

DEPARTMENT OF
B. Voc. SOFTWARE DEVELOPMENT
(2023-24)



HOLY CROSS COLLEGE (AUTONOMOUS)
TIRUCHIRAPPALLI-620 002
SCHOOL OF MATHEMATICAL COMPUTATION SCIENCES
DEPARTMENT OF B. Voc. (SOFTWARE DEVELOPMENT)
CHOICE BASED CREDIT SYSTEM
LEARNING OUTCOME-BASED CURRICULUM FRAMEWORK (LOCF)

Programme Outcomes (POs)

- PO 1** - Demonstrate ability and attitude to acquire knowledge and skills in the advancing global scenario to apply them effectively and ethically for professional and social development.
- PO 2**- Involve in research and innovative endeavors and share their findings for the wellbeing of the society.
- PO 3**- Work effectively in teams and take up leadership in multi-cultural milieu.
- PO 4**- Act with moral, ethical and social values in any situation.
- PO 5**- Excel as empowered woman to empower women
- PO 6**- Participate in activities towards environmental sustainability goals as responsible citizens.
- PO 7**- Promote Analytical and logical skill to make them to work effectively in IT industry as a task manager.
- PO 8**- Inculcate innovative techniques and computational knowledge for industrial needs and societal empowerment.
- PO 9** - Bring forth the holistic personality with critical, cognitive and inclusive thinking.

Programme Specific Outcomes (PSOs)

- PSO 1** – Apply the acquired knowledge in diverse areas of software development to provide creative solutions for real-time computational problems.
- PSO 2** – Create innovative software applications for Web, Mobile, Virtual, Cloud and Smart environments by adapting emerging technologies.
- PSO 3** – Develop practical competency and potential in software development to meet the demand of software industries.

(For Candidates admitted in the academic year 2023-2024)
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 SCHOOL OF MATHEMATICAL COMPUTATION SCIENCES
 DEPARTMENT OF B. Voc. (SOFTWARE DEVELOPMENT)
 CHOICE BASED CREDIT SYSTEM
 LEARNING OUTCOMES-BASED CURRICULUM FRAMEWORK (LOCF)
 UG COURSE PATTERN-TANSCHÉ
 B. Voc. (Software Development)

SEMESTER -I NSQF- Level 4
 (*Qualification Pack: SSC/Q0110 -Domestic IT Helpdesk Attendant)

Semester	Part	Title of The Course	Code	Hours/ Week	Credits	Marks	
I	I	Language – General Tamil I / Hindi I/ French I	U23TL1GEN01/ U23HN1HIN01/ U23FR1FRE01	6	3	100	
	II	Communicative English-I	U23SD1ENT01	6	3	100	
	III		Core Course 1 – Computing fundamentals and C Programming	U23SD1CCT01	4	4	100
			Core Course 2 - Programming in C-Lab	U23SD1CCP02	5	5	100
			*Core Course 3 - Domestic IT Helpdesk Attendant	U23SD1CCP03	5	5	100
			Elective –I –Basic Mathematics	U23MA1ECT02	4	4	100
			Skill Enhancement Course SEC-1 Web Designing-Lab	U23SD1SEP01	2	2	100
	IV		Ability Skill Enhancement Course – Soft Skill I	U23SD1AET01	2	2	100
			Skill Enhancement Foundation Course FC – MSOffice-Lab	U23SD1FCP01	2	2	100
			Value Education Ethics-I/ Bible Studies-I/Catechism-I	U23VE2LVE01/ U23VE2LVB01/ U23VE2LVC01			
TOTAL				36	30	900	

SEMESTER II- NSQF Level 5
 (*Qualification Pack: SSC/Q0503- Web developer)

II	I	Language – General Tamil-II / Hindi-II/ French-II	U23TL2GEN02/ U23HN2HIN02/ U23FR2FRE02	5	3	100	
	II	Communicative English-II	U23SD2ENT02	5	3	100	
	III		Core Course 4 – Data Structures and Algorithms	U23SD2CCT04	5	5	100
			Core Course 5 - Data Structures and Algorithms-Lab	U23SD2CCP05	5	4	100
			*Core Course 6 - Web Development-Lab	U23SD2CCP06	5	5	100
			Elective – 2 -Statistics for Data Analytics	U23MA2ECT04	4	4	100
			Skill Enhancement Course SEC-2 Animation- Lab	U23SD2SEP02	2	2	100
	IV		Ability Skill Enhancement Course – Java Script Programming-Lab	U23SD2AEP02	2	2	100
			Skill Enhancement Course –SEC-3 – Sustainable Rural Development and student social responsibility	U23RE2SET03	2	2	100
			Extra Credit Course - Massive Open Online Course (MOOC)	U23EX2ONC01	-	2(EC)	100
		Value Education Value Education Ethics-I/ Bible Studies-I/Catechism-I	U23VE2LVE01/ U23VE2LVB01/ U23VE2LVC01	1		100	
TOTAL				36	30 + 2(EC)	1100	

SEMESTER III -NSQF Level 6

(*Qualification Pack: SSC/Q0509- Master Trainer for Junior Software developer)

III	I	Language – General Tamil III / Hindi III/ French III	U23TL3GEN03/ U23HN3HIN03/ U23FR3FRE03	5	3	100	
	II	Communicative English-III	U23SD3ENT03	5	3	100	
	III	Core Course 7 –Programming in Java		U23SD3CCT07	5	5	100
		Core Course 8 – Programming in Java-Lab		U23SD3CCP08	5	5	100
		*Core Course 9 –Augmented Reality and Virtual Reality		U23SD3CCP09	5	5	100
		Elective – 3 Digital Electronics and Microprocessors		U23PH3ECT04	4	4	100
		Skill Enhancement Course – SEC-4 - Entrepreneurial Skill		U23SD3SEP04	2	1	100
	IV	Ability Skill Enhancement Course		U23SD3AET03	2	2	100
		Skill Enhancement Course –SEC-5 – Industrial Relations -Script Programming		U23SD3SET05	1	2	100
		Extra Credit Course - Massive Open Online Course (MOOC)		U23EX3ONC02	-	2(EC)	100
		Value Education- Ethics-II/ Catechism-II / Bible Studies-II			1		
	TOTAL				35	30 + 2(EC)	1000

SEMESTER -IV NSQF- Level 6

(*Qualification Pack: SSC/Q0509- Master Trainer for Junior Software developer)

