(v)TRADE :

COMPUTER SCIENCE

12ᵗʰ VOCATIONAL

PAPER-1
DESKTOP PUBLISHING

THEORY

Time : 2 hrs

Theory : 30 Marks

InA : 10 Marks
Practical : 50 Marks

Total : 90Marks

DTP

Introduction to DTP

What is Desktop Publishing, Introduction to different DTP Software, Uses of DTP and Print Documents, Advantages and Disadvantages of DTP over Word Processing, Hardware and Software Requirements for DTP, Installation of DTP Software and Fonts.

Basics of Pagemaker

Document Planning, Page Layout, Margin, Tabs, Rulers, Header, Footer, Fonts, Styling, Frames. Master Page Concept, WYSIWYG etc, use of File, Edit, Page, Frame, Font, Graphics and Option Menu.

Corel Draw

Installation of Corel Draw and Minimum Configuration Requirements, Managing Files, Using the Drawing Tools, Manipulating the Objects, Moving the Objects, Reshaping Objects, Previewing your Drawing, Filling and Outfitting the Objects, Shaping Objects, Changing Object Position, Surfing through Opening Interface for All Tools and Menu, Working with Text, Editing Text, Modifying Special Effects, Fonts and Choosing Artistic and Paragraph Text, Color, Modeling System, Creating Custom Colors, Customizing Color Palettes, Using the Corel Clip Board, Working with Objects, Zooming, Dragging and other Features, Creating Special Effects, Object Perspective, Envelopes, Blending Objects, Extrusion, Corel Photo Point, Corel Chart, Corel Movie, use of Contour and Lens Effects, Cropping and Bitmaps.

MS-Power Point

Introduction, Working with Power Point, Creating a New Presentation, Saving and Closing a Presentation, Opening an Existing Presentation, Inserting and Deleting Text, Moving and Copying Text, Formatting Text, Changing Text Attribute Styles, Changing Bullet Characteristics, Aligning, Line Setting, Paragraph Setting, Changing Slide Color Scheme, Using Masters, Slide, Title, Handout, Notes, Editing Text, Viewing a Presentation In Different View, Adding and Deleting Slide, Selecting Text. More About Presentation.

125

Drawing Objects - Lines, Arcs, Rectangles, Ellipses, Drawing Freeform Shapes, Auto Shape Feature in Power Point, Rotating Objects, Modifying Colors and Lines, Adding Headers and Footers, Inserting MS-Excel Worksheet, Printing Presentation Components.

Adobe Photoshop

Installation of Photoshop Configuration and Requirements, Managing Files, Forms, Line, Space, Texture, Color, Typography, Layouts etc, Still Life Layouts. Color Layouts, Poster Design, Image Scanning, Resolution, Size File and Formats of Images, Gray Scale and Color Option, File Conversion Reducing the Memory Space.

WORD PROCESSING

MS-Word

Starting, Introduction to Tabs and Ribbons, Creating a Document, Opening a Document, Saving a Document, Navigation of Cursor, Editing Text, Formatting Text, Viewing Documents.

Formatting Document

Line spacing, Paragraph spacing, Setting Tabs, Indenting Text, Aligning text, Adding Headers and Footers, Numbering Pages, Inserting a Table, Proofing a Document, Spell- Check Utility, Automatic Spell-Check, Auto Text, Auto Correct, Printing a Document, Mail Merge.

MS-Excel

Starting MS-Excel, Opening a Worksheet, Saving a Worksheet, Spread sheet operations, Entering Numbers, Text, Dates and Time, Formulas, Editing the Worksheet Inserting/ Deleting Cells, Rows, Columns, worksheet), Printing a Worksheet, Formulas and Functions, Cell Referencing, Using Text, Date and Time in a Formula, Arrays and Named Ranges, Charts, Creating a Chart, Editing a Chart, Macros - Creating and Running Simple Macros, Creating and Running Menu Macros.

DESKTOP PUBLISHING

Time: 3 hrs   **PRACTICAL**   **Marks : 50**

PAGEMAKER

- Installation of PageMaker.

- Create style sheets.

- Preparation of one page/ two columns.

- Generate the same page layout of today's Newspaper on your computer screen.

- Generate at least four page brochure of a company with its logo on each page.

- Use of header, footer, foot notes in designing of page layout.

- Designing of corporate logos and image rendering.

CORELDRAW

- Creating an artistic sketch in CorelDraw.

- Linking and integrating the CorelDraw files in Web Pages.

- Make pattern/ draw a logo.

- Design a pamphlet.

POWERPOINT

- Design simple presentation using colors and fonts.

- Design presentation advance features using animation and 3-D features.

PHOTOSHOP

- Saving the pictures in various file formats.

- Practice of different tools on a image in a Photoshop.

