	4
	III	21S2P	Core : Object Oriented Programming with C++ Lab	5	3	40	60	100	3
	III	21AMS2	Allied : Resource Management and Techniques	5	3	25	75	100	5
	IV	21SES2P	SBE: Multimedia Lab	2	3	40	60	100	2
	IV	21NMS2	NME : Internet Applications	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	21S31	Core : Digital Principles and Computer Organization	4	3	25	75	100	3
	III	21S32	Core : Programming in Java	4	3	25	75	100	4
	III	21S3P	Core : Programming in Java Lab	3	3	40	60	100	3
	III	21AMS3	Allied : Graph Theory	5	3	25	75	100	5
	IV	21SES3P	SBE: VB.Net and ASP.Net Programming 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	21S41	Core : Data Structures	4	3	25	75	100	3
	III	21S42	Core : RDBMS	4	3	25	75	100	4
	III	21S4P	Core: RDBMS Lab	3	3	40	60	100	3
	III	21AMS4	Allied: Numerical Methods	5	3	25	75	100	3
	IV	21SES4P	SBE: Data Structures Lab	2	3	40	60	100	2

V	III	21S51	Core : Operating Systems	5	3	25	75	100	4
	III	21S52	Core : Software Engineering	5	3	25	75	100	4
	III	21S53	Core : Programming in Python	5	3	25	75	100	4
	III	21S5P	Core : Programming in Python Lab	6	3	40	60	100	3
	III		Elective I	5	3	25	75	100	5
	IV	21SES5P	SBE: Computer Graphics Lab	2	3	40	60	100	2
	IV	214EV5	Environmental Studies	2	3	25	75	100	2
VI	III	21S61	Core : Data Communication and Networking	5	3	25	75	100	4
	III	21S62	Core : Web Programming	5	3	25	75	100	4
	III	21S6P	Core : Web Programming Lab	6	3	40	60	100	3
	III		Elective II	5	3	25	75	100	5
	III	21SEPR6	Elective III (Project)	5	3	20	80	100	5
	IV	21SES6P	SBE: Linux Lab	2	3	40	60	100	2
	IV	214VE6	Value Education	2	3	25	75	100	2
	PART V	215NS4/ 215PE4	Extension Activities NSS / Physical Education	-	3	25	75	100	1
			Total	180					140

Electives:**Semester - V****Elective - I - (Choose any one)**

1. Computer Graphics - **21SE5A**
2. Internet of Things - **21SE5B**

Semester - VI**Elective – II - (Choose any one)**

1. Data Mining and Big Data Analysis - **21SE6A**
2. Artificial Intelligence - **21SE6B**

Elective III

1. Project - **21SEPR6**

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 SCIENCE – UG**

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Core - Programming in C**Semester : I****Contact Hours: 4****Sub Code : 21S11****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*, Pearson Publications 3rd Edition 2013.
5. Yashavant Kanetkar, *Let Us C*, BPB Publications, 16th Edition 2017.

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 SCIENCE – UG****(w.e.f. 2021 – 2022 onwards)****Title of the Paper : Core - Programming in C Lab****Semester : I****Sub Code : 21S1P****Contact Hours : 5****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

$$\text{sum} = 1 - x^2/2! + x^4/4! - x^6/6! + x^8/8! - x^{10}/10!$$
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

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.

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 SCIENCE – UG****(w.e.f. 2021 – 2022 onwards)****Skill Based Elective – I****Title of the Paper : Office Automation Lab****Semester : I****Sub Code : 21SES1P****Contact Hours : 2****Credits : 2****PROGRAM LIST****MS-WORD**

1. Open a Word Document to Prepare Your Resume by performing the following operations.
 - a) Formatting the Text-Alignment & Font Style.
 - b) Page Setup(Margin alignment, page height& width)
2. Design an invitation of your course inauguration function using different fonts, font sizes, bullets and Word Art/Clip art.
3. Bio data: Prepare a Bio-data.
4. Cover a Project Report Details.
5. Find and Replace: write a paragraph about yourself and do the following .Find and Replace- Use Numbering Bullets, Footer and Headers.
6. Tables and manipulation: Creation, Insertion, Deletion (Columns and Rows), Create a mark sheet.
7. Mail Merge: Prepare an invitation to invite your friends to your birthday party.

MS-EXCEL

8. Create a Student mark sheet, Find out the total & average marks and display the result.
9. Prepare salary bill in a work sheet showing Basic pay, DA, HRA, Gross salary, PF, Tax, and Net Salary using suitable Excel Functions.