IV	I	Language – General Tamil IV / Hindi IV/ French IV	U23TL4GEN04/ U23HN4HIN04/ U23FR4FRE04	5	3	100	
	II	Communicative English- IV	U23SD4ENT04	5	3	100	
	III	Core Course- 10 –Database Systems		U23SD4CCT10	5	4	100
		Core Course 11 – Database Systems-Lab		U23SD4CCT11	5	5	100
		*Core Course 12 –Android Development -Lab		U23SD4CCP12	5	5	100
		Elective – 4- Basics of Accounting and Tally Lab		U23BV4ECP04	3	3	100
		Skill Enhance Course SEC – 6 Data analytics using R Programming		U23SD4SEP06	2	2	100
	IV	Ability Skill Enhancement Course		U23SD4AEC04	2	2	100
		Environmental Studies		U23ES4EVS01	2	2	100
			Value Education-- Ethics-II/ Catechism-II / Bible Studies-II	U22VE4LVE02/ U22VE4LVB02 U22VE4LVC02	1		100
	TOTAL				35	30	1000

SEMESTER -V NSQF- Level 7
(Qualification Pack: SSC/Q6702- Software Developer)

V	III	Core Course 13 – Python Programming	U23SD5CCT13	5	5	100
		Core Course 14 -Python Programming Lab	U23SD5CCP14	5	5	100
		Core Course 15 –Computer Network	U23SD5CCT15	5	5	100
		Core Course 16 –C#.Net Technologies	U23SD5CCP16	6	5	100
		Elective-5 (Discipline Specific) – Software Engineering / Software Testing	U23SD5ECT01/ U23SD5ECT02	4	3	100
		Elective-6 (Discipline Specific) – Cloud Computing/Big Data Analytics	U23SD5ECT03/ U23SD5ECT04	4	3	100
	IV	Value Education – Ethics-III/ Catechism-III / Bible Studies-III		1	-	100
		*Summer Internship / Industrial Training	U23SD5INT01	-	4	100
		Extra Credit Course - Massive Open Online Course (MOOC)	U23EX5ONC03	-	2(EC)	100
TOTAL				30	30 + 2(EC)	900

SEMESTER -VI NSQF- Level 7
(Qualification Pack: SSC/Q6702- Software Developer)

VI	III	Core Course 17 – Operating System	U23SD6CCT17	4	4	100	
		Core Course 18 - Internet of Things	U23SD6CCT18	4	4	100	
		Core Course 19 – Internet of Things-Lab	U23SD6CCT19	5	3	100	
		Core Course 20 – Flutter and Dart Programming- Lab	U23SD6CCP20	5	4	100	
		*Core Course 21 –Project -Mobile Applications/Embedded Applications	U23SD6CCP21	5	5	100	
		Elective – 7 (Discipline Specific) –Information Security/Cyber forensics and cyber law	U23SD6ECT01 / U23SD6ECT02	4	3	100	
		Elective –8 (Discipline Specific) – Introduction to Machine Learning /Edge computing	U23SD6ECT03 / U23SD6ECT04	4	3	100	
	IV	SEC 8-Professional Competency Skill Enhancement Course	U23SD6SET07	2	2	100	
		Value Education – Ethics-III/ Catechism-III / Bible Studies-III	U23VE6LVE03 U23VE6LVC03 U23VE6LVB03	1	1	100	
	V	Extension Activity-Service Oriented Skill	U23EA6SOC01		1	100	
		Extra Credit Course - RESCAPES	U23EX6RES01	-	4(EC)	100	
	TOTAL				34	30 + 4(EC)	1100
	GRAND TOTAL				208	180+10(EC)	6000

(For Candidates admitted in the academic year 2023-2024)

Course Title	COMMUNICATIVE ENGLISH- I
Code	U23SD1ENT01
Course Type	Theory
Semester	I
Hours/Week	6
Credits	3
Marks	100

CONSPECTUS

To understand the communication process and basics skills of Listening, Speaking, Reading & Writing and apply them in the workplace scenarios and day-to-day lives

COURSE OBJECTIVES

1. To learn the fundamentals of the communication process and to be able to communicate effectively in both formal and informal situations
2. To develop effective listening skills and apply them to communicate better.
3. To identify those aspects of self and to build a better profile of the self to become employable
4. To discover and comprehend different kinds of texts to build better vocabulary and language
5. To build effective writing skills and to demonstrate writing official mails and writing for pleasure

UNIT I

18Hrs

The Communication Process

Definition of Communication – The communication process – Internal and External Communication – Vertical & Grapevine Communication – Roles- Message-Medium- Environment/Context- Style and Tone- Verbal and Non-Verbal Communication–Body Language

Extra Reading/KeyWords: *Types of Corporate Communication*

UNIT II

18Hrs

Listening

Pre Listening– knowing the content and context – predicting the text – Listening to a Conversation- Listening to Instructions-Listening to description

Extra Reading/Keywords: *Active Listening*

UNIT III

18Hrs

Speaking

I, Me, Myself–Introducing self, the place I belong to, etc.-My Family
My Favorite things (Food, Movies, School, Friends)-My Aim (Goal Setting)

Extra Reading/Keywords: *Positive Self-image and Self Esteem*

UNIT IV**18Hrs****Reading**

Understanding what I read right – Spelling and Grammar –Reading Instructions Reading Newspapers–SPELT Technique-Reading Magazines–Reports –Manuals

Extra Reading/KeyWords: *Different types of Texts-Templates on reports, agreements & documents*

UNIT V**18Hrs****Writing**

From complex to simple writing–principle of good Writing-Asking permission

Inviting – Writing for pleasure (blogs, poems, articles) a page from my autobiography, If I were the PM, Favorite things

Extra Reading/Keywords: *Effective Letter writing*

Note: Texts given in the Extra reading /Key words must be tested only through Assignment and Seminars.

COURSE OUTCOMES:

CO. No.	Course Outcomes	Cognitive Level (K1-K5)
CO-1	Overview of communication process and introduction to Corporate communication	K1
CO-2	Listening skills–pre, while and post listening	K2
CO-3	Self-Introduction skills	K3
CO-4	The learners become effective in reading and understanding Spelling and grammar	K4
CO-5	The learners can develop effective writing skills to demonstrate official emails and informal mails	K5

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze, k5=Evaluate)

TEXTBOOKS

1. Courtl and L. Bovee & Jhon V. Thill, Business Communication Today, 14th Edition. Pearsons
2. Shalini Varma, Body Language, Your Success Mantra, Second Edition, Books33

SUGGESTED READINGS

1. Norman Lewis, Word power Made Easy, 2015 Edition
2. Meenakshi Raman and Sangeets Sharma, Technical Communication, 2015 Edition
3. Wren and Martin, High School English Grammar
4. The Hindu and The New Indian Express

WEB REFERENCES

1. <https://www.cambridgeenglish.org/learning-english>
2. <https://www.businessballs.com/>
3. <https://www.thoughtco.com/>
4. <https://ed.ted.com/>

Note: Learners are advised to use latest edition of books.

