

BU-COMMUNITY COLLEGE CONSULTANCY CENTRE

**REVISED SYLLABUS – 2021-22
FOR
DIPLOMA IN COMPUTER APPLICATION AND
DESIGNING TECHNOLOGY**



**BHARATHIAR UNIVERSITY
COIMBATORE-641046**

BHARATHIAR UNIVERSITY, COIMBATORE.

**DIPLOMA IN COMPUTER APPLICATION AND
DESIGNING TECHNOLOGY
(Community College)**

(for the candidates admitted from the academic year 2021-22 onwards)

Minimum qualification for admission to diploma in computer application and Designing technology is a pass in standard X

SCHEME OF EXAMINATIONS

S.No	Title of the Course	Credits	Maximum Marks
1	Computer fundamentals	4	100
2	Oops and programming with c++	4	100
3	Adobe photoshop	4	100
4	Graphic designing using coreldraw	4	100
5	Programming with c++ lab	4	100
6	Adobe photoshop lab	4	100
7	Coreldraw lab	4	100
8	Project	4	100
	Total	32	800

Question paper Pattern: Theory

Section A: (10 x 2=20 Marks)

Answer ALL the questions

Section B: (5 x 6 = 30 Marks)

Answer ALL the questions either (a) or (b)

Section C: (5 x 10 = 50)

Answer ALL the questions either (a) or (b)

Duration of examinations for all papers is three hours.

*Minimum Pass Mark: 40 Marks

PAPER I
COMPUTER FUNDAMENTALS

Unit:1		
Introduction to Computers: Introduction – What is a Computer – History – Types – Applications of Computers - Organization of Basic Computers – Hardware – Motherboard – Input Devices – Output Devices – Storage Devices		
Unit:2		
Software: Introduction – System Software – Utility Software – Application Software. Operating Systems: Introduction – History and Evolution of Operating Systems – Functions – Techniques – Types – Overview of Windows		
Unit:3		
Networking and Internet: What is Networking – Types – Network Topologies. Internet: Introduction – What in Internet – Applications – WWW – Web Browsers – Internet Tools and Services – HTTP – Newsgroups – Blogs - Search Engines – Downloading and Uploading – E-mail Service - Teleconferencing		
Unit:4		
Database Management Systems: Introduction – Overview of Database – Database Management System – Physical Concepts of Data – Logical Concepts of Data – Data Languages – Data Structures – Normalization – Object Oriented Databases – Distributed Databases		
Unit:5		
Multimedia: Introduction – What is Multimedia – Applications – Components – Hardware for Multimedia – Software for Multimedia – Graphics Files		
Text and Reference Books		
1	Computer Fundamentals and Applications, Ashok Arora, Vikas Publishing House, 2015	
2	Fundamentals of Computers, V.Rajaraman, Neeharika Adabala, PHI, 2015	
3	Computer Fundamentals, Anita Goel, Pearson, 2010	
4	Information Technology Theory and Practice, Pradeep K. Sinha, Priti Sinha, PHI, 2016	
5	Introduction to Computers, Alexis Leon, Mathews Leon, Vikas Publishing House, 2000	

