



# PROGRAMME GUIDE

## 2024-25



# PROGRAM GUIDE

## POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS (PGDCA)

- Scheme of Examination
- Detailed Syllabus
- Counseling and Study Structure
- Study Modules & Books Information

### Supported By



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**POST GRADUATE DIPLOMA IN  
COMPUTER APPLICATION  
(PGDCA)**

## POST GRADUATE DIPLOMA IN COMPUTER APPLICATION (PGDCA)

### पोस्ट ग्रेजुएट डिप्लोमा इन कम्प्यूटर एप्लीकेशन (PGDCA)

(A) Duration : 12 Months

(अ) अवधि : 12 माह

(B) Eligibility : 12th Pass

(ब) पात्रता : 12वीं पास

(C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

COURSE STRUCTURE OF PGDCA SEMESTER I <sup>st</sup>														
Subject Details			Main Examinations				Sessionals ***		Credit Distribution			Allotted Credits	Key Learning Outcomes	
Subject Code	Subject Name	Total Mark s	Major		Minor		Max Mark s	Min Mark s	L	T	P	Subject wise Distrib ution		
			Max Marks	Min Marks	Max Marks	Min Marks								
Theory Group														
4TPDC-101	Information Technology Tools and Network Basics	100	50	17	20	7	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Outline the advancements in generation of Computer systems and Latest IT gadgets</li><li>List out the simple settings of Operating System</li><li>Define Future Skills &amp; Cyber Security</li></ul>	
4TPDC-102	Windows and MS Office	100	50	17	20	7	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Explain the working and importance of Windows &amp; MS Office</li><li>Analyze the use of various Object Words</li></ul>	

4TPDC-103	Objects Oriented Programming With C++	100	50	17	20	7	30	12	2	1	-	3	<ul style="list-style-type: none"> <li>Illustrate program development environment in C++</li> <li>Understand the concept of Classes and Objects</li> </ul>
4TPDC-104	Database Concepts and Introduction to SQL	100	50	17	20	7	30	12	2	1	-	3	<ul style="list-style-type: none"> <li>Database Concepts and Introduction to SQL</li> <li>Compare the types of database systems</li> </ul>
4TPDC-105	Communication Skills & Personality Development	100	50	17	20	7	30	12	2	1	-	3	<ul style="list-style-type: none"> <li>Understand and apply English Language appropriately</li> <li>Apply the techniques of Personality Development in routine lifestyle</li> </ul>
<b>Practical Group</b>			<b>Term End Practical Exam</b>				<b>Lab Performance</b>						
4TPDC-103	Objects Oriented Programming With C++	50	25	08	25	08	-	-	3	3			<ul style="list-style-type: none"> <li>Creating and Compiling C++ Programs</li> <li>Creating Manipulators using C ++</li> </ul>
4TPDC-104	Database Concepts and Introduction to SQL	50	25	08	25	08	-	-	2	2			<ul style="list-style-type: none"> <li>Apply the concept of Normalization</li> <li>Store and Retrieve data from Database using SQL</li> </ul>
<b>Grand Total</b>		<b>600</b>										<b>20</b>	

**Minimum Passing Marks are equivalent to Grade D**

**L- Lectures T- Tutorials P- Practical**

**Major- Term End Theory Exam/ Practical Exam**

**Minor- Pre University Test**

**Sessional weightage – Attendance 50%, Three Class Tests/Assignments 50%**

COURSE STRUCTURE OF PGDCA II <sup>nd</sup> SEMESTER														
Subject Details			Main Examinations				Sessionals ***		Credit Distribution			Allotted Credits	Key Learning Outcomes	
Subject Code	Subject Name	Total Marks	Major		Minor		Max Marks	Min Marks	L	T	P	Subject wise Distribution		
			Max Marks	Min Marks	Max Marks	Min Marks								
Theory Group														
4TPDC-201	Introduction to Internet & Web Technology	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Define the importance of Internet</li><li>List out the domain name and their organization</li></ul>	
4TPDC-202	Programming and Problem Solving through Python	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>List the Advantages of using Python</li><li>What are Data Structures in Python</li></ul>	
4TPDC-203	Data Structure through C++	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Work with Algorithm in Data Structure</li><li>Define the types of Data structures</li></ul>	
Elective-I														
4TPDC-204	Information Security Management	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>List out the OSI layers</li><li>Define the importance of TCP/IP models</li><li>Demonstrate the techniques of Hacking</li></ul>	
4TPDC-205	Introduction to Graphic Design using Photoshop												<ul style="list-style-type: none"><li>Identify the uses of Graphic Design and Photoshop</li><li>Analyze the principles of visual hierarchy</li></ul>	



Practical Group			Term End Practical Exam		Lab Performance						
4TPDC-201	Introduction to Internet & Web Technology	50	25	08	25	08	-	-	1	1	<ul style="list-style-type: none"> <li>Build Email networks and work on various servers</li> <li>Develop a simple website Using html</li> </ul>
4TPDC-202	Programming and Problem Solving through Python	50	25	08	25	08	-	-	2	2	<ul style="list-style-type: none"> <li>Show the techniques of Reading and Writing Text Files</li> <li>Create Modules and Packages</li> </ul>
4TPDC-203	Data Structure through C++	50	25	08	25	08	-	-	2	2	<ul style="list-style-type: none"> <li>Work with Stacks in Data Structure</li> <li>Use Sorting and Searching through C++</li> <li>Elaborate File Structure and Indexing in Data Structure</li> </ul>
4TPDC 206	Project Report	100	50	17	50	17	-	-	2	2	<ul style="list-style-type: none"> <li>Demonstrate the overall learning from this program by submitting a detailed Project.</li> </ul>
<b>Elective-I</b>											
4TPDC-204	Information Security Management	50	25	8	25	8	-	-	1	1	<ul style="list-style-type: none"> <li>Detect errors and apply suitable measures</li> <li>Creating composite images with layer masks and blending modes</li> </ul>

4TPDC-205	Introduction to Graphic Design using Photoshop										<ul style="list-style-type: none"> <li>Choose Color theory and psychology in Photoshop</li> <li>Work with Vector Drawing Tools</li> </ul>
<b>Grand Total</b>		<b>700</b>								<b>20</b>	

**Minimum Passing Marks are equivalent to Grade D**

**L- Lectures T- Tutorials P- Practical**

**Major- Term End Theory Exam/ Practical Exam**

**Minor- Pre University Test**

**Sessional weightage – Attendance 50%, Three Class Tests/Assignments 50%**

# Detailed Syllabus

## Semester I

### 4TPDC-101 : Information Technology Tools and Network Basics

#### Unit I

- **Introduction to Computer:** Computer and Latest IT gadgets, Evolution of Computers & its applications, IT gadgets and their applications, Basics of Hardware and Software, Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Application Software, Systems Software, Utility Software, Open source and Proprietary Software, Mobile Apps.
- **Introduction to Operating System:** Operating System, Basics of Operating System, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, running an application, Operating System simple setting, using mouse and changing its properties, changing system date and time, changing display properties, to add or remove Program and its features, adding, removing & sharing Printers, File and Folder management, types of file extensions.

#### Unit II :

**Word Processing** - Word Processing Basics, Opening Word Processing Package, Title Bar, Menu Bar, Toolbars & Sidebar, Creating a New Document, Opening and Closing Documents, Opening Documents, Save and Save As, Closing Document, Using The Help, Page Setup, Page Layout, Borders, Watermark, Print Preview, Printing of Documents, PDF file and Saving a Document as PDF file, Text Creation and manipulation, Document Creation, Editing Text, Text Selection, Cut, Copy and Paste, Font, Color, Style and Size selection, Alignment of Text, Undo & Redo, AutoCorrect, Spelling & Grammar, Find and Replace, Formatting the Text, Creating and using user defined Styles, Paragraph Indentation, Bullets and Numbering, Change case, Header & Footer, Table Manipulation, Insert & Draw Table, Changing cell width and height, Alignment of Text in cell, Delete / Insertion of Row, Column and Merging & Splitting of Cells, Border and Shading, Mail Merge, Table of Contents, Indexes, Adding Comments, Tracking changes, Macros.

#### Unit III :

**Spreadsheet** - Elements of SpreadSheet, Creating of SpreadSheet, Concept of Cell Address [Row and Column] and selecting a Cell, Entering Data [text, number, date] in Cells, Page Setup, Printing of Sheet, Saving Spreadsheet, Opening and Closing, Manipulation of Cells & Sheet, Modifying / Editing Cell Content, Formatting Cell (Font, Alignment, Style ), Cut, Copy, Paste & Paste Special, Changing Cell Height and Width, Inserting and Deleting Rows, Column, AutoFill, Sorting & Filtering, Freezing panes, Formulas, Functions and Charts, Using Formulas for Numbers (Addition, Subtraction, Multiplication & Division), AutoSum, Functions (Sum, Count, MAX, MIN, AVERAGE), Sort, Filter, Advanced Filter, Database Functions ( DSUM, DMIN, DMAX, DCOUNT, DCOUNTA), What-if Analysis, Pivot table Charts (Bar, Column, Pie, Line), Data Validation.

#### Unit IV

**Presentation** - Creation of Presentation, Creating a Presentation Using a Template, Creating a Blank Presentation, Inserting & Editing Text on Slides, Inserting and Deleting Slides in a Presentation, Saving a Presentation, Manipulating Slides, Inserting Table, Adding Pictures, Inserting Other Objects, Resizing and Scaling an Object, Creating & using Master Slide, Presentation of Slides, Choosing a Set Up for Presentation, Running a Slide Show, Transition and Slide Timings, Automating a Slide Show, Providing Aesthetics to Slides & Printing, Enhancing

Text Presentation, Working with Color and Line Style, Adding Movie and Sound, Adding Headers, Footers and Notes, Printing Slides and Handouts.

## **Unit V**

**Introduction to Internet and WWW, E-mail, Social Networking and e-Governance Services** - Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Concept of Internet & WWW, Applications of Internet, Website Address and URL, Introduction to IP Address, ISP and Role of ISP, Internet Protocol, Modes of Connecting Internet (HotSpot, Wifi, LAN Cable, BroadBand, USB Tethering), Identifying and uses of IP/MAC/IMEI of various devices, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Exploring the Internet, Surfing the web, Popular Search Engines, Searching on Internet, Downloading Web Pages, Printing Web Pages.

## **Unit VI**

**Digital Financial Tools and Applications, Overview of Future Skills & Cyber Security** - Digital Financial Tools, Understanding OTP [One Time Password] and QR [Quick Response] Code, UPI [Unified Payment Interface], AEPS [Aadhaar Enabled Payment System], USSD [Unstructured Supplementary Service Data], Card [Credit / Debit], eWallet, PoS [Point of Sale], Internet Banking, National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS), Immediate Payment Service (IMPS), Online Bill Payment

# **4TPDC-102: Windows and MS Office**

## **Unit I**

**Introduction to Windows 10** - Introduction, Overview, Installation, Getting Started, GUI Basics, Navigation, Start Menu, Taskbar, Tablet Mode, File Explorer, Cortana, Notifications, Quick Actions, Cloud, Universal Apps

**Working with Windows 10** - Multiple Desktops, Users Management, Security, Parental Control, Applications, Web Browsing, Networking, Virtualization, Remote Access, Backup & Recovery, Project Spartan, Apps Management, Email Management, Keyboard Shortcuts, System Tray, Media Management, Favourite Settings, Shortcuts, Phones.