PO-CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	L	H	H	M	M	H	H	L
CO-2	H	M	H	H	M	M	H	H	L
CO-3	H	M	H	H	M	M	H	H	L
CO-4	H	M	H	H	M	M	H	H	L
CO-5	H	M	H	H	M	M	H	H	L

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	M	M	M
CO-2	H	M	M
CO-3	H	H	M
CO-4	M	M	M
CO-5	M	M	M

(For Candidates admitted in the academic year 2023-2024)

Course Title	CORE COURSE I-COMPUTING FUNDAMENTALS AND C PROGRAMMING
Code	U23SD1CCT01
Course Type	Theory
Semester	I
Hours/Week	4
Credits	4
Marks	100

CONSPECTUS

To understand the concepts of problem-solving approaches and to develop programming skills using C language

COURSE OBJECTIVES

1. To understand the concepts of algorithms and create flowcharts for a given problem
2. To apply the basic concepts of C in real-time applications
3. To analyze the control constructs, different types of arrays and apply the concepts for problemsolving in real time
4. To understand the concepts of strings, user defined functions, structures and union in C
5. To understand the basics of pointers and create files using C

UNIT I

12Hrs

UNDERSTANDING FUNDAMENTALS OF THE COMPUTER: Introduction –Generations of Computers – Classification of Computers-Basic Anatomy of a Computer System- Input Devices – Processor-Output Devices-Memory Management – Types of Computer Software- Overview of Operating System.

COMPUTING CONCEPTS: Programming Languages –Translator Programs-Problem Solving Techniques.

Extra Reading/Keywords: *Develop Algorithms for real time applications.*

UNIT I

12Hrs

OVERVIEW OF C: Introduction-Importance of C-Basic Structure of C Programs-Executing a C Program. **CONSTANTS, VARIABLES, AND DATA TYPES:** Introduction–Character Set– C Tokens– Keywords and Identifiers–Constants–Variables–Data Types–Declaration of Storage Class.

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.

MANAGING INPUT AND OUTPUT OPERATORS: Introduction-Formatted Input-Formatted Output.

Extra Reading/Keywords: *Basic I/O and Control operations in C Language.*

UNIT III

12Hrs

DECISION MAKING AND BRANCHING: Introduction-Decision Making with if Statement- Simple if Statement- if else Statement – Nesting of if...else Statements – The Else if Ladder – Switch Statement-? Operator– GOTO Statement.

DECISION MAKING AND LOOPING: Introduction–The While Statement-The Do Statement–forStatement-Jumps in Loops.**ARRAY:** Introduction– One-dimensional Array– Two-dimensional Arrays- Initializing Two-dimensional Arrays–Multi-dimensional Arrays.

Extra Reading/ Keywords: *Develop multidimensional array programs with Branching and looping constructs*

UNIT IV

12Hrs

CHARACTER ARRAY AND STRINGS: Introduction-Declaring and Initializing String Variables- Arithmetic Operations on Characters-String-handling Functions-Table of Strings

USER-DEFINED FUNCTIONS: Introduction-Definition of Functions-Function Declaration- Category of functions-No Arguments and No Return Values-Argument but No Return Values- Arguments with Return Values–No Arguments but Returns a Value– Functions that Return Multiple Values–Recursion.

STRUCTURES AND UNIONS: Introduction–Defining a Structure- Declaring Structure Variables – Accessing Structure Members – Structure Initialization –Arrays of Structures –Arrays Within Structures–StructuresWithinStructures-StructuresandFunctions–Unions.

Extra Reading/Keywords: *Create Programs using functions, Structures and Unions*

UNIT V

12Hrs

POINTERS: Introduction-Understanding Pointers-Accessing the Address of a Variable- Declaring and Initializing Pointers –Accessing a Variable through its Pointer – Chain of Pointers – Pointer Expressions-Pointers and Arrays-Pointers and Character Strings –Arrays of Pointers- Pointers to Functions–Pointers and Structures.

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.

Extra Reading/Keywords: *Implement the system and file concepts using Pointers.*

Note: Texts given in the Extra reading /Key words must be tested only through Assignment and Seminars.

COURSE OUTCOMES

CO No.	Course Outcomes	Cognitive Level (K1-K5)
CO-1	Identify the basic concepts of the programming languages and Examine the effective ways to solve the problems	K1
CO-2	Summarize and associate the correct identifiers, keywords, operators and control structures to solve the problem with reduced complexity and to promote reusability	K2
CO-3	Describe the problem, compare the appropriate pre-build functions, procedures and construct customized coding sequence to solve the problem effectively	K3
CO-4	Construct solutions to solve the real-world problems and develops small to medium sized application program to demonstrate professionally Acceptable coding with performance standards	K4
CO-5	Evaluate various data structure concepts in C programming that suitable for real-time applications	K5

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze, K5=Evaluate)

TEXTBOOKS

1. E. Balagurusamy, Computing Fundamentals and C Programming, McGraw Hill, Second Edition, 2018.
2. E. Balagurusamy, ANSIC Seventh Edition McGraw Hill Education (India) Private Limited, NewDelhi, 2017

SUGGESTED READINGS

1. Brian W. Kernighan and Dennis M. Ritchie, "The C Programming Language", Prentice HallPublishing Company, 2006.
2. Deitel and Deitel, "C how to Program", Seventh Edition, Pearson Education Pvt. Ltd., 2013.
3. R.G. Dromey, "How to Solve it by Computer", Fifth Edition, Pearson Education Pvt. Ltd.,New Delhi, 2007.
4. Kamthane, A.N., "Programming with ANSI and Turbo C", Pearson Education Pvt. Ltd.,New Delhi, 2006.
5. K R Venugopal, Sudeep R Prasad, "Mastering C", Second Edition, McGraw Hill EducationPrivate Limited, 2015.

WEB REFERENCES

1. <https://www.guru99.com/c-programming-language.html>
2. <https://www.tutorialspoint.com/cprogramming/index.htm>
3. <https://www.freecodecamp.org/news/the-c-beginners-handbook/>
4. <https://www.programiz.com/c-programming>
5. <https://www.learn-c.org/>

Note: Learners are advised to use latest edition of books.

