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 INFORMATION TECHNOLOGY

CBCS SYLLABUS

BACHELOR OF SCIENCE

PROGRAMME CODE - I

COURSE STRUCTURE

(w.e.f. 2021 – 2022 Batch onwards)

E.M.G.YADAVA WOMEN'S COLLEGE, MADURAI-14
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DEPARTMENT OF INFORMATION TECHNOLOGY-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 of (hrs)	CIA	SE	Total	Credits
I	I	211T1	Part I - Tamil	6	3	25	75	100	3
	II	212E1	Part II - English	6	3	25	75	100	3
	III	21I11	**Core 1 :** Programming in C	5	3	25	75	100	4
	III	21I1P	**Core Lab 2 :** Programming in C Lab	5	3	40	60	100	4
	III	21AI1	**Allied I:** Discrete Mathematics	5	3	25	75	100	5
	IV	21SEI1P	**SBE:** HTML and Office Automation Lab	2	3	40	60	100	2
	IV	21NMI1	**NME:** Windows Tools and Applications	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	21I21	**Core 3:** Object Oriented Programming with C++ and Data Structure	5	3	25	75	100	4
	III	21I2P	**Core Lab 4:** Object Oriented Programming with C++ and Data Structure Lab	5	3	40	60	100	4
	III	21AI2	**Allied II:** Resource Management Techniques	5	3	25	75	100	5
	IV	21SEI2P	**SBE:** Desktop Publishing Lab	2	3	40	60	100	2
	IV	21NMI2	**NME:** Introduction to Internet	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	21I31	**Core 5:** RDBMS	5	3	25	75	100	4
	III	21I3P	**Core Lab 6:** VB and RDBMS Lab	5	3	40	60	100	4

	III	**21AI3**	**Allied III:** Digital Principles and Computer Organization	5	3	25	75	100	5
	IV	**21SEI3P**	**SBE:** PHP and MySQL 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	**21I41**	**Core 7** : Operating System & System Software	5	3	25	75	100	4
	III	**21I4P**	**Core Lab 8** : Unix and Linux Programming Lab	5	3	40	60	100	4
	III	**21AI4**	**Allied IV:** Financial and Cost Accounting	5	3	25	75	100	5
	IV	**21SEI4P**	**SBE:** Tally Lab	2	3	40	60	100	2
V	III	**21I51**	**Core 9**: Programming in Java	5	3	25	75	100	4
	III	**21I52**	**Core 10**: Computer Graphics	5	3	25	75	100	4
	III	**21I53**	**Core 11**: Computer Networks	5	3	25	75	100	4
	III	**21I5P**	**Core Lab 12**: Programming in Java Lab	6	3	40	60	100	4
	III		**Elective - I**	5	3	25	75	100	5
	IV	**21SEI5P**	**SBE:** Multimedia Lab	2	3	40	60	100	2
	IV	**214EV5**	Environmental Studies	2	3	25	75	100	2
VI	III	**21I61**	**Core 13:** Software Engineering	5	3	25	75	100	4
	III	**21I62**	**Core 14**: Data Mining and Warehousing	5	3	25	75	100	4
	III	**21I6P**	**Core Lab 15**: Web Technology Lab	6	3	40	60	100	4
	III		**Elective - II**	5	3	25	75	100	5
	III	**21IEPR6**	**Elective - III**	5	3	20	80	100	5
	IV	**21SEI61**	**SBE:** Python Programming Lab	2	3	40	60	100	2
	IV	**214VE6**	Value Education	2	3	25	75	100	2
	V	**215NS4/ 215PE4**	Extension Activities N.S.S / Physical Education	-	3	25	75	100	1
			Total	180					140

Electives:

Semester - V

Elective- I **(Choose any one)**
1. Client Server Computing   - **21IE5A**
2. Android Programming   - **21IE5B**
3. Pattern Recognition   - **21IE5C**

Semester – VI

Elective - II (Choose any one)
1. Cloud Computing   - **21IE6A**
2. Digital Image Processing   - **21IE6B**
3. Cyber Security   - **21IE6C**

Elective - III
Project   - **21IEPR6**

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Title of the Paper : Programming in C
Semester : I   **Contact Hours : 5**
Subject Code : 21I11   **Credits : 4**

Objectives:

1. To impart adequate knowledge on the need of programming languages and problem solving techniques.

2. To develop programming skills using the fundamentals and basics of C Language.

3. To enable effective usage of arrays, structures, functions, pointers and to implement the memory management concepts.

Unit: I Overview of C: History of C – Basic Structure of C Programs – Character Set – Keywords and Identifiers – Constants – Variables – Data Types – Declaration – Operators and Expressions –Reading a Character – Writing a Character – Formatted Input – Formatted Output.

Unit: II Decision Making Branching and Looping: IF statement –If…Else statement – Nesting of IF…Else – ELSE IF ladder – Switch statement – Conditional operator – Go to statement – While statement – Do statement – For statement – Jumps in Loops. **Arrays:** Declaration and Initialization One dimensional – Declaration and Initialization Two dimensional – Multidimensional arrays – Dynamic Array.