PAPER II
OOPS AND PROGRAMMING WITH C++

Unit:1		
Principles of Object-Oriented Programming: Object-Oriented Programming Paradigm- Basic Concepts of Object- Oriented Programming- Benefits of OOPs- Object-Oriented Languages- Applications of OOP- C++ Statements- Class- Structure of C++ Program- Creating the Source File- Compiling and Linking.		
Unit:2		
Tokens-Expressions and Control Structures: Introduction: 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++- Scope Resolution Operator- Member Dereferencing Operators- Manipulators- Type Cast Operator- Expressions and Implicit Conversions- Operator Precedence- Control Structures.		
Unit:3		
Classes and Objects: Specifying a Class- Defining Member Functions- Making an Outside Function Inline- Nesting of Member Functions- Private Member Function- Arrays within a Class- Memory Allocation for Objects- Static Data Member- Static Member Functions- Arrays of Objects- Object as Function Arguments. CONSTRUCTORS AND DESTRUCTORS: Introduction- Constructors- Parameterized Constructors- Multiple Constructors with Default Arguments- Dynamic Initialization of Objects- Copy Constructors- Dynamic Constructors. Destructor. FUNCTIONS IN C++: The Main Function- Function Prototyping- Call by Reference- Return by Reference- Inline Functions- Default Argument- Const. Arguments- Function Overloading- Friend and Virtual Function.		
Unit:4		
Operator Overloading and Type Conversions: Introduction- Defining Operator Overloading- Overloading Unary Operators- Overloading Binary Operators Using Friends- Manipulation of strings using Operators- Rules for Overloading Operators- Type conversions.		
Unit:5		
INHERITANCE: EXTENDING CLASSES: Introduction- Defining Derived Classes- Single Inheritance- Making a Private Member Inheritable- Multilevel Inheritance- Multiple Inheritance- Hierarchical Inheritance- Hybrid Inheritance. POINTERS- VIRTUAL FUNCTIONS AND POLYMORPHISM: Compile time Polymorphism- run time polymorphism- Pointers to Objects- This Pointer- Pointers to Derived Classes- Virtual Functions- Pure Virtual Functions.		
Text and Reference Books:		
1	C++: The Complete Reference, Herbert Schildt, Osborne McGraw-Hill, 1995	

2	Let Us C++, Yashavant P Kanetkar, BPB Publications, 1999
3	Object Oriented Programming with C++, E. Balagurusamy, TMH, 2008
4	C++ Primer, Stanley B.Lippman, Josee Lajoie, Barbara E.Moo, Addison-Wesley, 2013
5	The C++ Programming Language, Bjarne Stroustrup, Pearson Education, 2009

PAPER III
ADOBE PHOTOSHOP

Unit:1		
Getting to know the work area - Photoshop's Environment & Sizing Images Raster and Vector Graphics · Photoshop Environment Elements · Navigating in Photoshop - Image Size and Resolution, Cropping.		
Unit:2		
Selecting Image Areas & Layers - The Rectangular and Elliptical Marquee Tools -The Lasso Tools - Saving Selections.. The Magic Wand Tool - The Magnetic Lasso Tool - Modifying Selections -Floating Versus Fixed Selections -Undoing Previous Steps - Copying Selections -Creating Layers: Transforming Layers - Copying Layers between Images -Arranging Layers -Saving Images in Photoshop Format.		
Unit:3		
Blending & Compositing and Image Modes Defringing - Opacity and Blending Modes · Feathering Edges Mode Characteristics · Grayscale and Bitmap Modes · Color Modes.		
Unit:4		
Color and Painting Selecting Colors · Painting Tools · The Clone Stamp ToolText, Layer Effects, and Filters Type Layers · Layer Effects · Filters · Merging and Flattening Layers.		
Unit:5		
Adjusting Images · Brightness/Contrast · Levels Adjustment Layers · Toning Tools · Hue/Saturation		
Text and Reference Books:		
1	Teach Yourself Adobe Photoshop, Rose Carla, Sams, 2011	
2	Adobe Photoshop Cs Classroom in A Book, Adobe Press, 2011	
3	The Hidden Power of Adobe Photoshop: Mastering Blend Modes and Adjustment Layers for Photography, Adobe Press, 2020	
4	Adobe Photoshop: A complete course and Compendium of Features, Stephen Laksevitch Rocky Nook; Illustrated edition, 2020	