10. Create display and interact with data using Pivot tables and Pivot Charts of Excel feature.

11. Create a Chart:

To create a chart for comparing the monthly sales of a company in different branch offices.

MS-POWER POINT

12. Create a power point presentation to explain various aspects of your college using autoplay.

13. Create a power point presentation from template.

14. Prepare a power point presentation with audio and video effect.

MS-ACCESS

15. Designing your Own Database.

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 SCIENCE – UG**

(w.e.f. 2021 – 2022 onwards)

Non Major Elective – I

Title of the Paper	: Introduction to Computers	
Semester	: I	Contact Hours : 2
Sub Code	: 21NMS1	Credits : 2

Objective:

To introduce the relationship between information and data and the way the computers use binary codes to represent data and instructions.

Unit – I

Introduction to Computer: Introduction – Importance of Computers – Characteristics of Computers – Classification of Computers – What Computers Can Do? – What Computer Cannot Do? – Uses of Computers.

Unit – II

Classification of Computers: Introduction – Classification of Digital Computers – Business and Scientific Computer Systems – Time Sharing, Multiprogramming and Multiprocessing Systems. **Components of Computer:** Introduction – Parts of Computers.

Unit – III

Input Devices: Introduction – Keyboard – Mouse – Trackball – Game Controllers – Touch Screen – Scanners – Barcode Reader – Card Reader – Digitizer – Voice Recognition – Webcams – Digital Cameras – Video Cameras (Camcorders) – Optical Character Recognition (OCR) – Optical Mark Recognition (OMR) – Intelligent Character Recognition (ICR) – Magnetic Ink Character Recognition (MICR).

Unit – IV

Output Devices: Introduction – Monitor – Printer – Plotter – Multimedia Projector – Speech Synthesizers – Sound Cards and Speakers – Dumb, Smart and Intelligent Terminals.

Unit – V

Storage Devices: Introduction – Magnetic Tape – Magnetic Disks – Optical Disk – Blu-ray Disc – Magneto-Optical (MO) Disk – Solid State Drive (SSD) – USB Flash Drives.

Text Book:

Alexis Leon, Mathews Leon, Leena Leon, “*Introduction to Information Technology*”, Vijay Nicole Imprints Private Limited, 2013.

Chapters:

Unit I	-	1
Unit II	-	3, 4
Unit III	-	5
Unit IV	-	6
Unit V	-	7

Reference Books:

1. Amitesh Goswami , *Computer Fundamentals and Programming*, Wisdom Press, New Delhi, 2nd Edition, 2003.
2. Balagurusamy, *Fundamentals of Computer*, Tata Mc- Graw Hill Publications, New Delhi, 1st Edition, 2009.
3. Pradeep K. Sinha, Priti Sinha, *Computer Fundamentals*, BPB Publications, New Delhi. 3rd Edition, 2003.
4. Raja Raman V, *Fundamentals of Computer*, Prentice Hall Of India, New Delhi, 3rd Edition, 1985.
5. Ram B, *Computer Fundamentals*, New Age International Publishers, Patna, 3rd Edition, 2012.

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 SCIENCE – UG**

(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Core - Object Oriented Programming with C++**Semester : II****Contact Hours : 4****Sub Code : 21S21****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 . **Beginning with C++:** What is C++? – Application of C++ – A Simple C++ Program – More C++ Statements – An Example With Class – Structure of C++ Program – Creating the Source file – Compiling and Linking. **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–Expressions and Their Types–Special Assignment Expressions – Implicit Conversions–Operator Overloading –Operator Precedence–Control Structures.

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 – C Structures Revisited–

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– Returning Objects–Cont Member Functions – Pointers to Members – Local Classes.

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 – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes – Abstract Classes. **Pointers , Virtual Functions and Polymorphism :** Introduction – Pointers – Pointers to Objects – this Pointer – Pointers to Derived Classes– Virtual functions – Pure Virtual Functions – Virtual Constructors and Destructors.

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, 2, 3
Unit II	- 4, 5
Unit III	- 6, 7.1-7.6, 7.8
Unit IV	- 8.1-8.10, 9
Unit V	- 10, 11

Reference Books:

1. Herbert Schildt, *C++:The complete Reference* , TMH Publications,New Delhi, 4th Edition,2003.
2. Mike McGrath, *C++ Programming in easy steps*,Dreamtech Press, New Delhi, 3rd Edition,2011.
3. RadhaGanesan.P , *Programming with C++*,Scitech Publications,1st Edition, 2002
4. Ravichandran.D, *Programming with C++* , TMH Publications,New Delhi, 2nd Edition,2002..
5. Robert Laffore, *Object Oriented Programming using C++*, Sams Publishing, 4th Edition, 2002.