Unit: III Strings and Functions: Declaring and Initializing String Variables – Reading and Writing String Arithmetic Operations – String Handling Functions – Table of strings. **User-defined Function:** Need and Elements of Function – Defining a Function – Return Values and Their types – Function call and declaration – Categories of Function – Nesting of Function – Recursion – Passing Arrays to function – Passing Strings to function.

Unit: IV Structures and Unions: Defining a Structure – Declaring, Accessing and Initializing of Structures – Copying, Comparing and Operations of Structure Variable

– Arrays of Structure – Arrays within Structure – Structures within Structures – Structure and Function – Unions – Size of Structure.

Unit: V Pointers: Introduction – Accessing, Declaring, Initializing of Pointer Variables – Accessing a Variable through its Pointer - Chain Pointer – Pointer Expression – Increment scale factor – Array and character Strings – Array of Pointers – Function arguments and Returning Pointers – Pointers to Function and Structure – Trouble with Pointers. **Files:** Defining Opening and Closing a file – I/O Operations on File – Error Handling – Random Access – Command Line Arguments.

Text Book:

Balagurusamy.E, *Programming in ANSI C,* Tata McGraw Hill Publication, New Delhi, 6th Edition, 2007.

Chapters:

Unit I	:	Chapter 1, 2, 3, 4.
Unit II	:	Chapter 5, 6, 7.
Unit III	:	Chapter 8, 9.
Unit IV	:	Chapter 10.
Unit V	:	Chapter 11, 12.

Reference Books:

1. AnandhiSheshasaayee,Sheshasaayee.G,*The   Programming   Language   C,* Marghampublications, Chennai,2nd edition,2005.

2. Byron S.Gottfried, Ph.D,*Theory and problems of Programming in C II,* Tata McGraw Hill Publishing   Company Limited, New Delhi,2nd edition,1998.

3. Byron Gottfried,*Programming with C,Schaum's Outline series,*New York,3rd edition, 2010.

4. Mullish Cooper,*The Spirit of 'C',*Jaico Publishing   House, Mumbai,1st edition,2001.

5. Ramaswamy.S,RadhaGanesan.P, *Programming in C,*Scitech publications, Chennai & Hyderabad,1st edition,2004.

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Title of the Paper : **Programming in C Lab**
Semester : **I**   **Contact Hours : 5**
Subject Code : **21I1P**   **Credits** : **4**

1. Perform Arithmetic Operations.

2. Check leap year or not.

3. Print the vowel characters.

4. Convert decimal number into binary number.

5. Sum of Natural numbers.

6. Print the Pascal triangle.

7. Generate the Prime number.

8. Reverse the string using recursive.

9. Find the factorial value using recursive.

10. Print the Fibonacci series up to 100.

11. Arrange the numbers in ascending order.

12. Transpose of a given matrix.

13. Addition of two matrices.

14. Compare two strings.

15. Concatenation of strings.

16. Team wise player display using Structure.

17. Student marks processing using Union.

18. Arithmetic operations using Pointer.

19. Employee salary bill processing using File.

20. Inventory program using File.

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Title of the Paper : Discrete Mathematics
Semester   : I   **Contact Hours : 5**
Subject Code   : 21AI1   **Credits   : 5**

Objectives:

1. Simplify and evaluate basic logic statements including compound statements, implications, inverses, converses, and the properties of logic.

2. Identify and apply basic concepts of set theory, arithmetic, logic, proof techniques, binary relations, graphs and trees.

3. Apply the knowledge and skills obtained to investigate and solve a variety of discrete mathematical problems.

Unit: I Set Theory: Introduction – Sets – Notation and Description of sets – Subsets – Venn – Euler Diagrams – Operation on sets – Properties of set operations – Verification of basic laws and algebra by Venn diagram.

Unit: II Relations Relations – Representation of a relation – Operations on relations – equivalence relation – Closures & Warshalls Algorithm

Unit: III Logic: Introduction – IF statements – Connectives – Truth table of a formula – Tautology - Tautolological implications and Equivalence of formulae.

Unit: IV Recurrence relations and Generating functions: Recurrence Relation – Introduction – Polynomial and their Evaluations – Recurrence Relations – Solutions of Finite Order Homogeneous (linear) Relations.

Unit: V Graph Theory: Basic Concepts – Matrix representations of Graphs – Trees – Spanning tree – Shortest Path Problem. (Definition & Examples only)

Text Book

1. Venkataraman.M.K, Sridharan.N and Chandrasekaran.Z , *Discrete Mathematics*, National Publishing company , Chennai , India , Third Edition , Jan 2011.

