TAMILNADU GOVERNMENT POLYTECHNIC COLLEGE, (AUTONOMOUS), MADURAI- 11

DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME

(Implemented from the Academic year 2021-2022 onwards)

<u>CURRICULUM OUTLINE</u>

THIRD SEMESTER (FULL TIME)

Col No	SUBJECT CODE	SUBJECT	HOURS PER WEEK		
			THEORY	PRACTICAL	TOTAL
1	4052310	Basics of Electrical and Electronics Engineering	5		5
2	4052320	Operating System	5		5
3	4052330	C Programming and Data structures	6		6
4	4052340	Electrical and Electronics Engineering Practical		4	4
5	4052350	Linux Practical		4	4
6	4052360	C Programming and Data Structures Practical		4	4
7	4052370	E Publishing Practical		4	4
			16	16	32
		Physical Education			2
		Library			1
	Total				35

III SEMESTER

TAMILNADU GOVERNMENT POLYTECHNIC COLLEGE, (AUTONOMOUS), MADURAI- 11

DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME

(Implemented from the Academic year 2021-2022 onwards)

Course Name	: 1052: Diploma in Computer Engineering
Subject Code	: 4052310
Semester	: III
Subject Title	: Basics of Electrical and Electronics Engineering

TEACHING AND SCHEME OF EXAMINATION

No. of weeks per semester: 16 Weeks

Subject	Instructions		Examination			
	Hours /Week	Hours/ Semester	Marks			Duration
			Internal Assessment	End Semester Examinations	Total	
Basics of Electrical and Electronics Engineering	5	80	25	100*	100	3Hrs

*Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

Topics and Allocation of Hours

Unit	Topic	Hours
I	AC FUNDAMENTALS,BATTERIES AND UPS	13
II	TRANSFORMER AND SPECIAL MOTORS	12
III	SEMICONDUCTOR DEVICES	16
IV	BOOLEAN ALGEBRA, LOGIC GATES AND COMBINATIONAL SYSTEMS	16
V	SEQUENTIAL LOGIC SYSTEM	16
	Test and Model Exam	7
	TOTAL	**80**

DETAILED SYLLABUS

Contents: Theory

Unit	Name of the topics	Hours
I	**AC FUNDAMENTALS, BATTERIES AND UPS** **1.1 AC Fundamental** Difference between AC and DC - Advantages of AC over DC Wave form of sinusoidal A.C. Cycle—Generation of single phase A.C. by elementary alternator - Definition of cycle, frequency, time period, amplitude, peak value, average value and rms value – Define peak factorand form factor -Concept of phase , phase difference and phase angle.Single phase and 3 phase (Definition) - Meaning of lagging and leading sine wave- Advantages of three phase over single phase	4
	1.2 Batteries Classification of cells- Construction of Lead acid cell—Methods of charging –Care and Maintenance of Lead acid battery- Indications ofa fully charge battery—Maintenance free batteries.	3
	1.3 UPS Need for UPS - Online and Offline UPS – Definition – Block Diagram -Explanation of each block- Merits and demerits of online and offline UPS-Need of heat sink-Specification and ratings-Maintenance of UPS including batteries.	3
	1.4 Switches Basics of switches used - Ratings of switches used for a system Installation - Ratings and types of wires used - necessity of MCB, ELCB.	3

II	**TRANSFORMER AND SPECIAL MOTORS** **2.1 Single Phase transformer** Working Principle and Construction of transformer – Brief description of each part – Function and materials used – emf equation of transformer(No derivation) – Voltage and current ratio of a transformer – Efficiency - Losses in a transformer - Auto transformer - Applications - Step up and Step down transformer (Definition only)	5

	2.2. Special Motors Stepper Motor: Definition - Working principle - Types and applications –Servo motors: Definition - Working principle - Types and applications – Factors to be considered for selecting a motor for a particular application.	5
	2.3.Electrical Safety: Electric shock – need for earthing - types of earthing, fuses- need –types of fuses	2
III	**SEMICONDUCTOR DEVICES** **3.1 Diodes** PN Junction diode– Barrier Voltage, Depletion Region – Forward biased and Reverse biased Junction – Working principle – forward /Reverse characteristics of PN Junction diode - Applications of diode – Zener Diode: Construction-Characteristics (Forward and Reverse)– Avalanche and Zener break down - Applications of Zener diode. Light Emitting Diodes-operation, construction and characteristics. LDR: Principle of operation and Characteristics. Photo Diode–Principle of operation (concept only)	8
	3.2 Rectifiers Definition – Need of Rectification – Circuit diagram, Operation, i/p and o/pWaveforms of Half wave - Full wave- Bridge rectifiers (without filters) - Uses of filters in rectifier circuit – Ripple factor, Efficiency and PIV (No derivation) - Comparison	4