## **Unit II**

**Microsoft Office Introduction** - Introduction to MS Office Suite, Understanding the different applications in the suite, Versions of Microsoft Office, Understanding the Interface, Customizing the Quick Access toolbar, Adding and removing commands, moving the toolbar, creating custom commands, using the Ribbon Interface, tabs and groups, customizing the ribbon, keyboard shortcuts

## **Unit III**

**Getting Started Word Basic (2019)** - Introduction of word, understanding OneDrive, creating and opening documents, saving and sharing documents, text basics, formatting text, using find and replace, indents and tabs, line and paragraph spacing, lists, links, page layout, printing documents, breaks, columns, headers and footers, page numbers

**Working with Object Word (2019)** - Pictures and text wrapping, formatting pictures, shapes, text boxes, aligning, ordering, and grouping objects, list and tables, creating lists, creating tables, formatting tables, charts, checking spelling and grammar, track changes and comments, inspecting and protecting documents, SmartArt graphics, inserting and formatting images, wrapping text around images, applying and modifying styles, mail merge, new features in office 2019.

## **Unit IV**

**Getting Started with Excel (2019)** - Introduction, Understanding OneDrive, understanding spreadsheets, the Excel interface, the Excel ribbon, Creating and Opening Workbooks, Saving and opening files, Working with Cells and Sheets, Cell Basics, Modifying Columns, Formatting Cells, Understanding Number Formats, Working with Multiple Worksheets, Grouping and ungrouping

worksheets, Using Find & Replace, Checking Spelling, Page Layout and Printing, Formulas and Functions: Intro to Formulas, Creating More Complex Formulas, Relative and Absolute Cell References, Functions,

**Working with Data with Excel (2019)** - Basic Tips for Working with Data, Freezing Panes and View Options, Sorting Data, Filtering Data, Advanced filter option, Groups and Subtotals, Tables, Charts and graphs, Conditional Formatting, Doing More with Excel: Comments and Co-authoring, Inspecting and Protecting Workbooks, Intro to PivotTables, Doing More with PivotTables, Pivot charts, What-if Analysis, Extras: New Features in Office 2019, What are Reference Styles?, Office Intelligent Services.

## **Unit V**

**Getting Started with Power Point (2019)** - PowerPoint Basics: Understanding OneDrive, Creating and Opening Presentations, Saving Presentations, Working with Slides: Slide Basics, Text Basics, Applying Themes, slide layout, slide background, Applying Transitions, Managing Slides, Using Find & Replace, Printing, Presenting Your Slide Show.

**Text and Objects with Power Point (2019)** - Lists, Indents and Line Spacing, Inserting Pictures, Formatting Pictures, Shapes, Aligning, Ordering, and Grouping Objects, Animating Text and Objects, More Objects: Inserting Videos, Inserting Audio, formatting multimedia, animating objects, Tables, Charts, SmartArt Graphics, Review and Collaborating: Checking Spelling and Grammar, Reviewing Presentations, Inspecting and Protecting Presentations, Customizing Your Presentation: Modifying Themes, Slide Master View, Links, Action Buttons, Rehearsing and Recording Your Presentation, Sharing Your Presentation Online, What is Office 365?, New features in office 2019, Office Intelligence Services.

## **4TPDC-103: Objects Oriented Programming with C++**

### **Unit I**

**Overview of C++** - Overview of C++, Software crisis, Object oriented programming paradigm, Basic concepts of OOP, Advantages/Benefits of OOP, Usage/applications of OOP

**C++ Environment** - Program development environment, The language and the C++ language standards, Introduction to various C++ compilers, The C++ standard library, Prototype of main () function, i/o operator, manipulator, comments, data types

**Creating and Compiling C++ Programs** - TURBO C++ IDE, Creating, compiling and running a C++ program using idea and through command line, Elements of C++ Language, Structure of a C++ program, C++ tokens, Type conversion in expressions.

**Decision Making and Branching** - Introduction, Sequential statements, Mathematical Functions, Branching statements, looping Statements, Nested loops, Programming examples.

### **Unit II**

**Arrays and Functions**- Arrays, The meaning of an array, Single-dimensional arrays, Two-dimensional arrays (Multi-dimensional arrays), User Defined Functions, Elements of user-defined functions, Return values and their types, Function calls, Categories of functions, Passing parameters to functions, Recursion, Command Line Arguments, Storage Class Specifiers.

**Classes and Objects** - Classes, Structures and classes, Unions and classes, Friend function, Friend classes, Inline function, Scope resolution operator, Static class members, Static data members, Static member functions, Passing object to functions, Returning objects, Object assignment

**Array, Pointers, References and the Dynamic Allocation Operators** - Array of objects, Pointer to object, Type checking in C++, The this pointer, Pointer to Derived Types, Pointer to class members, References, C++'s Dynamic Allocation Operators.

**Constructors and Destructors** - Introduction, Constructors, Default Constructor, Parameterized constructors, Copy Constructors, Multiple Constructors in a class, Constructors with default arguments, Default Arguments, Special Characteristics of Constructor functions, Destructors.

### Unit III

**Polymorphism** – Introduction to polymorphism, Types of polymorphism, Function overloading, Overloading Constructor Function, Finding the address of an overloaded function, Operator Overloading, Creating a Member Operator Function, Creating Prefix and Postfix forms of the increment (++) and decrement (– –) operators (Overloading Unary Operator), Overloading the Shorthand Operators (i.e. +=, == etc), Operator Overloading Restriction (Rules), Operator Overloading using friend function, Overloading new and delete operator, Overloading some special operators, Overloading [ ]

(Subscripting) operator, Overloading() (Function Call) operator, Overloading Binary Arithmetic operators, Concatenating String, Overloading Comma (,) operator, Overloading the I/O operators.

### Unit IV

Base class Access control, Inheritance & protected members, Protected base class inheritance, Inheriting multiple base classes, Constructors, destructors & Inheritance, When constructor & destructor function are executed, Passing parameters to base class constructors, Granting access, Virtual base classes.

Virtual function, Pure Virtual functions, early Vs. late binding.

### Unit V

The C++ I/O System Basics - The C++ I/O System basics, C++ predefined streams, Formatting using the ios members, Clearing Format Flags, An Overloaded form of setf(), Examining the Formatted Flags, Using width(), Using precision(), Using fill(), Using Manipulators to format I/O, Creating your own Manipulators

## 4TPDC-104: DataBase Concepts and Introduction to SQL

### Unit I : Introduction to DBMS

- What is database?
- Types of database systems
- Advantages of using a DBMS
- Different types of database models

### Unit II : An Architecture of the Database system

- Three level of Architecture
- Logical, Physical, conceptual new
- Logical data independence

### Unit III : Relational Data Model

- What is the relational data model?
- Concepts of tables, attributes, tuples and keys
- Primary and foreign keys
- Constraints
- ER diagrams
- Entry-Relationship Diagrams (ERDs)

### Unit IV : Normalization and Database Design

- What is normalization?
- Advantages of normalization
- First Normal Form (1NF)
- Second Normal Form (2NF)

- Third Normal Form (3NF)
- Denormalization
- Database design process

#### **Unit V : SQL Basics**

- Introduction to SQL
- Data types
- Basic SQL syntax and commands
- Creating tables
- Inserting data into tables
- Retrieving data from tables using SELECT statement
- Filtering data using WHERE clause
- Sorting data using ORDER By clause

#### **Unit VI : Advanced SQL**

- Join (Inner Join, Right Join, Full Outer Join)
- Aggregating data using GROUP By clause
- Filtering grouped data using HAVING clause
- Subqueries
- Views
- Indexes

#### **Unit VII : Database Administration**

- Introduction to database administration
- Backup and recovery
- Performance tuning
- Security and access control
- Database maintenance
- Selecting the right database

### **4TPDC-105: Communication Skills and Personality Development**

#### **Unit I**

English Language - Listening, Speech, Pronunciation, Reading, Spelling, Writing *Right*

Nouns : Countable and Uncountable, Pronouns : Personal, Relative and Others, Articles

The Parts of Speech, The Prepositions, Clauses : Coordinate, Subordinate, Relative Adverbs, Adjectives and Adjective Phrases, Verb.

#### **Unit II**

The Model Auxiliaries, Adverb, Adverb Phrases Comparisons and Intensification, Linking Devices, Subject Verb Agreement, Tenses, Common Errors, Word Building, Vocabulary

Developing Ability of Question and Answer, Body Language and Its Use in Speaking, Group Discussions, Interview Skills.

### **Unit III**

Composition - Making a Technical Report, E-Mails and Text Messages Composing, Letter Writing, Paragraph Writing, E-mail Writing, Writing Resume, Writing a Cover Letter

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management.

### **Unit IV**

Introduction to Personality a) Basic of Personality b) Human growth and Behavior c) Theories in Personality d) Motivation

Communication skills and Personality Development a) Intra personal communication and Body Language b) Inter personal Communication and Relationships c) Leadership Skills d) Team Building and public speaking

### **Unit V**

Techniques in Personality development I a) Self confidence b) Mnemonics c) Goal setting d) Time Management and effective planning

Techniques in Personality Development II a) Stress Management b) Meditation and concentration techniques c) Self hypnotism d) Self acceptance and self growth

## **Semester II**

### **4TPDC-201: Introduction to Internet and Web Technology**

#### **Unit I**

Internet - Evolution, Protocols, Interface Concepts, Internet Vs Intranet, Growth of Internet, ISP, Connectivity, URLs, Domain names, Portals, Application. E-MAIL - Basics of Sending & Receiving.

#### **Unit II**

Word Wide Web (www) - History, Working, Web Browsers, Its functions, Concept of Search Engines, Searching the Web, HTTP, URLs, Web Servers, Web Protocols. Space on Host Server for Website, HTML, Design tools, HTML editors, Image editors.

#### **Unit III**

HTML - Concepts Of Hypertext, Versions of HTML, Elements of HTML, Syntax, Head & Body Sections, Building HTML Documents. Inserting Texts, Images, Hyperlinks, Backgrounds And Color Controls, Different HTML Tags, Table Layout and Presentation, Use of Font Size & Attributes, List Types and Its Tags, Use of Frames and Forms in Web Pages.

#### **Unit IV**

JavaScript Overview, syntax & conventions. Variables, Expressions, Branching & Looping statements, Functions, Arrays Objects, Events & Document Object Model - onClick, onMouseOver, on Submit, on Focus, on Change.

#### **Unit V**

E - Commerce an Introductions, Concepts, Advantages and Disadvantages, Internet & E-Business, Applications, Electronic Payment Systems: Introduction, Types of Electronic Payment Systems,, Smart Cards and Credit Card-Based Payment Systems, Introduction E-Governance and its applications, Various Sites .



## **4TPDC-202: Programming and Problem Solving through Python**

### **Unit I**

#### **Introduction to Python**

- What is Python?
- Advantages of using python
- Installing python and PyCharm
- Writing and running your first Python program

### **Unit II**

#### **Basic Concepts of Python**

- Variables and Data Types
- Operators
- Control Flow
- Loops
- Functions

### **Unit III : Data Structure in Python**

- Lists, Tuples, and Dictionaries
- Working with Lists and Tuples
- Working with Dictionaries
- List Comprehensions

### **Unit IV : File Handling in Python**

- Reading and Writing Text Files
- Working with CSV Files
- Working with JSON Files

### **Unit V : Object-Oriented Programming in Python**

- Classes and Objects
- Inheritance
- Polymorphism
- Encapsulation

### **Unit VI : Modules and Packages in Python**

- What are Modules and Packages
- Creating Modules and Packages
- Importing Modules and Packages
- Working with Standard Libraries

### **Unit VII : Exception Handling in Python**

- What are Exceptions?
- Handling Exceptions
- Raising Exceptions
- Using Try and Except Blocks

## 4TPDC-203: Data Structure through C++

### Unit I

**Analysis of Algorithm** - Introduction, Criteria of Algorithm, Time Complexity, Space Complexity, Asymptotic Notation: Big Oh (O) Notation: Big Omega ( $\Omega$ ) Notation: Big Theta ( $\Theta$ ) Notation.