- Application of Basic functions on images.

- File conversion and reducing the memory space.

- Pasting photographs and Images using Photoshop.

- Working with Text in Photoshop.

MS-Word

- Editing and formatting a document.
- Working on Tables in MS Word.
- Page Setup and Printing.
- Shortcut Keys for Microsoft Office.

MS EXCEL

- Format cells, rows, columns, and entire worksheets so they fit and match your data.
- Use formulas and functions for math, accounting, and totaling.
- Create charts and diagrams for your data.
- Working with Excel templates.
- Share and protect your worksheets and workbooks.

PAPER-II   **OBJECT ORIENTED PROGRAMMING IN C++**

THEORY

Time : 2 hrs

Theory : 30 Marks

InA   : 10 Marks
Practical : 50 Marks

Total   : 90Marks

C++ Language Features

Overview, History, How C++ differs from C, Program structure, namespace, identifiers, variables, constants, enum, operators typecasting, control structures, IO Streams, cout, cin and cerr object, Comparison of cout and cin with print() and scan(), Basics of Console Input and Output, Constant Pointers, Dynamic Memory Allocation.

OOPS

Introduction OOP, Procedural vs Object Oriented Programming, Principles of OOP, Benefits and applications of OOP

Functions

Simple functions, Call and Return by reference, Inline functions, Macro Vs. Inline functions, Overloading of functions, default arguments, friend functions, virtual functions.

Objects and Classes

Basics of object and class in C++, Private and public members, static data and function members, constructors and their types, destructors, operator overloading, type conversion

Inheritance

Concept of Inheritance, types of inheritance - single, multiple, multilevel, hierarchical, hybrid, protected members, overriding, virtual base class

Polymorphism

Pointers in C++, Pointes and Objects, this pointer, virtual and pure virtual functions, Implementing polymorphism

I/O and File Management

Concept of streams, cin and cout objects, C++ stream classes, Unformatted and formatted I/O, manipulators, File stream, C++ File stream classes, File management functions, File modes, Binary and random Files

Templates, Exceptions and STL

What is template? function templates and class templates, Introduction to exception, try-catch-throw, multiple catch, catch all, rethrowing exception, Implementing user defined exceptions, Overview and use of Standard Template Library

OBJECT ORIENTED PROGRAMMING IN C++

Time: 3 hrs   PRACTICAL   Marks : 50

- Develop an object oriented application to perform all the basic operations like insert, delete, search on binary tree.

- Develop an object oriented application to compute the Income-tax for the salaried person.

- Develop an object oriented system "Visiting Card Management" which allows user to add, delete and update and search the visiting card details.

- Develop an object oriented system "Student Attendance Management" for recording and analyzing the student attendance.

- Develop a library for performing various Matrix operations.

- Use templates to make them generalized for any data type.

Introduction to Networking

Classification of Networks - LAN, MAN, WAN.

Networking Models

Peer to Peer, Client/ Server, Internet, Intranet & Extranet.

The OSI Model

Layer 1 - Physical, Layer 2 - Data Link, Layer 3 - Network, Layer 4 - Transport,   Layer 5 - Session, Layer 6 - Presentation, Layer 7 - Application.

Terminologies and Technologies

Signaling Methods, Multiple Signaling Methods, Data Transmission Methods, Channel Access Methods, Ethernet, CSMA/CD, CSMA/CA, Token Passing, Addressing Methods.

Network Topologies and Access Methods

Bus Topology, Star Topology, Ring Topology, Mesh Topology.

Protocols

TCP/IP, IPv4, IANA, Classful Network.

Transport Layer Protocols

TCP and UDP

Server Operating Systems

Servers - Microsoft Window Servers, Unix, Linux.

NETWORKING

PRACTICAL

- Network Hardware - Network Interface Card, Hub, Switch and Routers

- IP Address, IP Address Assignment

- Networking Commands – PING, IPCONFIG, IPCONFIG all, Netstat, Getmac, Hostname, Pathping.

- Device Sharing - CD/DVD Sharing. Drive Sharing as C:, D: etc, Printer Sharing, Folder sharing, Setting permission of shared folder, File Sharing. Accessing Shared CD/DVD, Drives, Printer, Folder from other computer. Remote Desktop Sharing with mstsc command.

- Analyzing Network requirement for your school or office setup, available close to your vicinity. If a network is already present, understand the purpose of it.

- Identify - Hubs, Switches, Connectors & Cables.

- Comparison - Straight - through & Crossover cables. Different models of wired network cards available from different vendors, Different models of unmanaged switches available from different vendors.

- Trouble Shooting Network - Network cable unplugged, Limited or No Network Connectivity, the Network Path cannot be found, Windows has detected an IP Address conflict, a duplicate name exists on the network.