	3.3 Bipolar JunctionTransistor Definition- Principle of NPN and PNP transistor- Symbol - Transistor terminals - Operating principle (NPN transistor only) -Configurations of transistor.		4
IV	**BOOLEAN ALGEBRA, LOGIC GATES COMBINATIONAL SYSTEM** **4.1 Number representation** Decimal, Binary, Octal and Hexadecimal number Systems-Conversion of number from one number system to another (without decimal point) -		4

	BCD CODE – ASCII Codes - Parity bit – Use of a parity bit ——Odd parity and Even parity		
	4.2 Logic gates Positive and Negative logic System- Definition, Truth table, Symbol and Logical equations of AND-OR-NOT-EXOR-EXNOR (Only 2-inputs) gates- Universal gates-NAND-NOR-Symbol and truth table.		4
	4.3 Boolean Algebra Basic laws of Boolean algebra – Demorgan's Theorem and proofs —Duality theorem - Simplification of logical equations using Boolean laws -De-Morgan's theorem-Two and three variable Karnaugh map		3
	4.4 Arithmetic Circuits Half Adder and full adder-Truth table, Circuit diagram-Half subtractor and Full subtractor- Truth table, Circuit diagram.		3
	4.5 Combinational logic circuits Parity generator and checker -Multiplexer - De multiplexer - Encoder - Decoder (Definition and Basic Circuits only)		2
V	**SEQUENTIAL LOGIC SYSTEM** **5.1 Flip flops** Basic principle of operation - S-R, D flip-flop – Operation and truth table- Race Condition – JK flip flop-T flip flop– Toggling- Edge Triggered Flip-flop - Level Triggered flip flop - JK Master Slave flip flop.		6

5.2 Counters Need-Types of counters - 4bit Asynchronous counter- Mod N counter-Decade Counter -4bit Synchronous counter-Distinguish between Synchronous and Asynchronous counter-Application of counters		5
5.3 Registers Shift register-Block diagram representation and wave form of serial in, Serial Out, Serial in Parallel out, Parallel in-parallel out Applications of Shift Registers.		5

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DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME

(Implemented from the Academic year 2021-2022 onwards)

Course Name   :   1052:Diploma in Computer Engineering

Subject Code   :   4052320

Semester   :   III

Subject Title   :   Operating System

TEACHING AND SCHEME OF EXAMINATION

No of weeks per semester:16 weeks

Subject	Instructions		Examination			
	Hours /Week	**Hours/ Semester**	**Marks**			**Duration**
			Internal Assessment	**End Semester Examinations**	**Total**	
Operating System	5	80	25	100*	100	3Hrs

* Examinations will be conducted for 100marks and it will be reduced to 75 marks.

Topics and Allocation of Hours

Unit	Topic	Hrs.

I	Introduction to Operating System	16
II	Process Management	17
III	Memory Management	13
IV	I/O and File Management, Security and Protection	13
V	Linux-Case study	14
	Test and Model Exam	7
	Total	**80**

DETAILED SYLLABUS

Contents:Theory

Unit	Name of theTopics	Hours
I	**INTRODUCTION TO OPERATINGSYSTEMS**	
	Basics of Operating Systems	**4**
	Definition-Types of Operating Systems: Mainframe, Desktop, Multiprocessor, Distributed, Clustered, Multiprogramming, Real time, Embedded and Timesharing, Mobile OS (Android, iOS).	
	Operating System Components	**4**
	Process Management component- Memory Management component - I/O Management component – File Management component-Protection System- Networking Management component- Command interpreter.	
	Operating System Services	**3**
	Process Execution — I/O operations- File manipulations — Communications-Error detection and recovery–Resource allocation-Accounting-System Protection-System Calls-System call Execution.	
	Operating System Structures	**3**
	Simple structure, Layered, Monolithic, Microkernel Operating Systems – Hybrid Operating System – Views - User, System view –Concept of VirtualMachine–Booting.	
	User Interface	