**Types of Data structures** - Introduction, Types of Data structures, Linear Data Structures, Non Linear Data Structure, Array, SPARSE MATRICES, Garbage Collection, Benefits, Disadvantages.

### Unit II

**Stacks** - Introduction, Push operation, Pop operation, Stack implementation using arrays, (static implementation of stacks), STACK as a Linked List, Stack as an abstract data structure, Applications of stack, Conversion of Expressions, Precedence and associativity of the operators, Evaluation of Postfix expression, Multiple stacks, Queue-Introduction, Different types of queues, Queue (Linear queue), Queue as an abstract data structure, Circular queue, Double ended queue (Deque), Priority queue, QUEUE as a Linked List, Applications of Queue.

**Linked Lists** - Concept of list and array, Introduction to Data Structures, Arrays, Linked list, Singly or Linear linked list, Circular singly linked list, Doubly linked lists, Header Node, Applications of linked lists, Addition of two long positive numbers.

### Unit III

**Trees** - Introduction, Representation of tree, Binary Tree, Representation of binary tree, Array representation of binary tree, Linked List representation of binary tree, Basic Operation on Binary Tree- Traversals, Binary Tree Traversal Algorithms (Recursive), Creation of Binary Search Tree:, Types of binary trees, Operations on Binary Search Tree (BST), Threaded binary trees, Application of Binary Tree:, B-Tree, Height Balanced Tree, Graph - Introduction to Graphs, Undirected Graph, Directed Graph or digraph, Graph Representation, Adjacency Matrix Representation, Adjacency List Representation, Graph Traversals, Breadth First Traversal, Depth First Traversal, Searching in Graph, Minimal Spanning Tree, Kruskal's Algorithm, Prim's Algorithm, Shortest Path in Graph.

### Unit IV

**Sorting and Searching** - Introduction, Bubble sort, Selection Sort, Merge Sort, Quick sort, Insertion Sort, Shell sort, Address calculation sort, Radix sort, Comparison of sorting methods, Hash Table, Collision Resolution Techniques, Linear Search (Sequential Search), Binary Search, Searching an ordered table, Indexed sequential search, Interpolation search.

### Unit V

**File Structure and Indexing** - Introduction, Objectives, Terminology, File Organization, Sequential Files, Disadvantages, Direct File Organization, Indexed Sequential File Organization.

## Elective - I

## 4TPDC-204: Information Security Management

### Unit I : Network Fundamentals

Introduction to Ethernet, OSI layers, TCP/IP models, Functions protocols & devices at each layer . Protocol headers for frame, TCP, UDP, IP, ICMP, applications layers like HTTP, SNMP etc. Network Topology Working of Hub, Bridge, Switch, Router, UTM, Remote Administration of and Managed Devices. Types of Networks, VLAN, Subnetting, NAT working with number systems, Fixed length subnet masking, Variable length subnet masking, Classless Inter Domain routing, Inter VLAN routing, Static routing, RIP, RIPv2, OSPF, EIGRP, IGRP using IPv4, Routing in IPv6.

### Unit II : Introduction to Cyber Security and Attacks

Fundamentals of information security- CIA Triad, Cyber Security controls, Logical controls, Physical controls, Tools & Techniques, Understanding threats, Attacks categories, Hacking process, Vulnerability, Threat & Risk (with examples), Types of Attacks (DDOS, Phishing,

Malware etc. with examples). Threats at clients systems (Malware, Social Engineering, Open ports etc.), Threats to Network, Web Storage & Devices, Understanding the network security, Mitigation Techniques, Fundamental of web/mobile application security, Web Application Attacks (SQL injection, XSS etc.), Mobile application attacks, Data center security, Cloud computing and Data security.

### **Unit III : Cryptography**

Data Transmission and Organization, Error detecting and correcting codes, need of Cryptography, Cryptology fundamentals, Symmetric-Asymmetric cryptography & Cryptographic Algorithms, Private key encryption, Public key encryption, Protocols, Key management including key generation, key storage, key exchange, Encryption folders (Graphical/using Cipher), Data recovery agent, Symmetric key encryption algorithms, DES/3DES, IDEA, RC5, AES, Public key algorithm, RSA & ECC, Diffie-Hellman key exchange, Hash functions, MD5-Message Digest algorithms, SHA-1 Secure Hash Algorithm, HMAC, Applications of cryptography- Secure Email PGP, SSL TLS S/MIME, File Encryption IPsec, IOT attacks against encryption, Public Key Infrastructure Understanding digital certificates and Signatures PKI Standards and Management, X-500, X-509, ETF, IRTF.

### **Unit IV : Network Security & Countermeasures and Web Server & Application Security**

Securing Networks, Network security devices- Router, ACL, Firewalls, Types of Firewalls, Configuration and deployment, Overview of IDS, Network based IDS (NIDS), Host-based IDS, Overview of IPS, Host-Based IPS (HIPS), Network-based IPS(NIPS), UTMTMG-Unified Threat Management Threat Management Gateway, Network Security tools (Scanners and Sniffers etc.) and Countermeasures Wireless Security, Securing Wireless Networks: Wireless Overview, Bluetooth, 802.11.

Client-Server Relationship, Vulnerabilities in web server and applications, Attack methods, Buffer Overflow, SQL Injection, XSS, Session hijacking etc., Secure Coding Practices, OWASP top 10 vulnerabilities and Mitigation Techniques, Web Application Vulnerability Scanning tools (Nessus), Web Application Security Challenges.

### **Unit V : Cyber Law and Cyber Forensics**

Information Technology Act 2000 (as amended in 2008), Rules under Information Technology Act 2000, The Rule of Cyberspace, Cyber Law- Policy Issues and Emerging Trends Online Contract, Digital Signature Cyber Crime, Data Protection, Liability of Intermediary, Copyright and Internet, Domain Name Dispute, Harmful content in Internet, Case Studies.

Digital Evidence, Identification of Digital Evidence, Cyber Forensics Processes - Identification, Preservation, Seizure and Acquisitions. Analysis, Authentication and Presentations, fundamental of Incident Response and Handling, Reporting, Mitigation, Volatile Evidence Collection and Analysis, Disk Imaging and Analysis, Investigating, Information-hiding, Analysis of Email, Tracing Internet Access, Understanding importance of report, Writing of reports, Generating report finding with forensics tools, Chain of Custody forms, Laboratory Documents and Procedures.

## **4TPDC-205 : Introduction to Graphic Design using Photoshop**

### **Unit I**

- Introduction to Graphic Design and Photoshop
- Overview of graphic design principles and concepts, Introduction to the Photoshop interface and tools, Image file formats and resolution, Color modes and color correction, Basic photo editing techniques: cropping, resizing, and retouching.

### **Unit II**

- Layout and Composition
- Understanding the principles of visual hierarchy, balance, contrast, proportion, and scale, Typography principles and design, Text tools and effects, working with type layers, Creating graphic elements and shapes.

### **Unit III**

- Color Theory and Application
- Color theory and psychology, Color palettes and schemes, applying color to designs in Photoshop, Color properties: hue, saturation, and brightness, Color models: RGB, CMYK, and Pantone, Color theory history: the evolution and development of color theory over time, Color wheel: understanding the color wheel and how it can be used to create color harmony.

#### **Unit IV**

- Image Manipulation and Enhancement
- Advanced photo retouching techniques, Filters and effects for creative image editing, Using blending modes and opacity, Creating composite images with layer masks and blending modes

#### **Unit V**

- Vector Graphics and Logo Design
- Vector Graphics, Vector Drawing Tools, Logo Design Principles, Logo Design Process, Brand Identity, Logo Design Trends, Logo Formats and shape tools in Photoshop, Creating logos and icons, The objective of studying typography, principles and techniques, Typography in logo design, Creating branding elements and guidelines.

### **4TPDC-206 : Project Report**

All the candidates of PGDCA are required to submit a project-report based on the work done by him/her during the project period. A detailed Viva shall be conducted by an external examiner based on the project report.

## Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
Semester I								
Theory Group								
1	4TPDC-101	Information Technology Tools and Network Basics	3	90	12	51	-	27
2	4TPDC-102	Windows and MS Office	3	90	12	51	-	27
3	4TPDC-103	Objects Oriented Programming With C++	3	90	12	51	-	27
4	4TPDC-104	Database Concepts and Introduction to SQL	3	90	12	51	-	27
5	4TPDC-105	Communication Skills & Personality Development	3	90	12	51	-	27
Practical Group								
1	4TPDC-103	Objects Oriented Programming With C++	3	90	-	-	90	-
2	4TPDC-104	Database Concepts and Introduction to SQL	2	60	-	-	60	-
Semester II								
Theory Group								
1	4TPDC-201	Introduction to Internet & Web Technology	3	90	12	51	-	27

2	4TPDC-202	Programming and Problem Solving through Python	3	90	12	51	-	27
3	4TPDC-203	Data Structure through C++	3	90	12	51	-	27
<b>Elective-I (Any One)</b>								
1	4TPDC-204	Information Security Management	3	90	12	51	-	27
2	4TPDC-205	Introduction to Graphic Design using Photoshop	3	90	12	51	-	27
<b>Practical Group</b>								
1	4TPDC-201	Introduction to Internet & Web Technology	1	30	-	-	30	-
2	4TPDC-202	Programming and Problem Solving through Python	2	60	-	-	60	-
3	4TPDC-203	Data Structure through C++	2	60	-	-	60	-
4	4TPDC-206	Project Report	2	60	-	-	60	-
<b>Elective-I (Any One)</b>								
1	4TPDC-204	Information Security Management	1	30	-	-	30	-
2	4TPDC-205	Introduction to Graphic Design using Photoshop	1	30	-	-	30	-

## Study Modules and Books

Sl. No.	Subject Code	Subject Name	Modules/Books
<b>Semester I</b>			
1.	4TPDC-101	Information Technology Tools and Network Basics	IT Tools and Business Systems; R. K. Jain
2.	4TPDC-102	Windows and MS Office	Windows and MS Office i) Introduction to Windows 10 ii) Getting started with Word (2019) iii) Getting started with Excel (2019) iv) Getting started with Power Point (2019)
3.	4TPDC-103	Objects Oriented Programming With C++	2PGDCA1 - Objects Oriented Programming With C++
4.	4TPDC-104	Database Concepts and Introduction to SQL	2PGDCA2 : RDBMS and SQL
5.	4TPDC-105	Communication Skills & Personality Development	1PGDCA5 : Communication Skills & Personality Development
<b>Semester II</b>			
6.	4TPDC-201	Introduction to Internet & Web Technology	i) 'O' Level Module – Internet and Web Page Designing; V. K. Jain; BPB Publications ii) Web Design with HTML, CSS, JavaScript, and jQuery Set; Jon Duckett; Wiley
7.	4TPDC-202	Programming and Problem Solving through Python	i) Problem Solving through Python; Manish Mathur, Mohit Mathur ii) कम्प्यूटर भाषा पायथन एक परिचय यतीन चतुर्वेदी
8.	4TPDC- 203	Data Structure through C++	3 BCA 2 : Data Structure with C++
9.	4TPDC-204	Information Security Management	i) Computer Networking Beginners Guide; Kevin Morgan ii) Real World Cryptography; David Wong iii) Web Application Security; Andrew Hoffman iv) Cybercrime and Digital Forensics; Thomas J.holt, Adam M.Bossler and Kathryn C.Seigfried-Spellar
10.	4TPDC-205	Introduction to Graphic Design using Photoshop	i) Adobe Photoshop Classroom in a Book (2021 release); Andrew Faulkner and Conrad Chavez ii) Mastering Adobe Photoshop Elements 2023; Robin Nichols; Packt Publishing
11.	4TPDC-206	Project Report	-

