

BHARATHIAR UNIVERSEITY, COIMBATORE.
DIPLOMA IN COMPUTER APPLICATION AND DESIGNING TECHNOLOGY
(for Community College)
(for the candidates admitted form the academic year 2010-11 onwards)

SCHEME OF EXAMINATIONS

SL.NO	SUBJECT	MARKS
1	PROGRAMMING IN C	100
2	OOPS AND PROGRAMMING WITH C++	100
3	ADOBE PHOTOSHOP	100
4	GRAPHIC DESIGNING USING CORELDRAW	100
5	COMPUTER LAB	100

PAPER –I

PROGRAMMING IN C

UNIT - I

Introduction to C :

History of C -Characteristics of C - C Program Structure -Constants - Data types
Variables -Keywords - Console Input/Output Statements - Compilation and
Execution .

UNIT - II

Operators :

Arithmetic – Unary - Assignment - Relational & Logical - Conditional .

Branching & Looping Statements : if Statement - Nested if Statement - else-if Ladder- switch
Statement - Looping Concepts - for loop - while loop - do-while loop - Jump Statements .

UNIT - III

Arrays:

Array Concepts- Rules & Restrictions - Single & Multi Dimensional Arrays Functions : Types of
Functions - Functions and Array- Function Prototyping - Scope of
Variables - Built-in Functions .

UNIT - IV

Strings :

String Functions- String Manipulation .Structures : Defining New Data types , Unions, Type
Casting , Enumerated Data types - Static Variables , Type Definition

UNIT – V

Pointers :

Pointer Concepts , Pointers and Functions , Pointers and Arrays , Array of
Pointers , Static Initialization , Pointers and Structures , Illegal indirection

Dynamic Memory Allocation and Data Structures : malloc(),sizeof() and free() , calloc() and
realloc() , Stacks and Queues Linked Lists ,Trees

Text & Reference Books:

- 1 C : The Complete Reference : HerbertSchildt
- 2 Art of 'C' Schildt
- 3 Let us 'C' Y.P.Kanetkar
- 4 Spirit Of "C" :: MoolishKooper
- 5 The C Programming Language Kernighan& Ritchie.

PAPER –II

OOPS AND PROGRAMMING WITH C++

UNIT -I

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-II

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 Initialisation 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-III

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 Initialisation 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 - IV

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-V

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 & Reference Books:

- 1 .C++: The Complete Reference Herbert Schildt
2. Let us C++ Kanetkar
3. Object Oriented Programming with C++ E. Balagurusamy
- 4 C++ Primer Stanley Lippman & Lajoi
5. C++ Programming Language Bjarne Stroustrup

PAPER –III

ADOBE PHOTOSHOP

UNIT - I

Photoshop's Environment & Sizing Images

Raster and Vector Graphics · Photoshop Environment Elements · Navigating in Photoshop - Image Size and Resolution , Cropping.

UNIT - II

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 - III

Blending & Compositing And Image Modes

Defringing · Opacity and Blending Modes · Feathering Edges

Mode Characteristics · Grayscale and Bitmap Modes · Color Modes .

UNIT - IV

Color and Painting

Selecting Colors · Painting Tools · The Clone Stamp Tool

Text, Layer Effects, and Filters

Type Layers · Layer Effects · Filters · Merging and Flattening Layers .

UNIT - V

Adjusting Images

· Brightness/Contrast · Levels Adjustment Layers · Toning Tools · Hue/Saturation

Text & Reference Books:

TEACH YOURSELF ADOBE PHOTOSHOP – Rose Carla

ADOBE PHOTOSHOP CS CLASSROOM IN A BOOK By Adobe Press

PAPER –IV

GRAPHIC DESIGNING USING CORELDRAW

UNIT - I

Introduction to CorelDRAW:

Getting Started - Moving Around and Viewing Drawings - Basic Drawing Skills Selecting and Manipulating Objects - Drawing and Shaping Objects - Arranging Objects.

UNIT - II

Using Text:

Working With Text: Adding and Selecting – Rotating – Skewing- Flipping - Working With Objects: Selecting- copying – Duplicating – Deleting – Positioning – Formatting – and Shaping objects - Outlining and Filling Objects - Using Symbols and Clipart - Transforming Objects.

UNIT - III

Adding Special Effects:

Special Effects:Artistic media- Contour Effect – Envelope Effect- Extrude Effect- Lens Effect- Add Prespective-Creating Output - Exporting Drawings - Printing

UNIT - IV

Customizing CorelDRAW:

Introduction - Customizing Options - Using Text and Color - Working With Color - Working With Paragraph Text - Special Text Effects - Layouts and Layers - Special Page Layouts – Arranging ,Objects - Using Layers

UNIT - V

Styles and Templates:

Using Styles and Templates - Advanced Effects - Special Interactive Effects - Custom Creation Tools - Working With Bitmaps - CorelTRACE and Corel R.A.V.E. Case Study.

Text & Reference Books:

CorelDraw IN Simple Steps – Shalini Gupta
CorelDRAW Bible - DEBORAH MILLER

PAPER –V - PRACTICAL
COMPUTER LAB

- * Five numbers of practical topics should be identified from each theory papers.
- * Totally three should be twenty number of Computer Lab/Practical has to be identified from among the four theory papers.
- * However a minimum of fifteen numbers of Computer Lab/Practical must be completed by the students for this paper.