Unit I   : Chapter 1.1 to 1.8

Unit II : Chapter 2(2.2 to 2.6)

Unit III : Chapter 9 (9.1 to 9.3, 9.6 to 9.8)

Unit IV : Chapter 5 (5.1 to 5.4)

Unit V : Chapter11(11.1 to 11.5)

Reference Books:

1. Edgar G. Goodaire, Michael,M.Parmenter , *Discrete Mathematics with Graph Theory* , PHI Learning Private Limited , New Delhi ,Third Edition , 2011.

2. Kolman ,Busby,Ross , *Discrete Mathematical Structures* , PHI Learning private Limited , New Delhi , Sixth Edition , 2009.

3. Liu . C L, D P Mohapatra , *Elements of Discrete Mathematics* , Tata Mcgraw Hill Education private Limited , New Delhi , Fifth Reprint , 2010.

4. Semyour Lipschutz / Marc Lipson – *Discrete Mathematics* - Tata Magraw Hill Education private Limited – New Delhi,India - II Edition - 2006.

5. M.K.Sen, B.C.Chakraborty – *Introduction to Discrete Mathematics* - Books And Allied (P) Ltd –Kolkata, India – III Edition - 2008 .

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Title of the Paper	: HTML and Office Automation Lab	
Semester	: I	**Contact Hours : 2**
Subject Code	: 21SEI1P	**Credits : 2**

HTML:

1. a. Write HTML code to develop a web page having the background in red and body My First Page" in any other color.

    b. Create a HTML document giving details of your name, age, telephone, address, roll no. using align tag.

    c. Write HTML code to design a page containing a text in a paragraph give suitable heading style.

    d. Design a page having background color given text color red and using all the attributes of font tab.

2 .a. Write HTML code to create a WebPages that contains an Image at its center.

    b .Create a web Page using href tag having the attribute alink, vlink.

    c. Write a HTML code to create a web page of pink color and display moving message in red color.

3   a. Create a web page, showing an ordered list of name of your five friends.

    b. Create a HTML document containing a nested list showing the content page of any book c. Create a web page, showing an unordered list of name of fruits

4. Write HTML code to create a web page that displays your class time table.

5. Create a web page with Table using Frame concept.

6. Design an application form using all input types.

MS Word:

Open a word document to prepare your "RESUME" by performing the following operations.

Formatting the test, alignment and font style.

Page setup(margin, alignment, page height and width).

1. Create a word document to prepare an application form for college.
2. Create a student mark sheet using table, find out the total and average marks and display the result.
3. Design an invitation of your course inauguration function using different fonts, font sizes, bullets and word art/ clip art.
4. Mail merge
   i) Prepare a business letter for more than one company using mail merge.
   ii) Prepare an invitation and to be sent to specify address in the data source.

MS Excel

6. Create a suitable worksheet with necessary information and use data sort to display the results. Also use data filters to answer at least five different criteria.
7. Create a suitable worksheet with necessary information and make out a suitable chart showing gridlines, legends and titles for axes.
8. Prepare salary bill in a worksheet showing Basic pay, DA, HRA, Gross salary, PF, Tax and Net Salary using suitable Excel functions.
9. Create, display and interact with the data using pivot tables and pivot charts of Excel features.

MS PowerPoint

10. Create a presentation to explain various aspects of your college using auto play
11. Create a presentation to explain the sales performance of a company over a period of five years. Include slides covering the profile of the company, year wise sales and graph with gridlines, legends and title for axes. Use clipart and animation features.

12. Create a presentation from various design templates

13. Prepare a presentation using auto content wizard and your content to auto content wizard.

14. Create a presentation with the audio and video effect.

MS Access

15. Create a "Student details" table for storing marks of N students. The fields of the table are: Reg.no., name, mark1, mark2, mark3 , assignment mark, seminar mark. Set the following constrains in the table.

    i)   Set primary key in the Reg.no. field

    ii)   Assignment marks should be of maximum 5

    iii)   Seminar marks should be of maximum 10

16. Create a query for calculating total and average marks in the student table

17. Create a "Book Details" table with the fields book name, author name, price, name of the publisher, year of publication. Prepare the following queries by using this table:

    i)   use "like" function to filter the author names beginning with the letter 'A'

    ii)   list those books which are published after the year 2010.

    iii)   Make a new table with the fields author name and book name.

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Title of the Paper : Windows Tools and Applications
Semester : I   Contact Hours : 2
Subject Code : 21NMI1   Credits   : 2

Objectives:

1. To acquire knowledge about the Microsoft application software.

2. To prepare Documentations in word and slides in PowerPoint presentations.

3. Know how to use the Objects of toolbar to insert text, WordArt, and Clip Art into a publication.

Unit: I MS - Word: About MS-Word 2000 – **File Menu:** New – Open – Close – Save – Save as a Web page – Page setup – Print – **Edit Menu:** Editing Text – Selecting Text – Undo Typing – Redo Typing – Cut – Deleting text – Copy – Paste – Paste as Hyperlink – Select all – Find and Replace – **View Menu:** Normal View – Web Layout – Print Layout – Ruler – Document map – Header and Footer – Full Screen – **Insert Menu:** Break – Page Number – Date & Time – Auto Text – Field – Symbol – Footnote & End note – Caption – Cross-reference – Index & Tables – Picture – Textbox –Hyperlink.