# **DIPLOMA IN COMPUTER APPLICATION (DCA)**



## Diploma in Computer Application (DCA)

### डिप्लोमा इन कम्प्यूटर एप्लीकेशन (DCA)

(A) Duration : 12 Months

(अ) अवधि : 12 माह

(B) Eligibility : 12th Pass

(ब) पात्रता : 12वीं पास

(C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

COURSE STRUCTURE OF DCA SEMESTER I <sup>st</sup>														
Subject Details			Main Examinations				Sessional ***		Credit Distribution			Allotted Credits	Key Learning Outcomes	
Subject Code	Subject Name	Total Marks	Major		Minor		Max Marks	Min Marks	L	T	P	Subject wise Distrib ution		
			Max Marks	Min Marks	Max Marks	Min Mark s								
Theory Group														
2TDCA-101	Information Technology Tools and Network Basics	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Outline the advancements in generation of Computer systems and Latest IT gadgets</li><li>List out the simple settings of Operating System</li><li>Define Future Skills &amp; Cyber Security</li></ul>	
2TDCA-102	Windows and MS Office	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Explain the working and importance of Windows &amp; MS Office</li><li>Analyze the use of various Object Words</li></ul>	
2TDCA-103	Database Concepts and	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Database Concepts and Introduction to SQL</li></ul>	

	Introduction to SQL												<ul style="list-style-type: none"> <li>Compare the types of database systems</li> <li>Make use of Normalization and Database Design</li> </ul>
2TDCA-104	Objects Oriented Programming With C++	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"> <li>Illustrate program development environment in C++</li> <li>Understand the concept of Classes and Objects</li> </ul>
2TDCA-105	Communication Skills & Personality Development	100	50	17	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"> <li>Understand and apply English Language appropriately</li> <li>Apply the techniques of Personality Development in routine lifestyle</li> </ul>
<b>Practical Group</b>			<b>Term End Practical Exam</b>				<b>Lab Performance</b>						
2TDCA-101	Information Technology Tools and Network Basics	50	25		08		25	08	-	-	3	3	<ul style="list-style-type: none"> <li>Create basic document using any available WordPress Software</li> <li>Utilize the Digital Financial Tools and Applications</li> </ul>
2TDCA-102	Windows and MS Office	50	25		08		25	08	-	-	1	1	<ul style="list-style-type: none"> <li>Work with various features in Windows 10</li> <li>Adapt the advanced User Interface in Windows 10</li> <li>Work with MS Word, Excel and PowerPoint</li> </ul>
2TDCA-104	Objects Oriented Programming With C++	50	25		08		25	08	-	-	1	1	<ul style="list-style-type: none"> <li>Creating and Compiling C++ Programs</li> <li>Creating Manipulators using C++</li> </ul>
<b>Grand Total</b>		<b>650</b>										<b>20</b>	

**Minimum Passing Marks are equivalent to Grade D**

**L- Lectures T- Tutorials P- Practical**

**Major- Term End Theory Exam/ Practical Exam**

**Minor- Pre University Test**

**Sessional weightage – Attendance 50%, Three Class Tests/Assignments 50%**

COURSE STRUCTURE OF DCA SEMESTER II <sup>nd</sup>														
Subject Details			Main Examinations				Sessionals ***		Credit Distribution			Allotted Credits	Key Learning Outcomes	
Subject Code	Subject Name	Total Marks	Major		Minor		Max Marks	Min Marks	L	T	P	Subject wise Distribution		
			Max Marks	Min Marks	Max Marks	Min Marks								
Theory Group														
2TDCA-201	Introduction to Internet and Web Technology	100	50	20	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Define the importance of Internet</li><li>List out the domain name and their organization</li></ul>	
2TDCA-202	Introduction to Financial Accounting with Tally	100	50	20	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Define the objectives of Accounting</li><li>List out the Important Terms used in Accounting and Tally 9</li></ul>	
2TDCA-203	Programming and Problem Solving through Python	100	50	20	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>List the Advantages of using python</li><li>What are Data Structures in Python</li></ul>	
2TDCA-204	Introduction to Cyber Security	100	50	20	20	07	30	12	2	1	-	3	<ul style="list-style-type: none"><li>Define the importance of the term Cyber Security</li><li>Classify cyber-crimes based on its impact and list out Common cyber-crimes</li></ul>	
Practical Group			Term End Practical Exam				Lab Performance							
2TDCA-201	Introduction to Internet and Web Technology	50	25		08		25	08	-	-	1	1	<ul style="list-style-type: none"><li>Build Email networks and work on various servers</li><li>Develop a simple website Using html</li></ul>	

2TDCA-202	Introduction to Financial Accounting with Tally	50	25	08	25	08	-	-	1	1	<ul style="list-style-type: none"> <li>• Create New Company on Tally 9</li> <li>• Demonstrate Backup &amp; Restore operation</li> </ul>
2TDCA-203	Programming and Problem Solving through Python	50	25	08	25	08	-	-	1	1	<ul style="list-style-type: none"> <li>• Show the techniques of Reading and Writing Text Files</li> <li>• Create Modules and Packages</li> </ul>
2TDCA-204	Introduction to Cyber Security	50	25	08	25	08	-	-	1	1	<ul style="list-style-type: none"> <li>• Perform the best practices for E-Commerce security</li> <li>• Configure basic security policy and permissions</li> </ul>
2TDCA-205	Project Report	100	50	17	50	17	-	-	4	4	<ul style="list-style-type: none"> <li>• Students will demonstrate the overall learning from this program by submitting a detailed Project.</li> </ul>
<b>Grand Total</b>		<b>700</b>								<b>20</b>	

**Minimum Passing Marks are equivalent to Grade D**

**L- Lectures T- Tutorials P- Practical**

**Major- Term End Theory Exam/ Practical Exam**

**Minor- Pre University Test**

**Sessional weightage – Attendance 50%, Three Class Tests/Assignments 50%**

# Detailed Syllabus

## Semester I

### 2TDCA-101 : Information Technology Tools and Network Basics

#### Unit I :

- Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, IT gadgets and their applications, Basics of Hardware and Software, Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Application Software, Systems Software, Utility Software, Open source and Proprietary Software, Mobile Apps.
- Introduction to Operating System: Operating System, Basics of Operating System, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, running an application, Operating System simple setting, using mouse and changing its properties, changing system date and time, changing display properties, to add or remove Program and its features, adding, removing & sharing Printers, File and Folder management, types of file extensions.

#### Unit II

Word Processing - Word Processing Basics, Opening Word Processing Package, Title Bar, Menu Bar, Toolbars & Sidebar, Creating a New Document, Opening and Closing Documents, Opening Documents, Save and Save As, Closing Document, Using The Help, Page Setup, Page Layout, Borders, Watermark, Print Preview, Printing of Documents, PDF file and Saving a Document as PDF file, Text Creation and manipulation, Document Creation, Editing Text, Text Selection, Cut, Copy and Paste, Font, Color, Style and Size selection, Alignment of Text, Undo & Redo, AutoCorrect, Spelling & Grammar, Find and Replace, Formatting the Text, Creating and using user defined Styles, Paragraph Indentation, Bullets and Numbering, Change case, Header & Footer, Table Manipulation, Insert & Draw Table, Changing cell width and height, Alignment of Text in cell, Delete / Insertion of Row, Column and Merging & Splitting of Cells, Border and Shading, Mail Merge, Table of Contents, Indexes, Adding Comments, Tracking changes, Macros.

#### Unit III

Spreadsheet - Elements of SpreadSheet, Creating of SpreadSheet, Concept of Cell Address [Row and Column] and selecting a Cell, Entering Data [text, number, date] in Cells, Page Setup, Printing of Sheet, Saving Spreadsheet, Opening and Closing, Manipulation of Cells & Sheet, Modifying / Editing Cell Content, Formatting Cell (Font, Alignment, Style ), Cut, Copy, Paste & Paste Special, Changing Cell Height and Width, Inserting and Deleting Rows, Column, AutoFill, Sorting & Filtering, Freezing panes, Formulas, Functions and Charts, Using Formulas for Numbers (Addition, Subtraction, Multiplication & Division), AutoSum, Functions (Sum, Count, MAX, MIN, AVERAGE), Sort, Filter, Advanced Filter, Database Functions ( DSUM, DMIN, DMAX, DCOUNT, DCOUNTA), What-if Analysis, Pivot table Charts (Bar, Column, Pie, Line), Data Validation.

#### Unit IV

Presentation - Creation of Presentation, Creating a Presentation Using a Template, Creating a Blank Presentation, Inserting & Editing Text on Slides, Inserting and Deleting Slides in a Presentation, Saving a Presentation, Manipulating Slides, Inserting Table, Adding Pictures, Inserting Other Objects, Resizing and Scaling an Object, Creating & using Master Slide, Presentation of Slides, Choosing a Set Up for Presentation, Running a Slide Show, Transition and Slide Timings, Automating a Slide Show, Providing Aesthetics to Slides & Printing, Enhancing Text Presentation, Working with Color and Line Style, Adding Movie and Sound, Adding Headers, Footers and Notes, Printing Slides and Handouts.

## Unit V

Introduction to Internet and WWW, E-mail, Social Networking and e-Governance Services - Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Concept of Internet & WWW, Applications of Internet, Website Address and URL, Introduction to IP Address, ISP and Role of ISP, Internet Protocol, Modes of Connecting Internet (HotSpot, Wifi, LAN Cable, BroadBand, USB Tethering), Identifying and uses of IP/MAC/IMEI of various devices, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Exploring the Internet, Surfing the web, Popular Search Engines, Searching on Internet, Downloading Web Pages, Printing Web Pages.

## Unit VI

Digital Financial Tools and Applications, Overview of Future Skills & Cyber Security -Digital Financial Tools, Understanding OTP [One Time Password]and QR [Quick Response] Code, UPI [Unified Payment Interface], AEPS [Aadhaar Enabled Payment System], USSD[Unstructured Supplementary Service Data], Card [Credit / Debit], eWallet, PoS [Point of Sale], Internet Banking, National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS), Immediate Payment Service (IMPS), Online Bill Payment

## 2TDCA-102 : Windows and MS Office

### Unit I

**Introduction to Windows 10** - Introduction, Overview, Installation, Getting Started, GUI Basics, Navigation, Start Menu, Taskbar, Tablet Mode, File Explorer, Cortana, Notifications, Quick Actions, Cloud, Universal Apps

**Working with Windows 10** - Multiple Desktops, Users Management, Security, Parental Control, Applications, Web Browsing, Networking, Virtualization, Remote Access, Backup & Recovery, Project Spartan, Apps Management, Email Management, Keyboard Shortcuts, System Tray, Media Management, Favourite Settings, Shortcuts, Phones.

### Unit II

**Microsoft Office Introduction** - Introduction to MS Office Suite, Understanding the different applications in the suite, Versions of Microsoft Office, Understanding the Interface, Customizing the Quick Access toolbar, Adding and removing commands, moving the toolbar, creating custom commands, using the Ribbon Interface, tabs and groups, customizing the ribbon, keyboard shortcuts

### Unit III

**Getting Started Word Basic (2019)** - Introduction of word, understanding OneDrive, creating and opening documents, saving and sharing documents, text basics, formatting text, using find and replace, indents and tabs, line and paragraph spacing, lists, links, page layout, printing documents, breaks, columns, headers and footers, page numbers

**Working with Object Word (2019)** - Pictures and text wrapping, formatting pictures, shapes, text boxes, aligning, ordering, and grouping objects, list and tables, creating lists, creating tables, formatting tables, charts, checking spelling and grammar, track changes and comments, inspecting and protecting documents, SmartArt graphics, inserting and formatting images, wrapping text around images, applying and modifying styles, mail merge, new features in office 2019.