PO-CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	M	M	M	M	L	H	H	M
CO-2	M	M	M	M	M	L	H	H	M
CO-3	H	H	H	M	M	L	H	H	M
CO-4	H	H	H	H	H	L	H	H	H
CO-5	H	H	H	H	H	L	H	H	H

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	H	M	M
CO-2	H	M	M
CO-3	H	H	H
CO-4	H	H	H
CO-5	H	H	H

(For Candidates admitted in the academic year 2023-2024)

Course Title	CORE COURSE II-PROGRAMMING IN C- LAB
Code	U23SD1CCP02
Course Type	Practical
Semester	I
Hours/Week	4
Credits	3
Marks	100

CONSPECTUS

To write code and develop application programs using C for solving real-time problems.

COURSE OBJECTIVES

1. To recall the syntax of control structures and solve problems using C
2. To remember the syntax of looping statements and solve problems using C
3. To Create programs for arrays and strings using C
4. To Develop programs for Functions, Pointers and Structures in C
5. To Write programs for creating a file and perform I/O operation on files

EXERCISES

1. Control Statements
2. Loop Statements
3. Arrays (Searching and Sorting)
4. Strings
5. Functions and Pointers
6. Structure and Union
7. Dynamic Memory Allocation
8. Macros and File Handling

COURSE OUTCOMES

CO. No.	Course Outcomes	Cognitive Level (K1-K5)
CO-1	Recognize the basics of C Programming	K1
CO-2	Demonstrate the internal structure of the C Programming	K2
CO-3	Apply different Data type, Structures, functions, files and use the min Programming to solve Computational Problems in the required Domain.	K3
CO-4	Analyze the best logic and methods to solve the problems, develop programs and Tools for Solving Real-time Problems.	K4
CO-5	Justify the suitable data types, functions and pointer, struct and union data structures to solve the given problems	K5

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze, K5=Evaluate)

PO-CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	M	H	H	H	L	H	H	H
CO-2	H	M	H	H	H	L	H	M	H
CO-3	H	M	H	H	H	L	H	M	H
CO-4	H	H	H	H	H	L	H	H	H
CO-5	H	M	H	H	M	L	H	M	H

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	M	M	M
CO-2	H	M	H
CO-3	H	H	H
CO-4	H	H	H
CO-5	H	M	H

(For Candidates admitted in the academic year 2023-2024)

Course Title	COURSE CORE III - QUALIFICATION PACK I – LEVEL 4 – DOMESTIC IT HELPDESK ATTENDANT
Code	U23SD1CCP03
Course Type	Practical
Semester	I
Hours/Week	5
Credits	5
Marks	100

CONSPECTUS

To understand theoretical and practical skills needed for becoming a Domestic IT Helpdesk

COURSE OBJECTIVES

1. To learn the fundamentals of computer systems and Identify information technology enabled services (IT- ITeS).
2. To understand the working principles of the organization, skills and competencies.
3. To study how to Deal directly with IT service requests/incidents
4. To understand techniques to manage your work to meet requirements
5. To learn and understand the concepts of Maintaining a healthy, safe and secure working environment.

LIST OF EXPERIMENTS

1.Operations on Hardware

1. Familiarizing the layout of a computer system and components
2. Assembling a PC
3. Configuring BIOS setup program and troubleshoot the typical problems using BIOS utility
4. HARD DISK partitioning
 - a) Install Hard Disk
 - b) Partition and Format Hard Disk
 - c) Configure CMOS Setup

2.Handling of OS

5. Installation of OS
6. Practicing and familiarizing the control panel items and settings.
7. Printer Installation and Servicing:
 - a) Head Cleaning in printer
 - b) Installing, configuring and troubleshooting Dot matrix printer and Laser printer
8. Installing, configuring and troubleshooting any external hardware devices

3.Software Installation

9. Installation / Uninstallation of any software
10. Setting of Path and Environment variables
11. Assembling/Disassembling a laptop
12. Execution of the basic network commands

4.Troubleshooting

13. Resolving the software issues
14. Resolving the hardware issues
15. Troubleshooting from remote login
16. Create invitations and posters using Canva tool

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	M	M	M
CO-2	H	M	M
CO-3	H	M	H
CO-4	H	M	H
CO-5	H	H	H
CO-6	H	H	H

(For Candidates admitted in the academic year 2023-2024)

Course Title	SKILL ENHANCEMENT COURSE SEC-1 WEB DESIGNING - LAB
Code	U23SD1SEP01
Course Type	Practical
Semester	I
Hours/Week	2
Credits	2
Marks	100

CONSPECTUS

To develop and deploy websites using HTML to understand the table handling tags, frames and frameset for designing web pages.

COURSE OBJECTIVES

1. To understand the basic concepts of html and style sheets.
2. To create web applications using HTML
3. To create web applications using HTML with Stylesheets
4. To design interactive websites with all the features given in Web programming

Exercises:

1. Develop a HTML document which displays your name as **<h1>** heading and displays any four of your friends. Each of your friend's names must appear as hot text. When you click your friend's name, it must open another HTML document, which tells about your friend.
2. Write names of several countries in a paragraph and store it as an HTML document, *world.html*. Each country name must be a hot text. When you click India (for example), it must open *india.html* and it should provide a brief introduction about India.
3. Design a HTML document describing you. Assign a suitable background design and background color and text color
4. Write a HTML document to print your class Time Table.
5. Develop a Complete Web Page using Frames and Framesets which gives the Information about a Hospital using HTML.
6. Write a HTML document to print your Bio-Data in the following format: NAME Religion Community Street Town District State Address PIN Code Office Phone Residence Mobile Educational Qualification Degree University/Institute Month & year Grade / Mark.
7. Develop complete set of web pages to describe your skills in various areas using HTML.
8. Develop a web site to publish your family and the details of each member using HTML.
9. Develop a HTML document to display a Registration Form for an inter-collegiate function.
10. Develop a HTML document to design Alumni Registration form of your college

COURSE OUTCOMES:

CO No.	Course Outcomes	Cognitive Level (K1-K5)
CO-1	Recall the problems and create applications in basics of web programming.	K1
CO-2	Demonstrate the basic operations of web designing and develop Web pages with formatting styles.	K2
CO-3	Apply and identify the features in HTML to present the details given	K3
CO-4	Develop and construct websites by analyzing real time applications requirements.	K4
CO-5	Determine the form tags used to design efficient dynamic web sites	K5