Unit: II MS-Word: Format menu: Font – Paragraph – Bullets & Numbering – Borders & Shading – Theme – Frames Auto Format – Style – **Tool Menu:** Spelling & Grammar – Language – Word Count – Auto Summarize – Track Changes – Merge Documents – Protect Documents – Online Collaboration – Mail Merge – **Table Menu:** Draw Table – Insert Table – Delete – Select – Merge Cells – Split Cells – Split Table – Table Auto Format.

Unit: III MS-EXCEL: About Excel : Starting Excel – Navigating Worksheets – Opening a New Work Book – Entering Data, Text, Numbers , Dates & Times, Formulas – Entering labels and data – Excel Functions – Creating text, Numbers & date Series – Undo & redo – Saving Workbooks – Editing Worksheet – clearing a cell – Copying data –

Moving Data – Inserting rows, columns and cell ranges – Deleting rows, columns and cell ranges – Headers and Footers – Find and Replace – **Formatting Worksheets:** Numeric Formatting – Custom Formatting – Date & Time Formats – Alignment – Wrap Text – Merge Cells – Orientation – Font – Borders – Patterns – Changing row Height – Sheet – **Charts:** Creating a chart – Save & Print a Chart – Save & Printing Worksheets.

Unit: IV Microsoft PowerPoint: About Power Point: Starting Power Point – Creating a presentation using Auto content Wizard – Creating a Design template – Creating a Blank presentation – Opening an existing presentation – Saving and Closing presentation – Existing Power Point – View, Insert & Edit in Presentation: Using Master – Inserting and Deleting Slides – Viewing a presentation – Entering, Editing, Inserting, Deleting, Moving and Copying text – Inserting text in bulleted list text place holders – **Formatting in Presentations:** Changing the case of the text – Check Spell – Formatting text – Alignment – Line Spacing – Back ground – Colors & Lines – Header and Footer.

Unit: V Microsoft PowerPoint: Inserting Pictures: Inserting Clip art Pictures – Auto shaped feature to add object – Adding movies & sounds – Organization Chart – Word Art – Inserting Table, Chart and Object – **Slid Show in Presentations:** Presentation with group of Slide – View Show – Rehearse Timings – Record Narration – Setup Show for Self-running presentation – Preset & Custom Animation – Slide Transition – Hide Slide – Action Buttons – Custom Shows – Printing a presentation.

Text Book:

Nellai Kannan C - *MS Office -* Nels Publications - Chennai, 5th edition, 2012.

Chapters:

Unit I	:	Chapter 1 – 4 (Word)
Unit II	:	Chapter 5 – 7 (Word)
Unit III	:	Chapter 1 – 3 (Excel)
Unit IV	:	Chapter 1 – 2 (PowerPoint)
Unit V	:	Chapter 4 – 5 (PowerPoint)

Reference Books:

1. Dinesh Maidasani, *MS Office 2000*, Firewall media, New Delhi,1st edition,2003.

2. NellaiKannan.C, *MS Office*, NellaiKannan Publication, Chennai, 5thedition, 2012.

3. Ramesh Benjamin, *Ms Office*, Vikas Publishing House Pvt Ltd, Chennai, 2ndEdition, 2005.

4. Sanjay Saxena,*MS Office 2000*,Vikas publishing house PVT LTD, Chennai,4th Edition, 2009.

5. Stephen Cope stake,*Excel 2003*,Dreamtech Press,NewDelhi,2nd Edition,2004.

6. Paul McFedries,MS office 2000,Kanak Enterprises pressup,NewDelhi,2nd Edition , 2007.

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Title of the Paper	: Object Oriented Programming with C++ and Data Structure		
Semester	: II	**Contact Hours : 5**	
Subject Code	: 21I21	**Credits**	: 4

Objectives:

1. Arm the students with the basic programming concepts.

2. Introduce different techniques pertaining problem solving skills.

3. Arm the students with the necessary constructs of C++ programming and to emphasis on guided practical sessions.

Unit: I Software Crisis – Software Evolution – Basic Concepts of Object Oriented Programming – Benefits of OOP – Object-Oriented Languages - Applications of OOP – Application of C++ - Structure of a C++ Program – Tokens – Keywords – Identifiers – Basic Data Types – User-defined Data types – Derived data types – Symbolic constants – Type compatibility – Declaration of variables – Dynamic initialization of variables – Reference variables – Operators in C++ - Manipulators – Type cast operator – Expressions and their types-Implicit conversions – Control structures – The main function – Function prototyping – inline functions – Function overloading.