	Command Line Interface(CLI)based OS-DOS, Unix-Graphic User Interface (GUI) based OS-Windows, Linux-Difference between CLIand GUI.	2	
II	**PROCESSMANAGEMENT** **2.1 Processes** Definition–Process Relationship–Process states–Process State transitions Process Control Block–Context switching–Threads – Concept of multithreads –Benefits of threads–Types of threads.	4	
	2.2.Process Scheduling Definition–Scheduling objectives–Types of Schedulers–Scheduling criteria - CPU utilization, Throughput, Turnaround Time, Waiting Time, Response Time (Definition only)–Scheduling algorithms - Preemptive and Non – pre emptive - FCFS – SJF –SRT–PS–RR–MQ-Multiprocessor scheduling– Types-Performance evaluation of the scheduling.	6	
	2.3.Inter-process Communication and Synchronization Definition – Shared Memory System – Message passing-Critical section –Mutual Exclusion-Semaphores.	4	
	2.4Deadlocks Definition -Deadlock characteristics-Deadlock Prevention-Deadlock Avoidance -Deadlock detection and Recovery.	3	
III	**MEMORYMANAGEMENT** **Basic Memory Management** Definition – Logical and Physical address map – Memory allocation – Contiguous Memory allocation - Partition allocation -Single, Fixed and Variable partition-Internal and External fragmentation and Compaction –Swapping - Paging – Principle of operation – Page allocation - Hardware support for paging - Protection and sharing - Disadvantages of paging.	6	

	Virtual Memory Basics of Virtual Memory – Hardware and control structures – Locality of reference, Page fault , Working Set , Dirty page/Dirty bit – Demand paging, Segmentation		4
	Page Replacement Algorithms Optimal (OPT), First In First Out (FIFO), Second Chance (SC), Not Recently Used (NRU) and Least Recently Used (LRU), Advantages and Disadvantages of Virtual Machine.		3
IV	**I/O AND FILEMANAGEMENT**		
	Disk Management Disk Structure – Physical structure, Logical structure, Disk formatting, Disk Scheduling and its algorithms, RAID structure of disk, RAID levels0-6.		4
	File Management File concept – File attributes – Name, Identifier, Type, Location, Size, Time, Date, user identification-File Operations-File system structure-Byte sequence, Record sequence and Tree-based Directory Structure-Single level, Two levels, Tree structured Directory.		4
	Access Methods Sequential, Random access – File allocation methods – Contiguous, Linked, Indexed.		2
	Security and Protection Security threats-Security Policies and mechanisms-Authentications		3
V	**Linux–Case study** **5.1.Introduction** History of Linux – Features of Linux – Components of Linux system –		6

Userspace – Kernel space - Linux Architecture - Popular Flavors of Linux- FSF/GNU-Linux Desktop: GNOME- KDE.	
File System Second extended file system – ext2 - Virtual File System – Different typesof files - File Management – File Security – 3 levels – Mounting file system– Unmounting	4
Managing Accounts Types of accounts-Root, System, User-Manage Users and Groups – Create, Modify, Delete a Group - Create, Modify, Delete an account.	2
5.4Shell Programming Linux shell – Types – Graphical, Command Line – Characteristics of Various shells – Bash, Csh / Tcsh, Zsh, Fish – Shell Prompt – Shell scripting-Need for Shell script- Shell script advantages and disadvantages-Script example	2

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DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME

(Implemented from the Academic year 2021-2022 onwards)

Course Name   : 1052:Diploma in Computer Engineering

Subject Code   : 452330

Semester   : III

Subject title   : C Programming and Data Structures

TEACHING AND SCHEME OF EXAMINATION

No. of weeks per Semester: 16 weeks

Subject	Instructions		Examination			
	Hours /Week	Hours/ Semester	Marks			Duration
			Internal Assessment	End Semester Examinations	Total	
C Programming and Data Structures	6	96	25	100*	100	3Hrs

*Examinations will be conducted for 100 marks and it will be reduced to 75 marks.