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze, K5=Evaluate)

PO – CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	M	M	H	H	H	L	M	M	M
CO-2	M	M	H	H	H	L	M	M	M
CO-3	M	M	H	H	H	L	M	M	M
CO-4	H	H	H	H	H	L	H	H	H
CO-5	H	H	H	H	H	H	H	H	H

PSO – CO MAPPING

CO/PS O	PSO1	PSO2	PSO3
CO-1	H	M	M
CO-2	M	L	M
CO-3	M	M	M
CO-4	M	L	H
CO-5	H	H	H

(For Candidates admitted in the academic year 2023-2024)

Course Title	ABILITY SKILL ENHANCEMENT COURSE – SOFT SKILL I
Code	U23SD1AEC01
Course type	Theory
Semester	I
Hours/Week	2
Credits	2
Marks	100

CONSPECTUS

The learner will be able to understand the need for the development of self-esteem, Team spirit, and communicative skills to prepare themselves for self-development

COURSE OBJECTIVES

1. To develop leadership skills and build a strong self-esteem.
2. To develop trust, art of reading, listening and build interpersonal relationship
3. To inculcate team work spirit and imbibe corporate working skills.
4. To acquire the skills of time and stress management.
5. To impart the self-development and knowledge on national skill development mission.

UNIT – I INDIVIDUAL CAPACITY BUILDING

6Hrs

Self- Awareness – Building Self Esteem – Importance of Having a strong self-esteem-Developing positive attitude –Anchoring on principles: Universal principles and values – forming and inculcating values-leadership skills

Extra reading /Key words: *professional development and personal growth*

UNIT – II INTERPERSONAL SKILLS

6Hrs

Trust- trustworthiness-Interpersonal Communication – Art of listening- Reading and writing- Art of Writing- Building Relationship –empathy

Extra reading /Key words: *Rapport, Conflict Management*

UNIT – III CORPORATE SKILLS

6Hrs

Vision, Mission and Goals: Concepts, Vision setting, goal setting, individual and group goals, concept of synergy, team building, group skills

Extra reading /Key words: Negotiations, Networking

UNIT – IV MANAGEMENT SKILLS

6Hrs

Development of body language – Practicing etiquette and mannerism – Stress Management, time management – Prioritization (importance and urgent activities) – Time management to move toward life vision.

Extra reading /Key words: human relations, Conceptual Skills

UNIT – V SELF-DEVELOPMENT PLAN

6Hrs

Concept and need for self-development plan- preparing self-development plan, (format is used to complete the self-development plan), Monitoring and evaluation of self development plan- developing indicators for self-development – introduction to national skill development Mission.

Extra reading /Key words: *Resilient*

Note: Texts given in the Extra reading /Key words must be tested only through Assignment and Seminars.

TEXT BOOKS

1. Meena K Ayothi V (2013) A book on development of soft skills (Soft skill: A road map to success) P R Publishers and Distributors, Trichy
2. Alex K (2012) Soft skills – Know You and Know the world S. chand and Company ltd. New Delhi.

SUGGESTED READINGS

1. Francis Thamburaj SJ (2009): Communication soft skilled for professional experience, 1st edition Grace publication
 2. Rathna Reddy B (2005) Team development and leadership, Jaico Publishing House, Mumbai
- Note : Learners are advised to use latest edition of books.*

WEB REFERENCES :

1. <http://osou.ac.in/eresources/DIM-08-BLOCK-3.pdf>
2. <http://www.wright.edu/~scott.williams/skills/selfawareness.htm>

COURSE OUTCOMES

CO No.	Course Outcomes	Cognitive Level (K1-K5)
CO-1	Express social responsibility to fulfil social requirements	K1
CO-2	Apply the interpersonal skills for innovative decision making and constructive professional relationship	K2
CO-3	Focus on effective teamwork and exemplary collaboration skills at workplace	K3
CO-4	Employ the skills of emotional intelligence to distinguish professional obligations and personal commitments.	K4
CO-5	Determine the interpersonal, corporate and manage skills that can be applied in the real time situations	K5

(K1- Remember; K2- Understand; K3 – Apply; K4 – Analyze, K5-Evaluate)

PO – CO MAPPING

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
CO 1	H	L	L	M	M	M	H	H	H
CO 2	H	L	H	M	M	M	H	H	H
CO 3	M	L	H	L	M	M	H	H	H
CO 4	H	L	H	M	M	L	H	H	H
CO-5	H	H	H	H	H	H	H	H	H

PSO – CO MAPPING

CO/PSO	PSO 1	PSO 2	PSO 3
CO-1	H	H	M
CO-2	H	H	H
CO-3	H	M	H
CO-4	H	H	H
CO-5	H	M	M

(For Candidates admitted in the academic year 2023-2024)

Course Title	FOUNDATION COURSE – MSOFFICE-LAB
Code	U23SD1FCP01
Course Type	Practical
Semester	I
Hours/Week	2
Credits	2
Marks	100

CONSPECTUS

To impart practical skills and knowledge on various application software used for office automation like MS-Word, MS-Excel and MS-PowerPoint for creating documents, data analysis, graphical representations and preparing presentations.

COURSE OBJECTIVES

CO No.	Course Objectives
CO-1	Understand to create a document, formatting the text, spell check and printing the Document.
CO-2	Create a main and provide mass distribution of mails using Mail Merge and using tables to present textual and numerical data.
CO-3	Apply Formatting to Spreadsheet for organizing the data.
CO-4	Apply formulas in Spreadsheet and to analyze the data visually through graphical Representations.
CO-5	

LIST OF PRACTICAL EXERCISES MS-WORD:

1. Create and save a document and perform the following:

- Insert an Image and a textbox
- Deletion of Character, Word, line and block of text
- Undo and redo process
- Moving, Copying and renaming

2. Format the Text document using:

- Character formatting
- Paragraph formatting
- Page formatting

3. Spell check the document using:

- Finding and replacing of text
- Bookmarks and Searching for a Bookmarks
- Checking Spelling and Grammar automatically
- Checking
- Spelling and Grammar using Dictionary.

4. Print the document using:

- Print Preview
- Print Dialog box

5. Mail Merge in MS-WORD

- Create main document and data file for mail merging
- Merging the files
- From letters using mail merging
- Mailing labels using mail merging

6. Table creation in MS-WORD

- Create a table in the document
- Add row, column to a table
- Changing column width and row height.
- Merge, split cells of table.
- Use formulae in tables.
- sorting data in a table.
- formatting a table.