### Unit IV

**Getting Started with Excel (2019)** - Introduction, Understanding OneDrive, understanding spreadsheets, the Excel interface, the Excel ribbon, Creating and Opening Workbooks, Saving and opening files, Working with Cells and Sheets, Cell Basics, Modifying Columns, Formatting Cells, Understanding Number Formats, Working with Multiple Worksheets, Grouping and ungrouping worksheets, Using Find & Replace, Checking Spelling, Page Layout and Printing, Formulas and Functions: Intro to Formulas, Creating More Complex Formulas, Relative and Absolute Cell References, Functions,

**Working with Data with Excel (2019)** - Basic Tips for Working with Data, Freezing Panes and View Options, Sorting Data, Filtering Data, Advanced filter option, Groups and Subtotals, Tables, Charts and graphs, Conditional Formatting, Doing More with Excel: Comments and Co-authoring, Inspecting and Protecting Workbooks, Intro to PivotTables, Doing More with PivotTables, Pivot charts, What-if Analysis, Extras: New Features in Office 2019, What are Reference Styles?, Office Intelligent Services.

## **Unit V**

**Getting Started with Power Point (2019)** - PowerPoint Basics: Understanding OneDrive, Creating and Opening Presentations, Saving Presentations, Working with Slides: Slide Basics, Text Basics, Applying Themes, slide layout, slide background, Applying Transitions, Managing Slides, Using Find & Replace, Printing, Presenting Your Slide Show.

**Text and Objects with Power Point (2019)** - Lists, Indents and Line Spacing, Inserting Pictures, Formatting Pictures, Shapes, Aligning, Ordering, and Grouping Objects, Animating Text and Objects, More Objects: Inserting Videos, Inserting Audio, formatting multimedia, animating objects, Tables, Charts, SmartArt Graphics, Review and Collaborating: Checking Spelling and Grammar, Reviewing Presentations, Inspecting and Protecting Presentations, Customizing Your Presentation: Modifying Themes, Slide Master View, Links, Action Buttons, Rehearsing and Recording Your Presentation, Sharing Your Presentation Online, What is Office 365?, New features in office 2019, Office Intelligence Services.

## **2TDCA-103 : Database Concepts and Introduction to SQL**

### **Unit I : Introduction to DBMS**

- What is database?
- Types of database systems
- Advantages of using a DBMS
- Different types of database models

### **Unit II : An Architecture of the Database system**

- Three level of Architecture
- Logical, Physical, conceptual new
- Logical data independence

### **Unit III : Relational Data Model**

- What is the relational data model?
- Concepts of tables, attributes, tuples and keys
- Primary and foreign keys
- Constraints
- ER diagrams
- Entry-Relationship Diagrams (ERDs)

### **Unit IV : Normalization and Database Design**

- What is normalization?
- Advantages of normalization
- First Normal Form (1NF)
- Second Normal Form (2NF)
- Third Normal Form (3NF)
- Denormalization
- Database design process

## Unit V :SQL Basics

- Introduction to SQL
- Data types
- Basic SQL syntax and commands
- Creating tables
- Inserting data into tables
- Retrieving data from tables using SELECT statement
- Filtering data using WHERE clause
- Sorting data using ORDER By clause

## Unit VI : Advanced SQL

- Join (Inner Join, Right Join, Full Outer Join)
- Aggregating data using GROUP By clause
- Filtering grouped data using HAVING clause
- Subqueries
- Views
- Indexes

## Unit VII : Database Administration

- Introduction to database administration
- Backup and recovery
- Performance tuning
- Security and access control
- Database maintenance
- Selecting the right database

# 2TDCA-104 : Objects Oriented Programming With C++

## Unit I

**Overview of C++** - Overview of C++, Software crisis, Object oriented programming paradigm, Basic concepts of OOP, Advantages/Benefits of OOP, Usage/applications of OOP

**C++ Environment** - Program development environment, The language and the C++ language standards, Introduction to various C++ compilers, The C++ standard library, Prototype of main () function, i/o operator, manipulator, comments, data types

**Creating and Compiling C++ Programs** - TURBO C++ IDE, Creating, compiling and running a C++ program using idea and through command line, Elements of C++ Language, Structure of a C++ program, C++ tokens, Type conversion in expressions.

**Decision Making and Branching** - Introduction, Sequential statements, Mathematical Functions, Branching statements, looping Statements, Nested loops, Programming examples.

## Unit II

**Arrays and Functions**- Arrays, The meaning of an array, Single-dimensional arrays, Two-dimensional arrays (Multi-dimensional arrays), User Defined Functions, Elements of user-defined functions, Return values and their types, Function calls, Categories of functions, Passing parameters to functions, Recursion, Command Line Arguments, Storage Class Specifiers.



**Classes and Objects** - Classes, Structures and classes, Unions and classes, Friend function, Friend classes, Inline function, Scope resolution operator, Static class members, Static data members, Static member functions, Passing object to functions, Returning objects, Object assignment

**Array, Pointers, References and the Dynamic Allocation Operators** - Array of objects, Pointer to object, Type checking in C++, The this pointer, Pointer to Derived Types, Pointer to class members, References, C++'s Dynamic Allocation Operators.

**Constructors and Destructors** - Introduction, Constructors, Default Constructor, Parameterized constructors, Copy Constructors, Multiple Constructors in a class, Constructors with default arguments, Default Arguments, Special Characteristics of Constructor functions, Destructors.

### Unit III

**Polymorphism** – Introduction to polymorphism, Types of polymorphism, Function overloading, Overloading Constructor Function, Finding the address of an overloaded function, Operator Overloading, Creating a Member Operator Function, Creating Prefix and Postfix forms of the increment (++) and decrement (– –) operators (Overloading Unary Operator), Overloading the Shorthand Operators (i.e. +=, == etc), Operator Overloading Restriction (Rules), Operator Overloading using friend function, Overloading new and delete operator, Overloading some special operators, Overloading [ ]

(Subscripting) operator, Overloading() (Function Call) operator, Overloading Binary Arithmetic operators, Concatenating String, Overloading Comma (,) operator, Overloading the I/O operators.

### Unit IV

Base class Access control, Inheritance & protected members, Protected base class inheritance, Inheriting multiple base classes, Constructors, destructors & Inheritance, When constructor & destructor function are executed, Passing parameters to base class constructors, Granting access, Virtual base classes.

Virtual function, Pure Virtual functions, early Vs. late binding.

### Unit V

The C++ I/O System Basics - The C++ I/O System basics, C++ predefined streams, Formatting using the ios members, Clearing Format Flags, An Overloaded form of setf( ), Examining the Formatted Flags, Using width(), Using precision(), Using fill(), Using Manipulators to format I/O, Creating your own Manipulators

## 2TDCA-105: Communication Skills and Personality Development

### Unit I

English Language - Listening, Speech, Pronunciation, Reading, Spelling, Writing *Right*

Nouns : Countable and Uncountable, Pronouns : Personal, Relative and Others, Articles

The Parts of Speech, The Prepositions, Clauses : Coordinate, Subordinate, Relative Adverbs, Adjectives and Adjective Phrases, Verb.

### Unit II

The Model Auxiliaries, Adverb, Adverb Phrases Comparisons and Intensification, Linking Devices, Subject Verb Agreement, Tenses, Common Errors, Word Building, Vocabulary

Developing Ability of Question and Answer, Body Language and Its Use in Speaking, Group Discussions, Interview Skills.

### Unit III

Composition - Making a Technical Report, E-Mails and Text Messages Composing, Letter Writing, Paragraph Writing, E-mail Writing, Writing Resume, Writing a Cover Letter

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management.

#### **Unit IV**

Introduction to Personality a) Basic of Personality b) Human growth and Behavior c) Theories in Personality d) Motivation

Communication skills and Personality Development a) Intra personal communication and Body Language b) Inter personal Communication and Relationships c) Leadership Skills d) Team Building and public speaking

#### **Unit V**

Techniques in Personality development I a) Self confidence b) Mnemonics c) Goal setting d) Time Management and effective planning

Techniques in Personality Development II a) Stress Management b) Meditation and concentration techniques c) Self hypnotism d) Self acceptance and self growth

### **Semester II**

#### **2TDCA-201 : Introduction to Internet and Web Technology**

**Unit I :** Introduction to Internet: Internet, growth of Internet, owners of the Internet, anatomy of Internet, ARPANET, and Internet history of the World Wide Web, basic Internet terminology, Net etiquette. Internet Applications – Commerce on the Internet, governance on the Internet, Impact of Internet on society – Crime on/through the Internet.

**Unit II :** Internet Network and Services on Internet (Definition and Functions): Network definition, Common terminologies: LAN, WAN, node, host, workstation, bandwidth, interoperability, network administrator, network security, network components: servers, clients, communication media, types of networks: peer to peer, client's server, addressing in Internet: DNS, domain name and their organization, understanding the Internet protocol address. Network topologies: Bus, star and ring, Ethernet, FDDI, ATM and Intranet. E-mail, WWW, Telnet, FTP, IRC and search engine.

**Unit III :** Electronic Mail: Email networks and servers, Email protocols –SMTP, POP3, IMAP4, MIME6, structure of an Email – Email address, Email header, body and attachments, Email clients: Netscape mail clients, Outlook Express, web based E-mail. Email encryption- address book, signature file.

**Unit IV :** HTML Programming Basics: HTML page structure, HTML text, HTML links, HTML document tables, HTML frames, HTML images, multimedia.

**Unit V :** Project on Browsing, sending emails, developing a simple website Using html, css, bootstrap.

#### **2TDCA-202 : Introduction to Financial Accounting with Tally**

##### **Unit I**

Accounting, Meaning Of Accounting, Objectives Of Accounting, Important Terms, Accounting Equation, Rules Of Debit And Credit- Journal & Ledger, Journal, Ledger, Cash Book, Subsidiary Books, Financial Statement, Trading & P&L A/C, Balance-sheet, Inventory, Adjustment Entries, Bill Of Exchange

Installing Tally 9, Introduction, Tally 9.0 (Release 1.0), Major Enhancements In Tally 9, Minor Enhancements In Tally 9, Multilingual Business Accounting And Inventory Management Features, Performance And Implementation Features, Accounting And Inventory Control Features, Installing Tally 9.0, Application Directory,

Data Directory, Configuration Directory, Language Directory, Activating Tally, Activating Tally Gold For Multi User, Registering Tally, Validating Tally, Tally Data Migration Tool, Uninstalling Tally 9

## **Unit II**

ABC of Company, Creation Of New Company Selection Of New Company Deletion Of Company Alteration Of Company Shut A Company Company Features, Features Of Company Accounting Features Inventory Features,, Statutory Features Tally Screen Components, Title Bar, Button Bar, Calculator, Working Are, Quitting, Gateway Of Tally, Current Status Area Configuration, General, Numeric Symbols, Accts/Inventory Info, Printing, Connectivity, Licensing, Shop, Quit Budget, Introduction, Budget, Creating Budget, Alter A Budget, Delete Budget, Display Budget/ Budget Variance, Scenarios Job Costing, Introduction, Enabling Or Configure Job Costing In Tally, Master Creation For Job Costing, Voucher Type And Voucher Class, Job Cost Reports

## **Unit III**

Reports, Introduction Accounting Reports, Trial Balance, Balance Sheet, Profit & Loss, Cash Flow Statement, Fund Flow Statement, Ratio Analysis, Day Book, Cash/Bank Book Sales Register Purchase Register Outstanding Interest Cost Centers Job Work Analysis Statistics Inventory Reports

Accounts Groups & Ledgers, Introduction Accounts Group Multiple Group Creation Display Group Alter Group Multiple Ledgers Display Ledger Alter Ledger Voucher Types

Payroll Accounting, Introduction, To Activate Payroll In Tally 9, Payroll Menu, Display Pay Heads, Multiple Group Creation, Employee Creation, Salary Detail, Attendance, Attendance Type, Voucher Creation.