Topics and Allocation of Hours

Unit	Topics	Hours
I	PROGRAM DEVELOPMENT & INTRODUCTION TO C	18
II	DECISION MAKING, ARRAYS , STRINGS, FUNCTIONS	18
III	STRUCTURES, UNIONS AND POINTERS	17
IV	INTRODUCTION TO DATA STRUCTURES, STACK, QUEUES	17
V	LINKED LIST, TREES, SORTING, SEARCHING	19
	Test and Model Exam	7
	TOTAL	**96**

DETAILED SYLLABUS

Contents:Theory

Unit	Name of the Topics	Hours
I	**PROGRAM DEVELOPMENT & INTRODUCTION TO C** **1.1 Program** Program Definition - Program development cycle – Algorithm -flowchart – symbols, importance & advantage of flow chart.	3
	1.2 Introduction to C History of C - Features of C Language - Structure of a C program – Execution of C Program : Compiling, Link and Run a program – Diagrammatic representation of program execution process.	3
	1.3 Variables, Constants & Data types C character set – Tokens – Constants - Keywords – identifiers and Variables - Data types and storage – Data type Qualifiers – Declaration of variables – Assigning values to variables – Escape sequences - Defining symbolic constants	5
	1.4 C operators Arithmetic, Logical, Assignment, Relational, Increment and Decrement, Conditional, Bitwise, Special Operator precedence and Associativity. C expressions – Arithmetic expressions, Evaluation of expressions- Type cast operator.	5 .
	1.5 I/O statements Formatted input, formatted output, Unformatted I/O statements	2
II	**DECISION MAKING, ARRAYS , STRINGS, FUNCTIONS** **2.1 Control Statements** Simple if statement - if-else, else-if-ladder statements, switch statement, Looping Statements – while, do _ while and for loop, go to, continue and break statements.	5
	2.2 Arrays Definition – Array element and subscript - Declaration - Initialization of one dimension array elements - Two dimensional arrays – initialization of elements.	4

	2.3 Strings Introduction – Declaring and Initializing string variables, Reading strings , Writing strings, String handling functions – strlen() , strcpy(), strcmp(), strcat() and strrev() functions.		3
	2.4.Built in Functions Declaration and definition of function. Math functions - Console I/O functions – Standard I/O functions – Character Oriented functions .		3
	2.5.User defined functions Defining functions & Needs, Scope and Life time of Variables, Function call, return values, Recursion.		3
III	**STRUCTURES, UNIONS AND POINTERS** **3.1 Structures and Unions** Structure Definition – Variable declaration – initialization – Accessing and giving values to structures, Structures within structures, Arrays within structures. Unions: Declaration – initialization. Difference between Union and Structure.		7
	3.2 Pointers Introduction – Advantages of pointers – Accessing the address of a variable – Declaring and Initializing pointers – Accessing a variable through its pointer –Pointer Expressions.		4
	3.3 Dynamic memory allocation Advantages – malloc(), calloc(), realloc() and free() functions.		2
	3.4 Command line arguments : Introduction – argv and argc arguments .		4
IV	**INTRODUCTION TO DATA STRUCTURES, STACK, QUEUES** **4.1 Introduction to Data Structures** Introduction - Data and Information - Elementary data structure organization - Types of data structures - Primitive and Non Primitive data structures, Operations on data structures: Traversing, Inserting, Deleting, Searching, Sorting, Merging, Different Approaches to designing an algorithm: Top-Down approach, Bottom-up approach (Definition and examples only)		8 .

	4.2 Definition of a Stack	
	Operations on Stack (PUSH & POP) - Implementation of stack through arrays - Polish notations – Conversion of infix to postfixexpression,	5
	4.3 Queues	
	Definition – Representation of Queue using arrays – Circular Queue, Dequeue (Definition and Examples only)	4
V	**LINKED LIST, TREES, SORTING, SEARCHING** **5.1 Terminologies** Node, Address, Pointer, Information, Null Pointer, Empty list -. Type of lists : Singly linked list , Doubly linked list, Circular list - Representation of singly linked lists in Memory-Difference between Linked & sequential List ─ Advantages and Disadvantages of Linked list. (Concepts only, no implementations)	6
	5.2. Trees Terminologies: Degree of a node, degree of a tree, level of a node, leaf node, Depth / Height of a tree, In-degree & out-Degree, siblings. In order traversal, Preorder traversal, Post order traversal. (Concepts only, no implementations)	6
	5.3. Sorting Introduction, Types of sorting - Bubble sort , Quick Sort - Examples.	3 .
	5.4 Searching Definition - Algorithms and "C" programs for Linear search and Binary search.	3