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 SCIENCE – UG****(w.e.f. 2021 – 2022 onwards)**

Title of the Paper	: Core - Object Oriented Programming with C++ Lab	
Semester	: II	Contact Hours: 5
Sub Code	: 21S2P	Credits : 3

List of Programs:

1. To find the sum of individual digits of a positive integer.
2. Palindrome
3. Armstrong Number
4. Adam Number
5. Perfect Number
6. Prime Number
7. Factorial Number
8. Fibonacci Series
9. To generate all the prime numbers between 1 and n , where n is a value supplied by the user.
10. Write C++ programs that use both recursive and non-recursive functions
 - a) To find the factorial of a given integer.
 - b) To find the GCD of two given integers.
 - c) To find the nth Fibonacci number
11. Write a C++ program that uses functions
 - a) To swap two integers.
 - b) To swap two characters.
 - c) To swap two reals. Note: Use overloaded functions
12. To find both the largest and smallest number in a list of integers
13. To sort a list of numbers in ascending order.
14. Write a C++ program that overloads the + operator and relational operators

(Suitable) to perform the following operations:

- a) Concatenation of two strings.
- b) Comparison of two strings.

- 15. To count the lines, words and characters in a given text.
- 16. Single Inheritance
- 17. Multiple Inheritance
- 18. Multilevel Inheritance
- 19. Hierarchical Inheritance
- 20. Virtual Function
- 21. String Manipulations
- 22. Exception Handling
- 23. Copies one file to another.
- 24. To change a specific character in a file.

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 SCIENCE – UG**

(w.e.f. 2021 – 2022 onwards)

Skill Based Elective – II

Title of the Paper : Multimedia Lab
Semester : II
Sub Code : 21SES2P

Contact Hours : 2
Credits : 2

PROGRAM LIST

1. Animation to represent the growing moon.
2. Animation to indicate a ball bouncing on steps.
3. Simulate movement of a cloud.
4. Draw the fan blades and to give proper animation.
5. Animate a Circle changing to a Square
6. Text animation using Mask Technique
7. Create a Butterfly and make it to fly
8. Animated cursor using startdrag
9. Animate a Candle light
10. Animate Water bubbles in Water
11. Design a visiting card
12. Pamphlet designing
13. A cover page for the book
14. Extract a image from a photographic Image
15. Adjust the brightness and contrast of the picture
16. Place a picture preferably on a plain background
17. Remove the arrows and text from the given photographic image
18. Type a word and apply the effects shadow emboss
19. Merging 3 images into one image
20. Change a picture into black and white

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 SCIENCE – UG**

(w.e.f. 2021 – 2022 onwards)

Non Major Elective – II**Title of the Paper : Internet Applications****Semester : II****Contact Hours: 2****Sub Code : 21NMS2****Credits : 2****Objective:**

To make the students to understand the concepts and techniques in Internet applications.

Unit I

Introduction to Internet: Internet – Growth of Internet and APRAN Net – Owners of the Internet – Anatomy of Internet – Internet history of the World Wide Web – Basic Internet Terminology – Net etiquette – Internet Applications – Commerce on the Internet – Governance on the Internet – Impact of Internet on Society – Crime on/through the Internet.

Unit – II

Internet Networking: Network Definition – Common terminologies – Node – Host – Workstation – Bandwidth – Interoperability – Network Administrator – Network Security – Network Components – Servers – Client Server – Communication Media – Types of Network – Peer to Peer Networks – Client Server – Addressing in Internet – DNS – Domain Name and their Organization – Understanding the Internet Protocol Address – Network Topologies – Ethernet – FDDI – ATM - Intranet.

Unit III

Services on Internet: E-mail – WWW – Telnet – FTP – IRC – Search Engine.
E-Mail: E-mail Networks and Servers – E-mail Protocols – Structure of an E-mail – Attachments – E-mail Clients – Netscape mail Clients – Outlook Express – Web Based E-mail – E-mail encryption – Address Book – Signature File.