## **Unit IV**

Export & Import, Introduction, Export, Import, ODBC Compliances. Cost Centre, Introduction Cost Centre, Creating Cost Centre, Display Cost Centre, Alter Cost Centre Cost Category, Create Cost Categories,, Display Cost Categories, Alter Cost Categories Voucher Entry Cost Centre Class, Creating Cost Centre, Invoice Entry Using Cost Centre Reports Related To Cost Centre

Foreign Currencies, Introduction Foreign Currency, Create Foreign Currency, Alter Foreign Currency, Display Foreign Currency, Exchange Rate Entry Voucher Entry Using Foreign Currency Voucher Entry through Forex Journal Voucher Class Reports Related To Foreign Currency

Interest, Introduction, Interest, Simple Mode, Interest On Outstanding Balances, Reports On Interest Calculated On Outstanding Balances, Advanced Parameter Mode, Interest Calculation Transaction By Transaction/Voucher Interest At Fixed Rate, Voucher Interest At Variable Rate, Statement Of Interest Due On Invoice, Interest Reports, Interest Voucher Class.

## **Unit V**

Printing, Introduction Cheque Printing, Multi Account Printing, Printing Options General, Purchase Printing, Sales Transaction, Receipt Voucher, Journal/Contra, Debit/Credit Note, Reminder Letter, Confirmation Statement Reports Printing Button Related

Bank Reconciliation, Introduction, Bank Reconciliation In Tally 9, Configuration Of Bank Reconciliation

Security Control, Introduction Security Levels Access Type

Backup & Restore, introduction, Group Company, Create a Group Company, Alter a Group Company, Tally Audit, Splitting Company Data

Inventory, Introduction Stock Group Stock Item Stock Categories Godowns Units Of Measures Rate Of Duty Inventory Vouchers Reorder Level Inventory Reports Inventory Info Inventory Books Statement Of Inventory Batch Wise Details Price List

## **2TDCA-203 : Programming and Problem Solving through Python**

### **Unit I : Introduction to Python**

- What is Python?
- Advantages of using python
- Installing python and PyCharm
- Writing and running your first Python program

### **Unit II : Basic concepts of Python**

- Variables and Data Types
- Operators
- Control Flow
- Loops
- Functions

### **Unit III : Data Structure in Python**

- Lists, Tuples, and Dictionaries
- Working with Lists and Tuples
- Working with Dictionaries
- List Comprehensions

### **Unit IV : File Handling in Python**

- Reading and Writing Text Files
- Working with CSV Files
- Working with JSON Files

### **Unit V : Object-Oriented Programming in Python**

- Classes and Objects
- Inheritance
- Polymorphism
- Encapsulation

### **Unit VI : Modules and Packages in Python**

- What are Modules and Packages
- Creating Modules and Packages
- Importing Modules and Packages
- Working with Standard Libraries

### **Unit VII : Exception Handling in Python**

- What are Exceptions?
- Handling Exceptions
- Raising Exceptions
- Using Try and Except Blocks

## **2TDCA-204 : Introduction to Cyber Security**

**Unit I : Introduction to Cyber Security** - Defining Cyberspace and Overview of Computer and Web-technology, Architecture of cyberspace, Communication and web technology, Internet, World wide web, Advent of internet, Internet infrastructure for data transfer and governance, Internet society, Regulation of cyberspace, Concept of cyber security, Issues and challenges of Cyber Security.

**Unit II : Cyber Crime and Cyber Law** - Classification of cyber-crimes, Common cyber-crimes cybercrime targeting computers and mobiles, cyber-crime against women and children, financial frauds, social engineering attacks, malware and ransomware attacks, zero day and zero click attacks, Cybercriminals modus-operandi, Reporting of cyber-crimes, Remedial and mitigation measures, Legal perspective of cyber-crime, IT Act 2000 and its amendments, Cyber-crime and offences, Organisations dealing with Cyber-crime and Cyber security in India, Case studies.

**Unit III : Social Media Overview and Security** - Introduction to Social networks. Types of Social media, Social media platforms, Social media monitoring, Hashtag, Viral content, Social media marketing, Social media privacy, Challenges, opportunities and pitfalls in online social network, Security issues related to social media, Flagging and reporting of inappropriate content, Laws regarding posting of inappropriate content, Best practices for the use of Social media, Case studies.

**Unit IV : E – Commerce and Digital Payments** - Definition of E- Commerce, Main components of E-Commerce, Elements of E-Commerce security, E-Commerce threats, E-Commerce security best practices, Introduction to digital payments, Components of digital payment and stakeholders, Modes of digital payments- Banking Cards, Unified Payment Interface (UPI), e-Wallets, Unstructured Supplementary Service Data (USSD), Aadhar enabled payments, Digital payments related common frauds and preventive measures. RBI guidelines on digital payments and customer protection in unauthorised banking transactions. Relevant provisions of Payment Settlement Act, 2007,

**Unit V : Digital Devices Security, Tools and Technologies for Cyber Security** - End Point device and Mobile phone security, Password policy, Security patch management, Data backup, Downloading and management of third party software, Device security policy, Cyber Security best practices, Significance of host firewall and Anti-virus, Management of host firewall and Anti-virus, Wi-Fi security, Configuration of basic security policy and permissions.

## **2TDCA-205 : Project Report**

All the candidates of DCA are required to submit a project-report based on the work done by him/her during the project period. A detailed Viva shall be conducted by an external examiner based on the project report.

## Counseling and Study Structure

S. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
Semester I								
Theory Group								
1	2TDCA-101	Information Technology Tools and Network Basics	3	90	12	51	-	27
2	2TDCA-102	Windows and MS Office	3	90	12	51	-	27
3	2TDCA-103	Database Concepts and Introduction to SQL	3	90	12	51	-	27
4	2TDCA-104	Objects Oriented Programming With C++	3	90	12	51	-	27
5	2TDCA-105	Communication Skills & Personality Development	3	90	12	51	-	27
Practical Group								
1	2TDCA-101	Information Technology Tools and Network Basics	3	90	-	-	90	-
2	2TDCA-102	Windows and MS Office	1	30	-	-	30	-
3	2TDCA-104	Objects Oriented Programming With C++	1	30	-	-	30	-
Semester II								
Theory Group								
1	2TDCA-201	Introduction to Internet and Web Technology	3	90	12	51	-	27

2	2TDCA-202	Introduction to Financial Accounting with Tally	3	90	12	51	-	27
3	2TDCA-203	Programming and Problem Solving through Python	3	90	12	51	-	27
4	2TDCA-204	Introduction to Cyber Security	3	90	12	51	-	27
<b>Practical Group</b>								
1	2TDCA-201	Introduction to Internet and Web Technology	1	30	-	-	30	-
2	2TDCA-202	Introduction to Financial Accounting with Tally	1	30	-	-	30	-
3	2TDCA-203	Programming and Problem Solving through Python	1	30	-	-	30	-
4	2TDCA-204	Introduction to Cyber Security	1	30	-	-	30	-
5	2TDCA-205	Project Report	4	120	-	-	120	-

## Study Modules and Books

Sl. No.	Subject Code	Subject Name	Modules/Books
<b>Semester I</b>			
1.	2TDCA-101	Information Technology Tools and Network Basics	IT Tools and Business Systems; R. K. Jain
2.	2TDCA-102	Windows and MS Office	Windows and MS Office i) Introduction to Windows 10 ii) Getting started with Word (2019) iii) Getting started with Excel (2019) iv) Getting started with Power Point (2019)
3.	2TDCA-103	Database Concepts and Introduction to SQL	2PGDCA2 : RDBMS and SQL
4.	2TDCA-104	Objects Oriented Programming With C++	2PGDCA1 - Objects Oriented Programming With C++
5.	2TDCA-105	Communication Skills & Personality Development	1DCA5 - Communication Skills & Personality Development
<b>Semester II</b>			
6.	2TDCA-201	Introduction to Internet and Web Technology	i) 'O' Level Module – Internet and Web Page Designing; V. K. Jain; BPB Publications ii) Web Design with HTML, CSS, JavaScript, and jQuery Set; Jon Duckett; Wiley
7.	2TDCA-202	Introduction to Financial Accounting with Tally	2DCA2 - Introduction to Financial Accounting with Tally
8.	2TDCA-203	Programming and Problem Solving through Python	i. Problem Solving through Python; Manish Mathur, Mohit Mathur ii. कम्प्यूटर भाषा पायथन एक परिचय यतीन चतुर्वेदी
9.	2TDCA-204	Introduction to Cyber Security	i) Introduction to Cyber Security, Dr. Veena
10.	2TDCA-205	Project Report	-



**DIPLOMA IN MOBILE  
APPLICATION  
DEVELOPMENT - ANDROID  
& IPHONE (DMADAI)**

## Diploma in Mobile Application Development - Android & Iphone (DMADAI)

Duration : 12 Months, 10 Courses, 32 Credits (DMADAI)

(A) Duration : 12 Months  
1 1/2 vof/k : 12 ek

(D) Courses : 10  
1 1/2 dk 1 : 10

(B) Eligibility : 12th Pass  
1 1/2 ik-rk : 12ohik

(E) Credit : 32  
1 1/2 ØfMV : 32

(C) Contents and Scheme of Examination  
1 1/2 ikB; Øe fo"k l ph, oaijhkk ; k uk

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
Semester I										
DMADAI1	Java Programming जावा प्रोग्रामिंग	3	100	70	28	-	-	30	12	<ul style="list-style-type: none"><li>Understand basics of Java Programming language</li><li>Gain knowledge for the various concepts of JAVA programming</li><li>Learn basics structure of JAVA program</li><li>Impart functional knowledge about operators and statements of JAVA</li><li>Create applets using Java</li></ul>

DMADAI 2	Android Development एंड्रॉइड डेवलपमेंट	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>• Understand basics of android operating system</li> <li>• Gain knowledge for designing user interface</li> <li>• Use the development tools in the Android development environment</li> <li>• Use the major components of Android API set to develop their own apps</li> </ul>
DMADAI 3	Android Testing एंड्रॉइड टेस्टिंग	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>• Use the Java programming language to build Android apps</li> <li>• Make UI-rich apps using all the major UI components</li> <li>• Understand basics of android application testing</li> <li>• Use tools of android testing</li> </ul>
DMADAI 4	Phone Gap फोनगैप	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>• Understand basics of PhoneGap Framework</li> <li>• Build fast and easy mobile applications using JavaScript and HTML</li> <li>• Develop cross-platform mobile applications using web technologies and then packaging it up</li> <li>• Understand how to install and use the SDKs and PhoneGap tools for each of the supported smart phone platforms</li> </ul>

DMADAI 5	Maintaining Safe and Healthy Environment at Workplace कार्यस्थल पर सुरक्षित और स्वस्थ वातावरण बनाना	2	100	70	28			30	12	<ul style="list-style-type: none"> <li>• Able to Learn the common causes for accidents</li> <li>• Understand the concept of First-Aid clearly</li> <li>• Render First Aid to the victim in case of any emergency</li> <li>• State the types of injury caused while lifting and carrying loads and steps to prevent such injury</li> <li>• Controlling hazards in office</li> <li>• Understand food borne illness and disease</li> </ul>
<b>Semester II</b>										
DMADAI 6	C Objective & Iphone Development Framework सी ऑब्जेक्टिव एण्ड आईफोन डेवलपमेंट फ्रेमवर्क	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> <li>• Gain skills in programming in a industry-standard programming language</li> <li>• Knowledge of basic data types and control structures in C</li> <li>• Use advanced features of C language like pointers, and file processing, Structures and Unions</li> <li>• Add to Work on Iphone Development Framework</li> </ul>
DMADAI 7	Iphone Development आईफोन डेवलपमेंट	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>• Able to learn basic components of IOS operating system</li> <li>• Develop Iphone applications</li> <li>• Design UI for Iphone</li> </ul>

										<ul style="list-style-type: none"> <li>• Learn about app store</li> </ul>
DMADAI 8	Iphone Testing आईफोन टेस्टिंग	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>• Understand the standards to be followed before publishing any application</li> <li>• Work with different tools available to app testing</li> <li>• Understand the key areas to be test in Iphone applications</li> </ul>
DMADAI 9	Communication and Personality Development संप्रेषण एवं व्यक्तित्व विकास	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> <li>• Basic communication skills</li> <li>• Personality grooming</li> <li>• Learn how to communicate effectively with colleagues</li> </ul>
DMADAI 10	Project परियोजना	10	-	-	-	100	40	-	-	<ul style="list-style-type: none"> <li>• After completion of the project work, candidates must be capable of working in the technologies studied during the course</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
1000	400

# **Detailed Syllabus**

## **DMADAI1 - JAVA PROGRAMMING**

### **UNIT-I**

C++ Vs JAVA, JAVA and Internet and WWW, JAVA support systems, JAVA environment.