Unit: II Specifying a class – Defining member functions – Making an outside function inline – Nesting of member functions – Private member functions – Array within a class – Memory allocation for objects – Static data members – Static member functions – Array of objects - Objects as function arguments – Friendly functions – Returning objects – Constant member functions – Constructors – Parameterized constructor – Multiple constructors in a class – Constructors with default arguments – Dynamic initialization of objects – Copy constructor – Destructors.

Unit: III Defining operator overloading – Overloading unary operators – Overloading binary operators – Overloading binary operators using friend function – Rules for

overloading operators - Defining derived classes – Single inheritance – Making a private member inheritable – Multilevel inheritance – Multiple inheritance – Hierarchical inheritance – Hybrid inheritance - Virtual base classes.

Pointer to objects – this pointer – Pointers to derived classes – Virtual functions – Pure virtual functions

Unit: IV Stacks & Queues: Templates in C++ - The Stack Abstract Data Type - The Queue Abstract Data Type - Subtyping and Inheritance in C++. **Linked Lists:** Singly linked lists and Chains - Representing Chains in C++. **Trees:** Introduction - Binary Trees - Binary Tree Traversal and Tree Iterations - Heaps - Binary Search Trees.

Unit: V Graphs: The Graph Abstract Data Type – Elementary Graph Operation – Minimum Cost Spanning Tree. **Sorting:** Motivation – Insertion Sort – Quick Sort – Merge Sort.

Text Book:

1. Object Oriented Programming with C++**,** E. Balagurusamy, McGraw Hill Education (India) Private Limited, New Delhi, Sixth Edition*,* 2013.
2. Elis Horowitz, Sartaj Sahni, Dinesh Mehta, *Fundamentals of Data structures in C++*, Universities Press (India) Private Limited, Hyderabad, Second Edition, Reprint 2013.

Chapters:

Unit I :   Chapters 1 (Except 1.3, 1.4), 2 (Only 2.6) , 3 (Except 3.20, 3.21, 3.22)
            & 4 (4.2, 4.3, 4.6, 4.10)
Unit II : Chapters 5 (Except 5.18, 5.19), 6 (Except 6.8, 6.9, 6.10)
Unit III : Chapters 7 (Except 7.6, 7.7 & 7.9) , 8 (8.2 – 8.9), 9 (9.3 - 9.7)
Unit IV : Chapters 3(3.1 – 3.4), 4 (4.1 , 4.2), 5 (5.1 – 5.3, 5.6, 5.7)
Unit V : Chapters   6 (6.1 – 6.3), 7 (7.1 – 7.3, 7.5)

Reference Books:

1. Ashok N.Kamthane,*Object Oriented Programming with Ansi& Turbo C++,* Pearson Education, New Delhi, First Edition, 2003.

2. John R.Hubbard,*Programming with C++,* Tata McGraw Hill Publishing Company Private Limited, New Delhi, Second Edition, 2007.

3. PoornachandraSarang,*Object-Oriented Programming With C++*, PHI

Learning Private Limited, New Delhi, 2nd Edition, 2009.

4. RadhaGanesan.P,*Programming with C++,*Scitech Publication Private Limited, Chennai, First Edition, 2002.

5. Aaron M. Tenenbaum, Moshe J. Augenstein & Yedidyah Langsam , *Data Structure using C & C++* , Prentice Hall of India Private Limited , New Delhi , Second Edition , 2005.

6. Mark Allen Weiss, *Data Structures and Algorithms Analysis in C*, Pearson Education Inc. and Dorling Kindersley Publishing Inc., New Delhi, Second Edition, 2010.

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Title of the Paper : Object Oriented Programming with C++ and Data Structure Lab
Semester : II **Contact Hours : 5**
Subject Code : 21I2P **Credits** : 4

Object Oriented Programming with C++:

1. Program for solving m power n using default arguments.
2. Swapping of two values using functions.
3. Maximum of two numbers using Friend function.
4. Inline function.
5. Program for Constructor.
6. Program for Single Inheritance.
7. Program for Multiple Inheritances.
8. Abstract Class, Virtual Base Class.
9. Demonstrating the use of **"this"** pointer.
10. Number manipulation using Operator Overloading.
11. Program for Polymorphism and Virtual Functions.
12. Program for Type conversion.
13. Program for I/O Manipulators.
14. Count number of objects in a file.
15. Demonstrating the use of Command-line arguments.

Data Structure Programs:

1. Implementation of Stack using Array
2. Implementation of Queue using Linked List
3. Single Linked List
4. Binary Tree Traversal
5. Insertion / Merge / Quick Sort
6. Linear Search / Binary Search

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Title of the Paper : Resource Management Techniques	
Semester : II	**Contact Hours : 5**
Subject Code : 21AI2	**Credits** : 5

Objectives:

1. The objective of the course is to notify students with the application of operations research to business and industry

2. To expose them to various tools, techniques and methods available for decision making.

3. Understand the mathematical tools that are needed to solve optimization problems.

Unit: I Operation Research: The nature and meaning of OR-Management Applications of OR- General methods for solving OR models - Main characteristics of OR-Main Phases of OR - Scope of OR-Role of Computers in OR.