MS-EXCEL:

1. Create and save a new work book in Excel

- Entering Data into Worksheet
- Editing data of Worksheet
- Formatting the text in the cells
- Formatting the numbers in the cells
- Formatting cells.
- Copying format of cell along with data format.
- Changing the height and width of cells.
- Freezing Titles, splitting screen

2. Create a Student Worksheet with Reg. No., Name, Mark1, Mark2, Mark3, Mark4, Total, Average, Result and Class to perform the following:

- Inserting built-in function Total & Average in to the cells
- Copying the formula over a range of cells.
- Enter formulae for calculation of Result and Class in the cells.

3. Create an Employee Worksheet with Empno, Name, Department, Designation, Basic Pay, HRA, DA, CCA, Allowances, PF, Housing Loan, Deductions, Gross Pay, Net Pay
Use the formulas for calculating the Allowances, Deductions, Gross Pay, Net Pay

- Create graphs for the data using Chart Wizard.
- Format graphs in Excel.
- Printing of worksheet

4. Create a Sales Data Worksheet and perform the following:

- Use Filters for displaying a particular information
- Use Pivot Tables
- Use Sorting
- Data Validation

MS-POWERPOINT:

Create and save a new presentation using MS Power Point

- Layout of opening screen in Power Point
- The tool bars in MS Power Point
- Choose Auto Layout for a new slide.
- Insert text and pictures into a blank slide.
- Insert new slides into the presentation.
- Apply slide transition effects.
- Slide show.
- Set animation to text and pictures in a slide
- Set the sounds, order and timing for animation

COURSE OUTCOMES

The learner will be able to

CO.No.	Course Outcomes	Cognitive Level (K1-K5)
CO-1	Define the basic concepts of MS-WORD, MS-EXCEL and MS-POWERPOINT	K1
CO-2	Discuss the concepts of creating documents, data analysis, graphical representations and preparing presentations	K2
CO-3	Solve real time applications using appropriate formulae and use correct formatting to organize the data	K3
CO-4	Examine the data visually through graphical Representations and Create professional presentations for any given topic.	K4
CO-5	Apply the MS office tools like MS excel formulas in real time data analyzing situations	K5

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze, K5=Evaluate)

PO – CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	M	M	M	M	L	H	H	M
CO-2	M	M	M	M	M	L	H	H	M
CO-3	H	H	H	M	M	L	H	H	M
CO-4	H	H	H	H	H	L	H	H	H
CO-5	H	H	H	H	H	L	H	H	H

PSO – CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	H	H	H
CO-2	H	H	H
CO-3	H	H	H
CO-4	H	H	H
CO-5	H	H	H

(For Candidates admitted in the academic year 2023-2024)

Course Title	COMMUNICATIVE ENGLISH-II
Code	U23SD2ENT02
Course Type	Theory
Semester	II
Hours/Week	6
Credits	3
Marks	100

CONSPECTUS

Advanced understanding of Listening, Speaking, Reading & Writing

COURSE OBJECTIVES

1. Write and spell correctly
2. Improve listening skills by asking questions and seeking clarification
3. Understand the power of words and choose the right words
4. Read for research, choose the right source and develop reading from the internet source
5. Become effective in writing and understanding the target audience

Unit I 15Hrs

Vocabulary

- 1.1 Root – Prefix –Suffix – “word –wide –web”
- 1.2 Spelling rules - Homophones – Homonyms
- 1.3 Pronunciation

Extra Reading/Key Words: *Pronunciation and Enunciation*

Unit II 15Hrs

Listening

- 2.1 Listening to the unsaid words and messages
- 2.2 Asking Questions – Seeking Clarification
- 2.3 Summarizing

Extra Reading/Key Words: *Deep Listening*

Unit III 15Hrs

Speaking

- 3.1 Speaking clearly and Pronunciation - The power of words and choosing them right
- 3.2 Voice and Proxemics
- 3.3 Getting it right across cultures - Speaking Assignment

Extra Reading/Key Words: *Personal space and cultural practices*

Unit IV 15Hrs

Reading

- 4.1 Appreciating different genres, styles, and authors
- 4.2 Reading for Pleasure - Reading for Inspiration (Autobiography, Self Help books)
- 4.3 Reading for Research - Identifying the right resources - Books, Periodicals, Magazines, newspapers - Reading off the Internet

Extra Reading/Key Words: *Blogs and e-books*

Unit V 15Hrs

Persuasive Writing Project

- 5.1 Identify the Audience: Who am I writing to what are their interests - Mission of the

Message: Identify the Purpose/Goal of the communication

5.2 Plan: Organizing thoughts – Creating structure – Choosing Flow - Action: Write Right- Words – Grammar- Style – Tone – Getting Punctuation right – 5.3 Check: Edit -Rewrite- Simplify – Format - Preparing an ad (eg. Air purifiers, FMCG) - Writing an article (Dream Big, Be Positive)

Extra Reading/Key Words: *Different types of writing*

Note: Texts given in the Extra reading /Keywords must be tested only through Assignments and Seminars.

Course Outcomes

The Learners

CO No.	Course Outcomes	Cognitive Level (K1-K4)
CO-1	Define and remember the concepts and the rules learnt	K1
CO-2	Describe and give examples of the concepts learnt	K2
CO-3	Practice the required skills to express oneself	K3
CO-4	Solve the challenges given to communicate better	K4

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze)

TEXTBOOKS:

Student Manual

SUGGESTED READINGS

1. English Communication by Madumitha Chakraborty et al, Macmillan Publications 2017
2. Business Communication by Courtland L. Bovee, et al, Pearsons 2018
3. High School English Grammar – Wren and Martin, 2017 edition
4. Word Power Made Easy – Norman Lewis, 2015 edition
5. The Hindu or The New Indian Express

WEB REFERENCES:

1. www.ThoughtCo.com
2. www.bbc.co.uk
3. learnenglish.britishcouncil.org/en
4. <https://www.teachingenglish.org.uk/>
5. www.businessballs.com
6. www.ted.com
7. www.inktalks.com

PO – CO MAPPING

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
CO 1	H	H	H	H	H	H	M	M	M
CO 2	H	H	H	H	H	H	M	M	H
CO 3	H	H	H	H	H	H	M	M	H
CO 4	H	H	H	H	H	H	M	M	H

PSO–CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	H	M	L
CO-2	H	M	L
CO-3	H	M	L
CO-4	H	M	L

(For Candidates admitted in the academic year 2023-2024)

Course Title	DATA STRUCTURES AND ALGORITHMS
Code	U23SD2CCT04
Course Type	Theory
Semester	II
Hours/Week	5
Credits	5
Marks	100

CONSPECTUS

To understand the fundamental concepts of data structures and learn to develop algorithms.