PAPER IV
GRAPHIC DESIGNING USING CORELDRAW

Unit:1		
Introduction to CorelDRAW: Getting Started - Moving Around and Viewing Drawings - Basic Drawing Skills Selecting and Manipulating Objects - Drawing and Shaping Objects - Arranging Objects.		
Unit:2		
Using Text: Working with Text: Adding and Selecting – Rotating – Skewing- Flipping - Working with Objects: Selecting- copying – Duplicating – Deleting – Positioning – Formatting – and Shapingobjects - Outlining and Filling Objects - Using Symbols and Clipart - Transforming Objects.		
Unit:3		
Adding Special Effects: Special Effects: Artistic media- Contour Effect – Envelope Effect- Extrude Effect- Lens Effect- Add Perspective-Creating Output - Exporting Drawings - Printing		
Unit:4		
Customizing CorelDRAW: Introduction - Customizing Options - Using Text and Color - Working with Color - Workingwith Paragraph Text - Special Text Effects - Layouts and Layers - Special Page Layouts – Arranging, Objects - Using Layers		
Unit:5		
Styles and Templates: Using Styles and Templates - Advanced Effects - Special Interactive Effects - Custom CreationTools - Working with Bitmaps - CorelTRACE and Corel R.A.V.E. Case Study.		
Text & Reference Books:		
1	CorelDraw IN Simple Steps – Shalini, Dreamtech Press India Pvt. Ltd, 2011	
2	Gupta CorelDraw Bible - DEBORAH MILLER, John Wiley & Sons, 2009	
3	Teach Yourself CorelDRAW, Niranjana Jha, CreateSpace Independent Publishing Platform 2015	
4	CorelDRAW a Beginners Guide for Graphics Designers. Nathan Clark, 2019	
5	Corel Draw Training Guide, Satish Jain, BPB, 2018	

PAPER V
PRACTICAL - 1

PROGRAMMING WITH C++ LAB	
List of Programs	
1	Write a C++ program to find the sum of individual digits of a positive integer.
2	Write a C++ program to generate the first n terms of the sequence.
3	Write a C++ program to generate all the prime numbers between 1 and n, where n is a value given by the user.
4	Write a C++ program to find both the largest and smallest number in a list of integers.
5	Write a C++ program to sort a list of numbers in ascending order.
6	Write a C++ program to illustrate New and Delete Keywords for dynamic memory allocation.
7	Write a C++ program illustrating Class Declarations, Definition, and Accessing Class Members.
8	Write a C++ program to illustrate default constructor, parameterized constructor and copy constructors.
9	Write a C++ program to implement i) Operator Overloading. ii) Function Overloading.
10	Write a C++ program to find maximum out of two numbers using Friend Function.
11	Write a C++ program to Access Members of a STUDENT Class Using Pointer to Object Members.
12	Write a C++ program to Generate Fibonacci Series. Use Constructor to Initialize the Data Members
13	Write a C++ program to maintain the records of person with details (Name and Age) and find the eldest among them. The program must use this pointer to return the result.
14	Write a C++ program showing implementation of stack class having the functionality of push, pop operations.
15	Write a C++ program illustrate the use of pointers to objects which are related by inheritance.

PAPER VI
PRACTICAL - 2

ADOBE PHOTOSHOP LAB	
List of Programs	
1	Create a Visiting card using Adobe Photoshop tools.
2	Draw a frame using Custom Shape Tool in Shape preset.
3	Convert a color photo to a black and white photo.
4	Work with the elements of Adobe Photoshop window.
5	Design a Passport Size Photo on a Max Size Paper.
6	Create a new layer, duplicate a layer within an image in Photoshop
7	Copy a layer from one image to another in Photoshop.
8	Merge and delete the layers in using Adobe Photoshop tools.
9	Apply a Filter to Part of an Image in Photoshop.
10	Adjust the images using brightness and contrast option in Photoshop.
11	Composite images with blend and color effects in Photoshop.

PAPER VII
PRACTICAL - 3

CORELDRAW LAB	
List of Programs	
1	Move around and view drawing using CorelDraw tools.
2	Select and manipulate objects using drawing tools in CorelDraw.
3	Draw and shape an image object using CorelDraw tools.
4	Add, select, rotate with text using CorelDraw.
5	Skew and flip text object using CorelDraw.
6	Select, copy, duplicate, delete the objects using CorelDraw.
7	Format the objects using CorelDraw tools.
8	Shape the objects using CorelDraw tools.
9	Use symbols and clipart in the object in CorelDraw.
10	Transform the objects in CorelDraw.
11	Add special effects on the object in CorelDraw.
12	Export drawings and printing drawings using CorelDraw.
13	Work with color tools in CorelDraw.
14	Work with special layout in CorelDraw.
15	Use styles and templates using CorelDraw.