Unit: II Linear Programming and its Applications: Formulation of LP Problems – Graphical Solution of properly behaved LP Problem – General Formulation of LPP-Slack and Surplus Variables.

Unit: III Simplex Method : Computational Procedure of Simplex Method - Artificial Variable Technique - Two phase method – Big-M-Method.

Unit: IV Transportation Problems: Mathematical Formulation – Initial Basic Feasible Solution to Transportation Problem - Methods for initial Basic Feasible Solution.

Unit: V Assignment Models: Mathematical Formulation of Assignment Problem – Hungarian Method for Assignment Problem- Assignment Algorithm- A rule to draw minimum number of Lines- Unbalanced assignment Problem- The Maximal assignment Problem- Restriction on Assignment Problem.

Text Book:

Sharma.S.D, *Operations Research,* Kedar nath Ram nath & Co, India, sixteenth Edition, 2012.

Chapters:

Unit I   : Chapter 2.2,2.3,2.7,2.9,2.10,2.11,2.15.

Unit II   : Chapter 3.1,3.20,3.31.

Unit III   : Chapter 5.23,5.33,5.37.

Unit IV   : Chapter 15.1,15.7,15.43.

Unit V   : Chapter 16.1,16.3,16.6,16.18,16.22,16.27.

Reference Books:

1. Hamdy A.Taha, *Operations Research An Introduction,* PHI Learning private Limited, New Delhi, Eighth Edition,2008.

1. KandiSwapur , Gupta.P.K, Man Mohan, *Operations Research,* Sultan Chand & Sons, New Delhi, Fifteenth Thoroughly Revised Edition, 2011.

2. V.K. Kapoor, *Operations Research,* SultanChan & Sons, New Delhi, 17th edition, 2003.

3. Man Mohan, *Problems in Operation Research,* Sultan Publishers, New Delhi, 10th edition, 2004.

4. Natarajan.A.M,Balasubramani.P,Tamilarasi.A, *Operations Research,* Baba BarkhaNath Printers,India, Third Impression, 2008.

5. NitaH.Shah, Ravi M.Goal, HardikSoni, *Operations Research,* PHI Learning Private Limited, New Delhi, Third Edition, 2009.

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DEPARTMENT OF INFORMATION TECHNOLOGY-UG
(w.e.f. 2021 – 2022 onwards)

Title of the Paper	: Desktop Publishing Lab		
Semester	: II	**Contact Hours : 2**	
Subject Code	: 21SEI2P	**Credits**	: 2

1. **Use Adobe PageMaker** for

    a. Creating and opening publications, use of toolbox, palettes, text and graphics, templates, saving publications – create a notice for an exhibition

    b. Tutorial positioning ruler guides, typing text, formatting graphics, creating columns, creating styles, changing typestyle and alignment, rotating and moving text and graphics, tabs, creating leaders, positioning and resizing logos. – create a tabulated invoice for a company

2. Constructing a publication with the following features: set-up pages, edit master pages, choosing measurement system and setup ruler, alignment, layout, page-numbers, rearrange pages, apply header/footer, import text, thread text blocks, balance columns, edit story, use frames and layers, lock objects, wrap text around graphics, crop graphics.

3. **Use CorelDraw** for

    a. Creating a drawing, set rulers, grid, guidelines, and view document.

    b. Drawing, moving, shaping objects, lines and curves, dimension line, working with style and templates

    c. Grouping/ungrouping, locking/unlocking objects, using layers, aligning and editing objects – pattern/texture fills, editing/applying end shapes, splitting/erasing portions, positioning, moving, stretching, and rotating objects

    d. Formatting text and paragraph, creating and adding blends, envelopes, extrusions, 3D special effects, different formats and layouts, previewing, sizing and printing a job.

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Title of the Paper : Introduction to Internet
Semester : II   **Contact Hours : 2**
Subject Code : 21NMI2   **Credits** : 2

Objectives:

1. Describe the important features of the Web and Web browser software.

2. Evaluate e-mail software and Web-based e-mail services.

3. Use search engines and directories effectively.

Unit: I Internet: Introduction – What is Internet – How does Internet Work – Special about the Internet – History of Internet – **World Wide Web:** Introduction – Internet and Web – How the Web Works – History of WWW.

Unit: II Web Browsers and Web Browsing: Web Browsers – Types of Browsers – Web Browsing – **Searching the Web:** Information Sources – Finding Information on the Internet – Searching the Web – Web Directory – Search Engine.

Unit: III Internet Addressing: Introduction – IP Address – Domain Names – Domain Name System – Uniform Resource Locator .

Unit: IV Internet Protocols: Introduction – Transmission Control Protocol / Internet Protocol – File Transfer Protocol – Hypertext Transfer Protocol – Telnet - Gopher

Unit: V Electronic Mail: Introduction – E-Mail Works – Mailing Basics – How private is the E-mail – Spamming – E-Mail Advantages & Disadvantages – E-Mail Safety Tips – Smileys (Emoticons) – Free E-mail Providers – **Websites and Web Pages:** Introduction – Web Design – **Overview of Web Technologies:** Introduction – HTML.