COURSE OBJECTIVES

1. To learn the fundamental Concepts of Data Structures.
2. To understand the working principles of Queues and Linked Lists.
3. To study how to balance a Binary Search tree.
4. To understand of various sorting algorithms, including insertion sort, selection sort, merge sort, Heap sort and quick sort.
5. To understand the concepts of Graphs and its terminologies.

UNIT-I INTRODUCTION TO DATA STRUCTURES

15Hrs

Definitions–Overview of Data Structures–Implementation of Data Structures. **ARRAYS:** Definition – Terminology – One-dimensional Array: Operations on Arrays. **STACKS:** Definition–Representation of Stack: Implementing the Push and Pop operation – **APPLICATIONS:** Arithmetic Expressions – Polish Notation – Evaluation of Postfix Expression – Transforming an Infix Expression into Postfix.

Extra Reading/Key words: *two dimensional and multi-dimensional array concepts.*

UNIT-II QUEUES

15Hrs

Representation of Queue using an Array– Enqueue and Dequeue Operations–Priority Queue using an array. **LINKED LISTS:** Representation of Linked list in memory – Traversing a Linked list- Inserting after a given node–Deleting the node following a given node, Double Linked Lists and Operations.

Extra Reading/Keywords: *real time applications of Stacks & Linked Lists.*

UNIT-III TREES

15Hrs

Binary Trees: Representing Binary Tree - Operations on Binary trees - Traversing Binary Tree – **GRAPHS:** Introduction-Graph Terminologies-Representation of Graphs: Set Representations–Linked Representations.

Extra Reading/Keywords: *cyclic and a cyclic graph, shortest path, Binary Search Tree.*

UNIT-IV SORTING

15Hrs

Insertion Sort-Selection Sort –Heap Sort-Quick Sort-Merge Sort–Shell Sort (C Implementation).

Extra Reading/Keywords: *Applications of Sorting Techniques.*

UNIT-V ALGORITHMS:

15Hrs

Definition-Algorithm Specification: Pseudo code conventions-Recursive Algorithms-Performance Analysis: Space Complexity-Time Complexity-Amortized Complexity-Asymptotic Notations.

Extra Reading/Keywords: *Routing Algorithms*

Note: Texts given in the Extra reading /Key words must be tested only through Assignment and Seminars.

COURSE OUTCOMES

CO. No.	Course Outcomes	Cognitive Level (K1-K4)
CO-1	Recall the concepts of Arrays, Stack, Queues and Linked List	K1
CO-2	Compare and associate Stack, Queues, various Linked Lists, binary tree traversal, the operations of binary tree and Sorting algorithms	K2
CO-3	Apply various data structures and operations in the real time projects.	K3
CO-4	Analyze various sorting algorithms and performance based on space and time complexity	K4

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze)

TEXTBOOKS

1. **Samanta D**, “**Classic Data Structures**”, 2009, Prentice Hall of India Private Ltd, NewDelhi.

Unit –I, II, IV, V.

2. **Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran**, “**Fundamentals of Computer Algorithms**” second edition - 2018, Universities Press (India) Pvt. Ltd.

Unit-V

SUGGESTED READINGS

1. Ellis Horowitz, Sartaj Sahni and Dinesh Mehta, “Fundamentals of Data Structures in C++”, University Press (India) Pvt. Ltd., Hyderabad, 2018.
2. Yashavant P. Kanetkar, “Data Structures Through C++”, BPB Publications, 2019.
3. A. Chitra and P.T. Rajan, Data Structures, Tata McGraw–Hill Publishing Company Limited, New Delhi, 2006.
4. Ean Paul Tremblay and PaulG. Sorenson, “An Introduction to Data Structures with Applications”, Tata McGraw-Hill, Second Edition, 2007.
5. S.E. Goodman and S.T. Hedetniemi, “Introduction to the Design and Analysis of Algorithms”, Tata McGraw-Hill, International Edition, 1987.

WEB REFERENCES

1. <https://beginnersbook.com/2018/10/data-structure-array/>
2. https://www.tutorialspoint.com/data_structures_algorithms/stack_algorithm.htm
3. <https://www.javatpoint.com/binary-search-tree>
4. <https://www.interviewbit.com/tutorial/sorting-algorithms/>
5. <https://www.geeksforgeeks.org/dijkstras-shortest-path-algorithm-greedy-algo-7/>

Note: Learners are advised to use latest edition of books.

PO-CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	M	H	H	H	L	M	H	H
CO-2	H	M	H	H	H	L	M	H	H
CO-3	H	M	H	H	H	L	M	H	H
CO-4	H	H	H	H	H	L	H	M	M

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	H	H	M
CO-2	H	H	M
CO-3	H	H	H
CO-4	H	H	H

(For Candidates admitted from the academic year 2022-2023 onwards)

Course Title	DATA STRUCTURES AND ALGORITHMS- LAB
Code	U23SD2CCP05
Course Type	Practical
Semester	II
Hours/Week	5
Credits	4
Marks	100

CONSPECTUS

Student learns to develop C program for implementing different kind of Data Structures.

COURSE OBJECTIVES:

1. To remember stack concepts and develop programs using C.
2. To understand the concepts of Queue and develop programs using C.
3. To insert and delete nodes into and from a linked list using C.
4. To develop C programs for implementing different sorting techniques and searching an element in an array.
5. To perform searching an element in an array using C

EXERCISES

1. Operations on Stack.
2. Conversion of expressions.
3. Operations on Queue.
4. Operations on Linked List.
5. Operations on Binary tree.
6. Binary Tree Traversals.
7. Quick Sort.
8. Insertion Sort.
9. Linear Search.
10. Binary Search.

COURSE OUTCOMES

CO No.	Course Outcomes	Cognitive Level (K1-K4)
CO-1	Recognize the different sorting algorithms	K1
CO-2	Identify the various operation in stack, queue and their applications	K2
CO-3	Apply various types of Linked List and their Applications	K3
CO-4	Performs the operations on searching algorithms	K4

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze)

PO-CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	M	H	H	H	L	H	H	H
CO-2	H	M	H	H	H	L	H	M	H
CO-3	H	M	H	H	H	L	H	M	H
CO-4	H	H	H	H	H	L	H	H	H

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	H	H	M
CO-2	H	M	H
CO-3	H	M	H
CO-4	H	H	M

(For Candidates admitted in the academic year 2023-2024)

Course Title	WEB DEVELOPMENT-LAB
Code	U23SD2CCP06
Course Type	Practical
Semester	II
Hours/Week	5
Credits	5
Marks	100

CONSPECTUS

To understand theoretical and practical skills needed for becoming a Web Developer

COURSE OBJECTIVES

6. To learn the fundamentals of web development programming methodology.
7. To understand JQuery programming methods and event handlers.
8. To design the web page based on UI/UX design
9. To understand techniques to manage the work to meet requirements
10. To learn and understand the concepts of Maintaining a healthy, safe and secure working environment.