Unit IV

Unit - IV

Web Publishing and Browsing: Overview – Standard Generalized Markup Language (SGML) – Web hosting – HTML – Common Gateway Interface (CGI) – Documents Interchange Standards – Components of Web Publishing – Document Management – Web Page Design – Consideration and Principles – Search and Meta Search Engines – WWW – Browsers – HTTP – Publishing Tools.

Unit V

HTML Programming Basics: Introduction to HTML – HTML Browsers – Different versions of HTML – HTML tags – Document Overview – Header Elements – Section headings – Block headings – Lists – Inline elements – Images – Working with Tables – Working with Forms – Working with Frames.

Text Book:**Chapters:**

Ramesh Bangia, “*Internet Technology and Web Design*”, Firewall Media, 2011.

Unit I	-	1
Unit II	-	4
Unit III	-	5, 6
Unit IV	-	8
Unit V	-	9

Reference Books:

1. AkilandeswariJ ,Gopalan N P, *Web Technology*, Pearson Hall of India, New Delhi, 2nd Edition, 2008.
2. Douglas E.Comer,*The Internet* ,addisionwesleylongman Private limited, New Delhi, 3rd Edition, 2001.
3. Glee Harrah Cady Pat McGregor,Mastering, *The Internet*, BPB Publications New Delhi, 1stEdition , 1996.
4. Harley Hahn, *The Internet Complete Reference*, Tata MC-Graw Hill, New Delhi, 2nd Edition , 2008.

5. Raj Kamal, *Internet and Web Technology*, Tata McGraw- Hill, New Delhi, 7th Edition, 2008.

E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI -14.**(An Autonomous Institution – Affiliated to Madurai Kamaraj University)****Re –accredited (3rd cycle) with Grade A⁺ and CGPA 3.51 by NAAC****CBCS****DEPARTMENT OF COMPUTER SCIENCE – UG****ADD ON COURSE****(w.e.f. 2021 – 2022 onwards)****DeskTop Publishing**

1. This course is taken up by first year Computer Science 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	21SAOC	Theory : DeskTop Publishing
2.	I	21SAOCP	Practical : DeskTop Publishing Lab

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 SCIENCE - UG****ADD ON COURSE****(w.e.f. 2021 – 2022 onwards)****DeskTop Publishing****Title of the Paper : DeskTop Publishing****Semester : I****Contact hours : 30 hrs****Sub Code : 21SAOC****Credit : 1****Objectives:**

- To identify and explain the steps involved in the publishing and printing process.
- To learn about the techniques essential to build their career in desktop publishing using suitable hardware and software tools.
- To Understand Designing standards, Print layout, Design and creative visualization for intuitive layout.
- To apply the principles of good page layout and design to create single and multiple page documents containing graphic illustrations.

Unit I

DTP Fundamentals: Hardware and Software – Main Elements of DTP –CMYK, RGB, and spot colour-Pixels and Bitmaps- Vectorised Graphics-DTP Terminology.

Unit II

Adobe PageMaker 7:Using the toolbox – Viewing pages, Choosing Preset Page Views- Working with text and graphics, Selecting Objects- Understanding text objects, Identifying a text object- selecting text with the text tool, Editing text-Moving between pages, to move between publication pages- Adding and deleting pages – Correcting mistakes, undoing changes and reverting publications.

Unit III Using CorelDRAW 12: CorelDraw terminology and concepts, CorelDraw application window - CorelDraw workspace tools - Exploring the toolbox - To start

CorelDraw - To open a drawing - Working with templates - Undoing, redoing, and repeating actions, Zooming and panning - Saving drawings.

Unit IV

Using CorelDRAW 12: Lines, Outlines and Brush Strokes-Drawing rectangles and squares -Applying uniform fills-Applying pattern fills -Working with color - Understanding color models, CMYK color model-RGB color model, Grayscale color model, Using Special Effects - Applying a transparency-Using Text in Drawing - Fitting text to a path.

Unit V

Adobe Illustrator CS: Work area, Menus, Tools – Palettes, Artboard, Using tools and commands, Using tools – Changing the tool pointer- Using tool tips – Choosing commands- Using Palettes, Showing and hiding palettes, Viewing artwork- Using the Navigator palette- Displaying the Navigator palette – Viewing artwork as paths , previewing how artwork will print- Using the status bar , undoing and recording changes.

Text Book:

Vishnu priya singh – *Desktop Publishing* - Computech publications First Edition - 2008.