Text Book:

Alexis Leon & Mathews Leon, *Internet for Every One*, Vikas Publishing House Private Limited, New Delhi, 15ᵗʰ Anniversary Edition, 2012.

Chapters:

Unit I	:	Chapter 1, 4
Unit II	:	Chapter 5, 6
Unit III	:	Chapter 8
Unit IV	:	Chapter 9
Unit V	:	Chapter 10, 11(11.1, 11.2), 12(12.1, 12.2)

Reference Books:

1. Alexis Leon, Mathews Leon, *The Internet for Everyone,* LXL Consultancy Service PVT Ltd, Chennai, Reprint, 2004.

2. Christian Crumlish, *The Internet,* Manish Jain for BPB Publications, New Delhi, 1999.

3. Douglas Comer. E, *The Internet,* Addison Weslay Longman PVT Ltd, New Delhi, 3rd Edition, 2001.

4. Harley Hahn, *The Internet Complete Reference,* Tata McGraw Hill Publishing Company Ltd, New Delhi, 2nd Edition, Seventh Reprint 2000.

5. Margaret Levine Young, *The Complete Reference for Internet,* Tata McGraw Hill Publishing Company Ltd, New Delhi, 2nd Edition, 2000.

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ADD ON COURSE

Web Page Designing

1. This Course is taken up by first year Information Technology 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**	21IAOC	**Theory:** Web Page Designing
2.	**I**	21IAOCP	**Practical:** Web Page Designing Lab

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ADD ON COURSE
(w.e.f. 2021 – 2022 onwards)

Title of the Paper : Web Page Designing
Semester   : I   **Contact hours: 15 Hrs**
Subject Code   : 21IAOC   **Credit : 1**

Objectives:

1. Be aware of the principles of Web page design.

2. Understand basics in web page design.

3. Visualize the basic concept of HTML. zzz

4. Recognize the elements of HTML.

5. Know about Cascade Style Sheet.

Unit-I:

Web Design Principles: Basic principles involved in developing a web site - Planning process - Five Golden rules of web designing - Designing navigation bar - Page design - Home Page Layout – Design Concept.

Unit –II:

Basics in Web Design: Brief History of Internet - What is World Wide Web - Why create a web site - Web Standards - Audience requirement.

Unit –III:

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

Unit -IV: Elements of HTML: Introduction to elements of HTML - Working with Text - Working with Lists, Tables and Frames - Working with Hyperlinks, Images and Multimedia - Working with Forms and controls.

Unit - V:

Introduction to Cascading Style Sheets: Concept of CSS - Creating Style Sheet - CSS Properties - CSS Styling(Background, Text Format, Controlling Fonts) - Working with block elements and objects - Working with Lists and Tables - CSS Id and Class - Box Model(Introduction, Border properties, Padding Properties, Margin properties) - CSS Advanced(Grouping, Dimension, Display, Positioning, Floating, Align, Pseudo class, Navigation Bar, Image Sprites, Attribute sector) - CSS Color Creating page Layout and Site Designs.

Text Book:

Kogent LearningSolutions Inc., HTML 5 in simple steps, Dream Tech Press.

Reference Books:

1. Ian Pouncey, Richard York   *Beginning CSS: Cascading Style Sheets for Web Design*, Wiley India.
2. John Duckett   *Beginning HTML, XHTML, CSS, and JavaScript*,   Wiley India.
3. Kogent Learning, *Web Technologies: HTML, Javascript*, Wiley India.
4. Meyer, Eric. A. and Weyl, Estelle.*, Cascading Style Sheets : The Definitive Guide*, O'Reilly & Associates, 2017.
5. Pouria Amirian, Adam Winstanley, *Web Application Development Essentials: With HTML5, JavaScript, jQuery, CSS, and ASP.NET*, Apress   CA United States - August 2016.

PRACTICALS

Title of the Paper: Web Page Designing Lab
Semester : I   **Contact Hours :** 15 Hrs
Subject Code : 21IAOCP

List of Programs:

1. Write a html Program to illustrate body and pre tags

2. Write a html Program to illustrate comment, h1….h6, and div tag

3. Write a html Program for Order & Under List

4. Write a html Program for Picture Marque

5. Write a html Program for Image Pasting

6. Write a html Program for Hyperlink

7. Write a html Program for Time Table

8. Write a html Program for Color Frame

9. Write a html Program for Home page Design

10. Write a html Program for Application Form

11. Write a html Program to Create web page using CSS

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VALUE ADDED COURSE
(w.e.f. 2021 – 2022 onwards)

Web Development

1.This Course is taken up by Third year Information Technology 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	21IVAC	**Theory:** Web Development
2.	V	21IVACP	**Practical:** Web Development Lab

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

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CBCS
DEPARTMENT OF INFORMATION TECHNOLOGY – UG
VALUE ADDED COURSE
(w.e.f. 2021 – 2022 onwards)

Title of the Paper: Web Development
Semester   : V   **Contact Hours : 15 Hrs**
Subject Code   : 21IVAC   **Credits   : 1**

Objectives:

- Create a basic web page using HTML

- Apply styles to page elements using CSS

- Create PHP programs that use various PHP library functions, and that manipulate files and directories.