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DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME

(Implemented from the Academic year 2021-2022 onwards)

Course Name	:	1052:Diploma in Computer Engineering
Subject Code	:	4052340
Semester	:	III
Subject title	:	Electrical and Electronics Engineering Practical

TEACHING& SCHEME OF EXAMINATION

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			
	Hours / Week	Hours/ Semester	Marks			Duration
			Internal Assessment	End Semester Examinations	Total	
Electrical and Electronics Engineering Practical	4	64	25	100*	100	3Hrs

* **Examinations will be conducted for 100 Marks and it will be reduced to75marks.**

RATIONALE:

Diploma Engineers from all branches of engineering are expected to have some practical knowledge of electrical and electronics engineering. Also the technicians working in different engineering fields have to deal with various types of electrical equipments. Various types of electronic circuits are used in different electrical equipments. Hence it is necessary to have practice with electric circuits, different types of electronic devices to know the principles and working characteristics.

OBJECTIVES

On completion of the following practical contents the students must be able to

- ➢ Verify Power supply of SMPS
- ➢ Find the efficiency and voltage regulation of a single phase transformer
- ➢ Study the characteristics of PN junction diode and Zener Diode
- ➢ Function of Rectifier circuit
- ➢ Test the performance of Light devices
- ➢ Know about the function of a Transistor
- ➢ How to construct different logic functions using universal gates
- ➢ Realize the combinational circuits and sequential circuits

DETAILED SYLLABUS

Contents:Practical

LAB EXERCISES

1	A	Checking of power supply in SMPS
	B	Construct the circuit and draw the graph for different stages of Bridge rectifier with filter using CRO.
2		Construct the circuit and draw the forward characteristics of PN junctionDiode and find input resistance.
3		Construct the circuit and draw the reverse characteristics of Zener Diodeand find breakdown voltage.
4		Construct the circuit and draw the VI characteristics of LED
5		Construct the circuit and draw the characteristics of LDR
6		Construct CE configuration circuit and draw the input characteristics and also find input resistance.
7		Construct CE configuration circuit and draw the output characteristics and also find output resistance.
8	A	Verify the truth tables of NAND,AND,NOR,OR,NOT,XOR using IC's
	B	Realization of basic gates using either NAND or NOR gate.
9		Construct and verify Half adder and Half Subtractor
10		Construct and verify the truth table of Full adder
11		Construct and verify the truth table of Full subtractor
12		Verify the truth tables of RS,D,T and JKFF
13		Construct and test the parity generator and checker function using IC74180
14		Construct and test the 4bit Ripple counter(IC7493)
15		Construct and test decade counter(IC7490)

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DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME
(Implemented from the Academic year 2021-2022 onwards)

Course Name   : 1052:Diploma in Computer Engineering

Subject Code   : 4052350

Semester   : III

Subject title   : Linux Practical

TEACHING &SCHEME OF EXAMINATION

No. of weeks per Semester :16 Weeks

Subject	Instructions		Examination			
	Hours /Week	Hours/ Semester	Marks			Duration
			Internal Assessment	End Semester Examinations	Total	
Linux Practical	4	64	25	100*	100	3Hrs.

* **Examinations will be conducted for 100 Marks and it will be reduced to 75marks.**

RATIONALE:

• Linux is an open-source Operating System which offer a variety of functions, programs or applications and Linux software to choose from, to the users, most of them are free. It has a good graphical user interface (GUI) and almost all the functionality that other proprietary OSoffer.

• This practical enables to learn the commands used to perform various operations in a Linux system and write shell scripts for various functions. One of the top practical uses for Linux is web application development.