Chapters:

Unit I	- 4
Unit II	- 6
Unit III	- 8
Unit IV	- 8
Unit V	- 9

Reference Book:

1. Jennifer Smith, *Adobe Creative Cloud Design Tools All-in-One, Dummies*’.
2. William Newman M & Robert Sproull F, *Principles of Interactive Computer Graphics*, Tata McGraw-Hill Education, India, 4th Edition, 2000.
3. Kelly Kordes Anton and John Cruise, *Adobe In Design CC Classroom*, 2007 Edition.
4. Dinesh Maidasani, *Photoshop CS2*, An Imprint of Laxmi Publications Pvt. Ltd., Reprint 2010.
5. Gregory Georges, *Photoshop Ver.(8) CS*, Wiley Publishing Inc., 1st Edition, 2004.

PRACTICAL

Title of the Paper : DeskTop Publishing Lab

Sub Code : 21SAOCP

List of Programs**PageMaker 7**

1. Creating, editing and removing styles
2. Creating master pages
3. Creating frames
4. Using wrapping text

CorelDraw

5. Design a CD label
6. Design a Visiting Card
7. Create transparent 3D boxes
8. Design a Greeting Card

Illustrator CS

9. Creating basic shapes with illustrator
10. Recreating map symbols
11. Creating two logo designs
12. Creating outlines for map design

E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI -14.**(An Autonomous Institution – Affiliated to Madurai Kamaraj University)****Re –accredited (3rd cycle) with Grade A⁺ and CGPA 3.51 by NAAC****CBCS****DEPARTMENT OF COMPUTER SCIENCE – UG****VALUE ADDED COURSE****(w.e.f. 2021 – 2022 onwards)****Graphic Design and Web Development**

1. This Course is taken up by third year Computer Science 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	21SVAC	Theory : Graphic Design and Web Development
2.	V	21SVACP	Practical : Graphic Design and Web Development Lab

E.M.G. YADAVA WOMENS COLLEGE, MADURAI -14.**(An Autonomous Institution – Affiliated to Madurai Kamaraj University)****Re –accredited (3rd cycle) with Grade A⁺ and CGPA 3.51 by NAAC****CBCS****DEPARTMENT OF COMPUTER SCIENCE – UG****VALUE ADDED COURSE****(w.e.f. 2021 – 2022 onwards)****Title of the Paper:** Graphic Design and Web Development**Semester** : V**Contact Hours** : 30 hrs**Subject Code** : 21SVAC**Unit I**

Introduction to Graphic Design : Fundamentals of Graphic Design - Introduction to Photoshop - Creating a Thumbnail in Photoshop - Design a flyer, brochure, banner, logo - Logos colour combination. **Canva Basic** : Introduction to Video Editing - Basic Fundamentals of Video Editing.

Unit II

Search for themes in WordPress : Select, install, and activate a theme. **Menus** : About Menus & Locations - Adding & Removing Links in Menus - Creating Submenus - Opening Menu Links in a New Tab.

Unit III

Customizing Theme Appearance: Customizing Appearance - Customizing the Site - Identity (Logo, Title, & Tagline) - Adding a Site Icon (Favicon) - Customizing the Header - Customizing Colors.

Unit IV

Creating Links (Hyperlinks) : Linking to Another Website - Opening a Link in a New Tab - Linking to a Page Within Your Site - Editing & Removing Links. **Adding a Featured Image** : Uploading Images & Files Directly Into the Media Library - Editing & Deleting Images in the Media Library - Deleting Unused Images (Cleaning Out the Media Library) - Adding an Image Gallery - Editing an Existing Image Gallery.

Unit V

WordPress Plugins: About, Installing, & Updating : About WordPress Plugins - Installing a WordPress Plugin - Updating Plugins.

PRACTICAL

Title of the Paper : Graphic Design and Web Development Lab

Subject Code : 21SVACP

List of Programs:

Graphic Design - Introduction to Graphic Design

1. Fundamentals of Graphic Design
2. Introduction to Photoshop
3. Creating a Thumbnail in Photoshop
4. Design a flyer, brochure, banner, logo
5. Logos colour combination

Canva Basic

6. Introduction to Video Editing
7. Basic Fundamentals of Video Editing

Web Development (Wordpress) - Introduction to Wordpress

8. Program to Select, install and activate a theme.
9. Program to create Menus and submenus
10. Program for adding and removing links in menus
11. Program for customizing Theme Appearance (Logo, Title and Taglines, Header, Colors)
12. Program for creating Hyperlinks
13. Program for creating gallery and adding featured image to your website
14. Program about plugins – Installing, Updating