- Analyze and solve various database tasks using the PHP language.

- Develop basic programming skills using JavaScript

Unit-I: HTML Introduction - Introduction to HTML-What are HTML Tags and Attributes?-HTML Tag vs. Element-HTML Attributes.**HTML-Basic Formatting Tags**-HTML Basic Tags-HTML Formatting Tags-HTML Color Coding. **HTML-Lists-**Unordered Lists-Ordered Lists-Definition list. **HTML Table -** < table >- < th > -< tr > -< td >-< caption >-< thead >-< tbody >-< tfoot >-< colgroup **>-<** col >. **HTML Form** - < input >- < textarea >-< button >-< select >-< label **>. HTML He**aders- Title-Base-Link-Styles-Script-Meta

Unit –II: CSS Introduction - **CSS Syntax-** External Style Sheet using < link >-Multiple Style Sheets. **CSS Syntax- S**ingle Style Sheets- Multiple Style Sheets. **CSS Text Fonts-**color-background-color-text-decoration-text-align-vertical-align-text-indent-text-transform-white   space-letter-spacing-word-spacing-line-height-font-family-font-size-font-style-font-variant-font-weight.   **CSS Lists Tables**-list-style-type-list-style-position-list-

style-image-list-style-CSS Tables-border-width & height-text-align-vertical-align-padding-color.

Unit-III: **Introduction to JavaScript -**Language Syntax-Built-In Functions-Working with Objects-Call method in JavaScript-Inheritance in JavaScript using prototype**-Introduction of PHP -** Server-side scripting-PHP comments, variables -echo and print-PHP operators, data types--Branching statements-Loops-Arrays

Unit-IV: Introduction of MySQL - Understanding Database and Structure- Introduction to Normalization and Data Modeling-Introduction to MySQL and Datatypes-SQL Statements - Create, Insert, Update, Select and Delete-Where Clause-Joins-Group Functions-Connect to MySQL from PHP-Procedural and PDO functions-Backup and Recovery. **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-V: Customizing Theme Appearance -Customizing Appearance-Customizing the Site Identity (Logo, Title, & Tagline)-Adding a Site Icon (Favicon)-Customizing the Header-Customizing Colors. **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. **WordPress Plugins**: About, Installing, & Updating .- About WordPress Plugins-Installing a WordPress Plugin -Updating Plugins

Book Reference:

1.Jeremy Osborn, Jennifer Smith, and the AGI Training Team, *Web Design with HTML and CSS,* Wiley Publishing, Inc., Indianapolis, Indiana,2011.

2. Jennifer Niederst Robbins, *Learning web designing A Beginners guide to HTML,CSS, Java script and Web graphics,* oreilly publications, new delhi, Fourth Edition, A 2012.

3. Mariza Maini, *WEB DESIGN Manual,* Open Society for Idea Exchange, Zagreb, 2015.

PRACTICALS

Title of the Paper: Web Development Lab
Semester   : V   **Contact Hours : 15 Hrs**
Subject Code   : 21IVACP

List of Programs:

1. Design the following static web pages required for an online book store web site.

   1) HOME PAGE: The static home page must contain three **frames**.

   2) LOGIN PAGE

   3) CATOLOGUE PAGE: The catalogue page should contain the details of all the

   books available in the

   web site in a table.

   4) REGISTRATION PAGE

2. Develop and demonstrate the usage of inline, internal and external style sheet using CSS

3. Write an HTML page that contains a selection box with a list of 5 countries. When the user

   selects a country, its capital should be printed next in the list. Add CSS to customize the

   properties of the font of the capital (color, bold and font size).

4. Write *JavaScript* to validate the following fields of the Registration page.

   1. First Name (Name should contains alphabets and the length should not be less

   than 6 characters).

   2. Password (Password should not be less than 6 characters length).

   3. E-mail id (should not contain any invalid and must follow the standard pattern

   name@domain.com)

   4. Mobile Number (Phone number should contain 10 digits only).

   5. Last Name and Address (should not be Empty).

5. Develop and demonstrate PHP Script for the following problems:

      a) Write a PHP Script to find out the Sum of the Individual Digits.

      b) Write a PHP Script to check whether the given number is Palindrome or not

6. Write a PHP Program to display current Date, Time and Day.

7. Implement the web applications with Database using

   (a) PHP (b) Servlets and (c) JSP.

8. Write a program to design a simple calculator using

(a) JavaScript (b) PHP (c) Servlet and (d) JSP.