JAVA program structure, Tokens, Statements, JAVA virtual machine, Constant & Variables, Data Types, Declaration of Variables, Scope of Variables, Symbolic Constants, Type Casting.

Operators: Arithmetic, Relational, Logical Assignments, Increment and Decrement, Conditional, Bitwise, Special, Expressions & its evaluation.

If statement, if...else... statement, Nesting of if...else... statements, else...if Ladder, Switch, ? operators, Loops – While, Do, For, Jumps in Loops, Labelled Loops.

### **UNIT-II**

Defining a Class, Adding Variables and Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods.

Inheritance: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Finalize Methods, Abstract methods and Classes, Visibility Control.

### **UNIT-III**

Arrays: One Dimensional & two Dimensional, strings, Vectors, wrapper Classes, Defining Interface Extending Interface, Implementing Interface, Accessing Interface Variable, System Packages, Using System Package, Adding a Class to a Packages, Hiding Classes.

### **UNIT-IV**

Creating Threads, Extending the Threads Class, Stopping and Blocking a Thread, Life Cycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the Runnable Interface.

### **UNIT-V**

Local and Remote Applets Vs Applications, Writing Applets, Applets Life Cycle, Creating an Executable Applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, Running the Applet, Passing Parameters to Applets, Aligning the Display, HTML Tags & Applets, Getting Input from the User.

## **DMADAI2 - ANDROID DEVELOPMENT**

### **UNIT-I**

Android Introduction, Smartphones future, Preparing the Environment, Installing the SDK, Creating Android Emulator, Installing and Using Eclipse, Installing Android Development Tools, Choosing which Android version to use, Android Architecture, Android Stack, Android applications structure

Creating a project, working with the AndroidManifest.xml, Using the log system Activities

Introduction to UI – Layouts, Fragments, Adapters, Action bar, Dialogs, Notifications, UI best practices

UI Architecture, Application context, Intents, Activity life cycle, supporting multiple screen sizes

### **UNIT - II**

Designing User Interface Using Views – Basic Views- TextView, Button, ImageButton, CheckBox,ToggleButton, RadioButton etc., ProgressBar View and AutoCompleteTextView, TimePicker and DatePicker View, ListView, ImageView, ImageSwitcher and GridView,

DigitalClock & AnalogClock Views, Notification and Toast, Parameters, on Intents, Pending intents, Status bar notifications

Toast notifications

### **UNIT-III**

Menus, Localization, Options menu and Context menu.

Dialogs-Alert dialog, Custom dialog, Dialog as Activity

Orientation and Movement- Pitch, roll and yaw, Natural device orientation, Reference frame remapping

SMS - Sending and Receiving

Working with Media –Playing audio and video, Recording audio and video

### **UNIT-IV**

Location and Maps - Google maps, Using GPS to find current location

Working with data storage - Shared preferences, Preferences activity, Files access, Using External storage, SQLite database

Animation-View animation, Drawable animation

Working with Sensors- Finding sensors, Accelerometers, Gyroscopes, Other types

Working with Camera – Controlling the camera, Preview and overlays, Taking pictures

### **UNIT-V**

Content providers- Content provider introduction, Query providers

Network Communication - Web Services, HTTP Client, XML and JSON, Using e-mails.

Services - Service lifecycle, Foreground service, Creating own services

Publishing and Distributing Your App -Preparing for publishing, Google Play requirements,

Signing and preparing the graphics, Publishing to the Android Market, Monetization, Tips on becoming a top app, Google analytics.

## **DMADAI3 - ANDROID TESTING**

### **UNIT-I**

Introduction into Android testing, Testing Android applications, What to test on Android applications, Tooling support for Android testing, Android project organization for tests.

### **UNIT-II**

Android unit testing, Unit testing in Android, Required dependencies in the Gradle build file, Running the unit tests, Location of test reports, Activating default return values for mocked methods in android.jar.

Exercise: Create unit test, Preparation: Create Android project, Add JUnit dependency, Create test, Run unit tests.

### **UNIT-III**

Writing tests to run on the Android device, Instrumentation tests, How the Android system executes tests, Mocking objects in Android, Location of instrumentation tests, Define dependencies and test Instrumentation Runner in the Gradle build file, Using the @RunWith (AndroidJUnit4.class), Run the tests on Android, Location of test reports, How to replace the application for instrumentation tests.

### **UNIT-IV**

Test groups, Test filtering, Flaky tests, Testing Android components, Activity testing, Service testing, Receiver testing, Content provider testing, Loader testing, Application testing.

Exercise: Write Android instrumentation test and use mocking, Create class to test, Create a new unit test, More on Android testing.

## **UNIT-V**

Creating code coverage report, Using the Monkey tool for creating a random event stream, What is monkey? How to use Monkey, User interface testing with activities and fragments, Test folder creation in Android Studio, Android testing resources, vogella training and consulting support.

Exercise: Testing the Android application, Create project, Create unit test for application object, Create instrumented test for application object.

## **DMADAI4 - PHONE GAP**

### **UNIT I**

#### **Understanding Cross-Platform Mobile**

Application Development, Types of Mobile Applications, Understanding Web Services, Overview of Mobile Applications, Mobile Application Features

User Interaction, Location Awareness, Push Notification, Challenges in Cross-Platform Mobile Application Development, OS Fragmentation, Multiple, Teams/Products, Consistent User Experience, Feature Fragmentation, Development Environment Fragmentation, PhoneGap's Strategy for Cross-Platform Mobile Application, Browser Component As the Common Platform

Mobile Application Webviews, Native Hooks to Expose Device Capabilities, HTML5 and CSS3: The Standards for Writing Applications, Single Origin Policy Not Applicable.

Getting Started with PhoneGap

PhoneGap Architecture, Setting up an Environment on the Android, Required Installations for PhoneGap Android Project, Create a New Project

Write the Hello World Application, Deploy to Simulator, Deploy to the Device

Exploring PhoneGap Features, PhoneGap Tutorials, Emulator Examples, Device Examples

### **UNIT II**

#### **Setting the Environment**

Cloud Build Environment Using PhoneGap Build, Registering with PhoneGap Build, Registering Your Application with PhoneGap Build, Setting Up Android Build Environment, Launching PhoneGap Build.

Using PhoneGap with jQuery Mobile

Getting Acquainted with jQuery, jQuery Initialization, jQuery Selectors, jQuery DOM Manipulation, jQuery Ajax Calls, Getting Acquainted with jQueryMobile, Including jQueryMobile in Mobile App, jQueryMobile Declarative UI, Pages and Dialogs, Toolbars and Buttons, Form Elements

List Views, jQueryMobile Event Handling, Normal Events, Touch Events, Orientation Change Events, Scroll Events, Page Events, PhoneGap jQueryMobile Integration, Local Search Using jQueryMobile and PhoneGap, Bootstrapping PhoneGap and jQuery, Installing Necessary JavaScript Libraries, Layout of Local Search, Searching for a Local Business, Overall Layout in HTML, Fetching and Showing the Search Results, Showing Details of a Place/Business, Adding and Removing a Place/Business to Favorite, Loading Your Favorite Places, Showing Search Result on a Map, Complete Source Code, Pros of jQuery Mobile, Cons of jQueryMobile.

### **UNIT III**

#### **Using PhoneGap with Sencha Touch**



Why Use Sencha Touch?, Pros of Sencha Touch, Cons of Sencha Touch, Downloading Sencha Touch, Integrating Sencha with PhoneGap, Building a Local Search Application Using Sencha Touch, Initializing Sencha Touch, Creating the Layout (Application Skeleton), Switching Between Panels, Fetching the Places Listing, Fetching Places Details, Storing and Retrieving Favorites from Database.

Using PhoneGap with GWT

Why Use GWT for User Interface Development?, Getting Acquainted with the GWT PhoneGap, Building a PhoneGap GWT Application, Build the GWT Application, Build a PhoneGap Android Application, GWT PhoneGap Reference

#### **UNIT IV**

##### **PhoneGap Emulator and Remote Debugging**

Introduction, PhoneGap Emulator for Chrome – Using Ripple, Installing Ripple, Using Chrome Effectively for PhoneGap, Using Ripple, Tune Your App for Ripple, Start Chrome with Special Flags, Load App in Chrome, Enable Ripple, Play with Ripple Settings, Test Application with Ripple, Remote Debugging, Setting up Remote Debugging, Injecting Remote Debugging in the PhoneGap App, Debugging and Modifying the DOM Element, Issues with debug.phonegap.com, Installing Local debug.phonegap.com.

Using PhoneGap Plug-Ins

What Is PhoneGap Plug-In?, Facebook Authentication and Fetching Friends, Setting Environment for Android, Initializing Facebook-Connect Plug-In, C2DM Plug-In for Mobile Push Notification to PhoneGap, Setting Environment for Android, Modifying Plug-In for PhoneGap-1.1.0, Signup for C2DM Service, Using C2DM Sender Account in PhoneGap, Android Simulator for C2DM-Enabled Service.

#### **UNIT V**

##### **Extending PhoneGap**

JavaScript Limitations, Solution, Architecture, Scope, Extending PhoneGap for Android, Declaring the Native Part of the Plug-In, Declaring the JavaScript Part of the Plug-In, Calling the Plug-In, Sharing the Android PhoneGap Plug-In.

## **DMADAI5 - MAINTAINING SAFE AND HEALTHY ENVIRONMENT AT WORKPLACE**

#### **UNIT-I**

**SAFETY SIGNS:** Cause for Accidents, Safe Attitudes, Safety Signs & Color at Work, Sign Categories, Sign Types Introduction.