LIST OF EXCERCISES

Programming for the Web using JQuery Web Development tools

1. Develop a Web Page using HTML basic tags
2. Design an attractive webpage using Cascading Style Sheet
3. Develop a jQuery program using Mouse Event
4. Develop a jQuery program using Keyboard Event
5. Create a jQuery program using Form Event.
6. Design a jQuery program using Document/Window Event
7. Design a webpage that applies the effect of jQuery hide/show and slide effect
8. Develop a dynamic webpage using jQuery Animate () effect.
9. Develop a webpage using the concept of Callback Method
10. Develop a webpage implementing the jQuery Chaining Method

Analysis and Design of Web based Applications –UI/UX Design for real-time applications

Graphics Design using GIMP

COURSE OUTCOMES

CO. No.	Course Outcomes	Cognitive Level (K1-K4)
CO-1	To remember the syntax and tools used for designing the web applications.	K1
CO-2	To understand the structure of JQuery programming and UI/UX design and tools in animation	K2
CO-3	Apply the concept of JQuery and UI/UX design for developing solutions for real-time web applications	K3
CO-4	Analyze the requirement of web application to design web sites for various domain.	K4

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze)

PO-CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	L	M	M	M	L	M	M	M
CO-2	H	M	M	M	H	L	H	H	M
CO-3	H	M	H	H	H	M	H	H	H
CO-4	H	H	H	H	H	M	H	H	H

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	M	M	M
CO-2	H	M	M
CO-3	H	H	H
CO-4	H	H	H

(For Candidates admitted in the academic year 2023-2024)

Course Title	ANIMATION -LAB
Code	U23SD2SEP02
Course Type	Practical
Semester	II
Hours/Week	2
Credits	2
Marks	100

CONSPECTUS

To give basic knowledge on working of Pencil 2D to create an animation.

COURSE OBJECTIVES

1. To understand and learn the types of tools.
2. To learn and understand the working procedure of 2D.
3. To develop the animated image using pencil 2D.
4. To apply vector tools for non-destructive editing of objects.
5. To design and develop creative artworks using Krita.

Theoretical Concepts

Introduction-open source project Pencil2d –Features of Pencil2d - Layers of Pencil2D-Tools of Pencil2D -Installation of the Software-Hardware and Software Specification-Introduction to open source painting program Krita- Features of Krita Software- Types of Tools in Krita.

EXERCISES

Pencil2D and Krita

1. Create and Animate a ball to bounce using Pencil 2D.
2. Create and Animate a stick man to walk using Pencil 2D.
3. Create and Animate a flying Bird using Pencil 2D.
4. Create and Animate the Moving car using Pencil 2D.
5. Create and Animate the man to play the basketball in Pencil 2D.
6. Creation of Multicolored Text using Krita.
7. Applying Blending Modes in an object using Krita..
8. Drawing and Painting Basic Face in Krita.
9. Placing border around text using Krita..
10. Creating Glow Effect in an object using Krita.

COURSE OUTCOMES

CO NO.	COURSE OUTCOMES	COGNITIVE LEVEL (K1-K4)
CO-1	Recognize the basics tools in Pencil 2D and Krita	K1
CO-2	Demonstrate the use of the animation tools	K2
CO-3	Apply the tools in creative manner.	K3
CO-4	Analyze the creative animation design.	K4

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze)

PO-CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	H	H	H	H	L	H	H	H
CO-2	H	M	M	M	H	L	H	M	H
CO-3	H	M	H	H	H	L	H	M	H
CO-4	H	H	M	M	H	L	H	H	H

PSO-CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	H	M	M
CO-2	H	M	H
CO-3	H	H	H
CO-4	H	H	H

(For Candidates admitted in the academic year 2023-2024)

Course Title	JAVA SCRIPT PROGRAMMING-LAB
Code	U23SD2AEP02
Course Type	Practical
Semester	II
Hours/Week	2
Credits	2
Marks	100

CONSPECTUS

To get knowledge and practical skill to create dynamic web applications.

COURSE OBJECTIVES

1. To understand the concepts necessary to create Dynamic Web Applications;
2. To develop A Functional Web Application;
3. To comprehend and propose Web Application Infrastructure;
4. To create effective and attractive web applications required for the project developments.
5. To develop web applications that validates and verify the user interface.

Theoretical Concepts

Introduction-Installation of Browser-Enabling the Browser for Java Script- Syntax –verification and Validation Techniques-Event Handlers-Methods used for Event Handlers-Application of Java Script in real-time applications.

EXCERCISES

1. Creating a simple calculator using java script.
2. Write a program to check the number is palindrome or not using java script.
3. Write a program to find the factorial using java script.
4. Write a program to check if a Number is Prime number using java script.
5. Write a program to reverse a string using java script.
6. Write a program to find the longest word in a string using java script.
7. Write a program to count vowels in a string using java script.
8. Write a program to count words in a string using java script.
9. Write a program to find maximum and minimum elements in an array using java script.
10. Write a program to check for leap year using java script.

COURSE OUTCOMES

CO No.	Course Outcomes	Cognitive Level (K1-K4)
CO-1	Recognize the fundamental concepts of web technologies	K1
CO-2	Understand the syntax of different technologies used in web development	K2
CO-3	Apply different designing tools for developing interactive webpages	K3
CO-4	Examine the designing tools suitable for current scenario to solve real-time problems	K4

(K1=Remember, K2=Understand, K3=Apply, K4=Analyze)

PO – CO MAPPING

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO-1	H	M	H	L	H	M	H	H	H
CO-2	H	M	H	L	H	M	H	M	H
CO-3	H	M	H	L	H	M	H	M	H
CO-4	H	H	H	L	H	M	H	H	H

PSO – CO MAPPING

CO/PSO	PSO1	PSO2	PSO3
CO-1	M	M	M
CO-2	H	M	H
CO-3	H	H	H
CO-4	H	H	H