OBJECTIVES:

On completion of the following exercises ,the students must be able to

➢ Login and logoff Procedures

- ➢ Use of General purpose commands
- ➢ Explain the use of simple filters and advanced filters.
  - ➢ Know the details of process status
  - ➢ Use Various communication Commands
  - ➢ Search patterns
  - ➢ Use of shell scripts and define the elements of the shell script
  - ➢ Write shell script for various problems

DETAILED SYLLABUS

Contents:Practical

Units	Topics	Hours
I	**Basics of Linux OS:** Entering and Exiting from a Linux system –User Accounts- General understanding of various application programs–Different shells	2
II	**Linux Commands:** Learn the syntax and usage of : Directory Management Commands-File Management Commands-General Purpose Commands-Simple Filters-Advanced Filters-Communication Commands-Check the Process Status-Process Management Commands-Search Patterns- Exercises.	28
III	**Text Editor:** File operations(New, Open, Close, Save, Save and Exit, Print) –Text Editing operations (Inserting, deleting, finding, replacing, copying and moving).	2
IV	**ShellScripts:** Use of shellscripts –Numerical operations-Looping-Swapping Technique-String operations-Using Command line arguments – Filters – Date Functions – Relational operations-Logical operations-Boolean operations-Basic arithmetic operations – Case statement – Search Directory or File -Exercises.	32

LAB EXERCISES

Contents:Practical

PART–A LINUX COMMANDS	
Write down the syntax and usage of the following exercise with all options. **Check the commands with the system**	
1	Usage of Directory Management commands: ls, cd, pwd, mkdir, rmdir
2	Usage of File Management commands :cat, chmod, cp, mv, rm, more
3	Use the General Purpose commands: wc, cal, date, who, tty, ln
4	Using the Simple filters: pr, head, tail, cut, paste, nl ,sort
5	Advanced filters: Search for a pattern using grep, egrep, fgrep, uniq Communication Commands: write, wall
6	Check the details of process name, PID, status using ps command. Process Management commands:&,nohup, kill, nice
7	Device pattern using meta character to match each of the following situation: All three character filenames. All filenames that contains the characters 'a 'or 'b 'or' c.' All filenames beginning with a particular string. All filenames beginning with 'ca' and ending with two digits. All filenames beginning with 's 'and having 'a' at somewhere.
PART– BSHELL SCRIPTS	
1	Write a shell script that accepts a numerical value N. Then display the Decrementing value of N till it reaches 0.
2	Write a shell script to search a string and display it.
3	Write a shell script that takes three command line arguments. The first argument is the name of the destination file and the other two arguments are Names of files to be placed in the destination file.

4	Write a shell script to print contents of file from given line number to next given Number of lines.
5	Write a shell script that print out date information in this order: time, day of The week, day number, year- that is like this.21:18:00 IST Mon16 Aug2021
6	Develop a Basic math Calculator using case statement
7	Write a shell script that represents a multiple choice question, gets the user's Answer and report back whether the answer is right, wrong or not one of the choices.
8	Write a shell script that takes a command line argument and reports on Whether it is a directory, a file or something else.

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DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME

(Implemented from the Academic year 2021-2022 onwards)

Course Name   : 1052:Diploma in Computer Engineering

Subject Code   : 4052360

Semester   : III

Subject title   : C Programming and Data Structures Practical

TEACHING AND SCHEME OF EXAMINATION

No. of weeks per Semester: 16 weeks

Subject	Instructions		Examination				
	Hours / Week	Hours / Semester	Marks				Duration
			Internal Assessment	End Semester Examinations	Total		
C Programming and Data Structures Practical	4	64	25	100*	100		3Hrs.

 * **Examinations will be conducted for 100 marks and it will be reduced to75 marks.**

RATIONALE:

As 'C' is the most widely used computer language in software industry to provide the hands on experience o n w r i t i n g C p r o g r a m s a n d on implementation of linear and non-linear data structure, this course is introduced. The knowledge of ' C' language and data structures will be reinforced by practical exercises during the course of study. This course will help students to develop the capability of selecting a particular data structure.

OBJECTIVES:

At the end of the Course, the Students will able to

- ➢ Analyze the given problem.
- ➢ Think the logic to solve the given problem.
- ➢ Describe the concepts of constants, variables, data types and operators.
- ➢ Develop programs using input and output operations.
- ➢ Write programs using command line arguments.
- ➢ Write programs using compiler control directives.
- ➢ Write programs using different looping and branching statements.
- ➢ Write programs based on arrays.
- ➢ Write Programs using string handling functions.
- ➢ Write programs using user-defined functions, Structures and Union.
- ➢ Write programs using the concept of Pointers.
- ➢ Understand the use of arrays
- ➢ Implement linear data structure algorithms using C language.
- ➢ Implement non - linear data structure algorithms using C language.
- ➢ Write programs for traversing a binary tree.
- ➢ Write programs for searching and sorting.

Contents:Practical

PART -A

1. Write a simple C Program

a. Print your Name and Address

b. Find Simple interest and Compound interest.

2. Write a C program to swap two variable's using

   (i) third variable and (ii) without using a third variable.

3. Write a program to find the largest number between given three numbers.

4. Write a program to print all prime numbers from 1 to N.

5. Write a program to prepare the total marks for N students

   by reading theReg.No,Name, Mark1 to Mark6 by using

   array of structures.

6. Write a program using the function power (a,b) to calculate the value of a raised to b.

7. Write a program to find the length of the given string using pointers.

8. Write a program to find factorial of a number using recursion

PART - B

9. Write a program in 'C' to create a singly linked list containing at least five

   elements. Make necessary assumptions.

10. Write a "C" program to perform operations in stack using array.

11. Write a "C" program to convert an infix expression into post fix expression.

12. Write a "C" program to perform operations in queue using array.

13. Write a "C" program to add two 3 x 3 matrices and display the result in Matrix form.

14. Write a "C" program to read 10 elements and sort the above numbersusing

    bubble sort.

15. Write a "C" Program for binary searching

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DIPLOMA IN COMPUTER ENGINEERING

N - 20-SCHEME
(Implemented from the Academic year 2021-2022 onwards)

Course Name   : 1052:Diploma in Computer Engineering

Subject Code   : 4052370

Semester   : III

Subject title   : E PUBLISHING PRACTICAL

TEACHING AND SCHEME OF EXAMINATION

No. of weeks per Semester: 16 Weeks

Subject	Instructions		Examination			
	Hours /Week	Hours/ Semester	Marks			Duration
			Internal Assessment	End Semester Examinations	Total	
E PUBLISHING PRACTICAL	4	64	25	100*	100	3Hrs.

* Examination Conducted for 100 Marks and Converted To 75 Marks

RATIONALE:

This course will enable the students to familiarize with the features and use of application packages such as CorelDraw, Photoshop and Adobe indesign. This subject will develop skills in handling the above packages to develop software for publishing. It makes the students exactly suitable for DTP industry.

OBJECTIVES:

On completion of the following exercises, the students must be able to

➢ Learn all tools and options in CorelDraw.

➢ Create designs like Bit Notice, Notebook Wrapper, Invitation and Calendar in CorelDraw or any open source software.

➢ Learn all tools and options in Photo Shop.

➢ Create designs using layers, tools, text effects and filters in Photoshop or any equivalentopen source software.

➢ Learn to use character styles, paragraph styles, text effects and textframein Adobe In design or any equivalent open source software

➢ Create master page, multipage document and monthly calendar in AdobeIndesign

DETAILED SYLLABUS

Contents:Practical

LAB EXERCISES
PART A

1.   Create a Bit Notice with specified height and width with various text styles.

2.   Create a design using all basic tools and make changes using shape tool.

3.   Create a notebook wrapper design using fountain filling and pattern filling tools.

4.   Create an invitation using arrange menu commands like transformations,align and distribute and order.

5.   Create a calendar with the help of Grid Tool, Power clip and import commands.

6.   Create a simple logo using text tool, rectangle tool and ellipse tool.

7.   Transform one object into another object using blend tool.

PART -B

1. Create a design by using the various Selection Tools, cutting and pasting the images.

2. Using multiple layers, create a design with the use of masking various images.

3. Create a design by the use of text tools and apply text effects.

4. Change the color of an image by the use of selective coloring method.

5.   Create a design by applying the various filtering effects.

6.   Create a simple layout and master page by using master page paletteand

Character Styles.

7. Create a multipage document by using character, paragraph, auto flow andtext commands.

8. Create a stylish monthly calendar sheet by using table and its formatting commands