**FIRST AID AND ARTIFICIAL RESPIRATION:** Introduction, First Aid and Its Aim, Recovery Position, Cardiopulmonary Resuscitation (CPR), Artificial Respiration, Respiration, Artificial Respiration, Mouth-to-mouth method of artificial respiration, Mouth-to-Nose Method of Artificial Respiration, Artificial Respiration in case of Cardiac Arrest, Wound, Shock, Convulsion, Extensive Burns, Minor Burns and Scalds, Chemical Burns, Electric Shock, Fracture, First Aid Box

#### **UNIT-II**

**SAFE LIFTING AND CARRYING TECHNIQUES:** Causes of Injury, Types of Injury and Methods to Prevent Them, Points That Make an Objects/Load Difficult to Carry, Preparation before Lifting of Shifting Heavy Loads, Correct Body Posture before beginning the lift in Kinetic Method of

Lifting, Manual Lifting Techniques using Kinetic method, Shifting of Working Tables, Button mushroom, Shifting of Electronic Equipments/Instruments, Basic steps of Safe Lifting and Handling, Team Lifting, Do's and Don'ts of Safe Lifting and Carrying, Safe Manual Lifting and Carrying Overview

#### **UNIT-III**

**FIRE AND FIRE EXTINGUISHERS:** Fire, Fuel, Heat, Oxygen, Controlled and Uncontrolled Fire, Preventing Fire, Controlling and Extinguishing Fire, Fire Extinguishers, Types of Fire Extinguishers, General Procedure to be adopted in the Event of a Fire

**SAFE WORKING MEASURE:** Electric Shock, Action and Treatments, Hazard Identification, Risk Assessment and Risk Control, Workstation Layout and Ergonomic Guidelines

#### **UNIT-IV**

**MANAGING HEALTH AND SAFETY AT WORK:** Introduction, General Office Safety, Types of Office Accidents, Office Hazard Control, Office Environment, Hazards from Electrical Equipments, Office Safety Procedure, Emergency Action Plan

**PERSONAL HYGIENE:** Introduction, How to Maintain Good Hygiene, How to Ensure Food Safety, Grooming, Consequences of not maintaining Good Hygiene?

#### **UNIT-V**

**PUBLIC AND HOME SAFETY:** Introduction, Safety at Home, Activities That Have a Potential for Accidents, Things That are normally used at Home and Have a Potential for Accidents, Public safety.

**COMMON FOOD BORNE DISEASES AND INFECTIONS:** Introduction, The Farm – Beginning of the Food Chain, Food Processing-Preventing Food-Borne illness and Improving Quality, Transport and Storage –safeguarding food, Food Safety and retailing, Food safety in the Home.

### **DMADAI6 - C OBJECTIVE & IPHONE DEVELOPMENT FRAMEWORK**

#### **UNIT-I**

Introduction to ‘C’ Language - Character set, Variables and Identifiers, Built-in Data Types, Variable Definition, Arithmetic operators and Expressions, Constants and Literals, Simple assignment statement, Basic input/output statement, Simple ‘C’ programs.

#### **UNIT-II**

Conditional Statements and Loops - Decision making within a program, Conditions, Relational Operators, Logical Connectives, if statement, if-else statement, Loops: while loop, do while, for loop, Nested loops, Infinite loops, Switch statement, structured Programming .

#### **UNIT-III**

Arrays - One dimensional arrays: Array manipulation; Searching, Insertion, Deletion of an element from an array; Finding the largest/smallest element in an array; Two dimensional arrays, Functions - Top-down approach of problem solving, Modular programming and functions, Standard Library of C functions, Prototype of a function.

#### **UNIT-IV**

Introduction to IOS Platform, Introduction to iOS, Versions of iOS and Supported Devices, Apple Approval Process, iPhone OS Architecture, Cocoa Touch Layer, iPhone OS Developer Tool, iPhone OS Frameworks, iPhone SDK (installation, tools, use), About Cocoa object, Design pattern, Communication with Objects, Cocoa and Application Architecture on Mac OS X, Role of iOS platform in IOT & Case Studies

#### **UNIT-V**

XCode IDE Installation and Use, Installing and Updating Xcode, Code Development and Tracking, Debugging Utilities, Application Navigation Tools, Overview of native application, Configuring application/Running applications, Using iPhone simulator/Managing devices, Internal Hardware System Support, Using Device Cameras for Photos, Using Device Microphone for Sound Files, Playback of Sound Files and System Sounds, Saving GPS Data, Recognizing Accelerometer Motion-Detect Multi-Touch Gestures.

## **DMADAI7 - IPHONE DEVELOPMENT**

### **UNIT-I**

System Event Handling, Recognizing Apps Moving to Background, Detecting and Solving Low Memory Events, Handling Custom Events and Exceptions.

MVC Architecture, Model-View-Controller, Development Paradigm, Application Design Process, Multithreading Support, Creating Threads, Using Threads for Asynchronous Processing.

### **UNIT-II**

Web Service Support, Creating an App that Uses a Web Service, Using Third-Party Systems, ASI HTTP Request, wsdl2objc Interaction.

Views and View Controllers, Using Generic Views and View Controllers, Using Specific Purpose Views, Text View, Web View, Map View, Collection View & Custom Collection, NS Local Notification.

### **UNIT-III**

Apple Push Notification (APNS), Slider View, Switch View, Customs Buttons, Animation, Page Controller View, Side Bar View, Navigation View, Tabbar Controller, ToolBar, StoryBoard & Segue, Data Parsing Controller, Image View, Bar Buttons, Textfield Area, Progress View, Activity Indicator View, Custom View Controllers, Alert View & Custom Alerts, Action Sheet.

### **UNIT-IV**

Table View Controller, Gestures (Pan, Swipe, Rotate, Tap, Motion, Shake & Pinch), Map kit & Map Annotation.

Database Connectivity, NeXTStep Object Support, Using the NextStep Data Types, NSDate, NSPoint, NSSize, NSString, Using the NeXTStep Collection Objects, NSSet and NSMutableSet, NSArray and NSMutableArray, NSDictionary and NSMutableDictionary, Performance Enhancement and Debugging

### **UNIT-V**

Data Persistence, File Manipulation, SQLite Support, JSON / XML Web Services, CoreData Usage, plist, Cloud Database Integration, Integrating iCloud, Integrating Amazon Webservices, Integrating Private Cloud. Games and Graphics Support, Creating a Simple Game Using Coco Graphics, 2D and 3D Graphics Support, Cocoa Touch Graphics, Multimedia support, Accelerometer.

Live Project & Appstore Publishing, Design and development of live project, App Submission in Appstore, Integrating Payment gateways, App Marketing and advertising platform integration (iAd, google Ad)

## **DMADAI8 - IPHONE TESTING**

### **UNIT-I**

Mobile testing – overview, mobile platforms, mobile device types, native vs hybrid vs mobileweb, mobile web, native app, hybrid app, device vs application testing, device testing, application testing.

### **UNIT-II**

Mobile emulator vs simulator, Mobile application testing, functional testing, compatibility testing, localization testing, performance testing, stress testing, security testing, memory leakage testing, power consumption testing, interrupt testing, usability testing, installation testing, uninstallation testing, updates testing, certification testing.

### **UNIT-III**

Mobile ui testing, screen orientation / resolution, available tools, touch screens, soft & hard keys, mobile device testing – planning and tools, preparing to perform mobile device testing, device management tools, mobile device testing – hardware perspective, hardware components, udid for ios, provision profile for ios, device options & preferences,

#### **UNIT-IV**

Mobile Testing - IOS Frameworks, Appium: Advantages of Appium, Drawbacks of Appium, How to Use Appium, Test an App with Appium, Calabash, Zucchini: How to install Zucchini, How to Use Zucchini, Running on the device, UI Automation, FRANK – BDD for iOS

#### **UNIT-V**

IOS TESTING FRAMEWORKS, Types of iOS Application Testing, Manual Testing – Using Device, System Testing, UI/UX Testing, Security Testing, Field Testing, Manual Testing – Using Emulator, Unit Testing, Integration Testing, UI testing, Automation Testing, Regression Testing, BVT Testing, Compatibility Testing, Performance Testing

### **DMADAI9 -- COMMUNICATIONS AND PERSONALITY DEVELOPMENT**

#### **UNIT-I**

The sentence, kinds of sentences: kinds of sentences, imperative, interrogative, exclamatory. Subject and predicate, The phrase and the clause, parts of speech. The noun: kinds of nouns, the noun: gender, how feminines of Nouns are formed, number: how plurals are formed.

#### **UNIT-II**

The pronoun, why we use pronouns, many kinds of pronouns, Personal pronouns, first person (masculine or feminine), second Person (masculine or feminine), reflexive and emphatic pronouns.

The verb: transitive and intransitive verbs

#### **UNIT-III**

The adjective, kinds of adjectives, formation of adjectives. The article, 'a' or 'an' used according to sound: an is used, a Is used. Use of 'a' or 'an' according to context, use of 'the' According to context, omission of the article, repetition of the Article, position of the article

#### **UNIT-IV**

BODY LANGUAGE: Introduction, Understanding the Basics, Rules for Accurate Reading, Arm signals, Palm Signals, Hand Shake Styles, Legs Signals, Magic of Laughter, The Power of Touch, Eye Signals, The Six Secrets of Attractive Body Language.

POSITIVE ATTITUDE: Meaning of positive attitude, Manifestation of positive attitude, Characteristics of Positive Attitude and Optimism, The Power of Positive Attitude, Developing Positive Attitude, Seven Steps to Overcome Challenged Attitudes, Dealing with Attitudes, Balanced Life, Think Positive, Be Positive.

#### **UNIT-V**

TIME MANAGEMENT: Time management and your life, Do it now, Developing a time management plan involves several steps, The biggest sources of your time management problem, Setting priorities & time management, Procrastination.

SWOT ANALYSIS: Self analysis through SWOT, How to do a SWOT analysis, Personal SWOT analysis, Develop an implementation plan.

### **DMADAI10 – PROJECT**

The objective of project is to measure the performance of the students. The students are required to submit a project report which will represent their knowledge of understanding of this course.

Student must be capable of working and explaining the technologies/framework that he/she learnt during this course.

Each student has to complete a project at the end of this course. As far as possible individual projects are to be allotted to students. However, in case of larger project two or three student can work in a group. In such case each students should work on a separate modules. Students should submit the project individually. The project report submitted by the students shall be evaluated separately by the internal guide and the external examiner appointed by the university

## Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
Semester I								
1	DMADAI1	Java Programming	3	90	12	51	-	27
2	DMADAI 2	Android Development	2	60	8	22	12	18
3	DMADAI 3	Android Testing	2	60	8	22	12	18
4	DMADAI 4	Phone Gap	3	90	12	33	18	27
5	DMADAI 5	Maintaining Safe and Healthy Environment at Workplace	2	60	8	22	12	18
Semester II								
6	DMADAI 6	C Objective & Iphone Development Framework	2	60	8	34	-	18
7	DMADAI 7	Iphone Development	3	90	12	33	18	27
8	DMADAI 8	Iphone Testing	3	90	12	33	18	27
9	DMADAI 9	Communication and Personality Development	2	60	8	34	-	18
10	DMADAI 10	Project	10	300			300	

## Study Modules & Books Information

Sr. No	Course Code	Subject Name	Modules to be used
<b>Semester I</b>			
1	DMADAI1	Java Programming	Core Java - Vol. I - Fundamentals – 20 Dec 2016 by Cay S. Horstmann
2	DMADAI 2	Android Development	Hello, Android (3rd edition) Introducing Google's Mobile Development Platform by Ed Burnette
3	DMADAI 3	Android Testing	A Practical Guide to Testing in DevOps Katrina Clokie
4	DMADAI 4	Phone Gap	PhoneGap 3, Beginner's Guide, 2nd Edition 2nd Revised ed. Edition by Giorgio Natili
5	DMADAI 5	Maintaining Safe and Healthy Environment at Workplace	S69 Safety Practices, Primary Health & Personal Hygiene
<b>Semester II</b>			
6	DMADAI 6	C Objective & Iphone Development Framework	iOS Programming: The Big Nerd Ranch Guide
7	DMADAI 7	Iphone Development	iOS Programming: The Big Nerd Ranch Guide
8	DMADAI 8	Iphone Testing	iOS Programming: The Big Nerd Ranch Guide
9	DMADAI 9	Communication and Personality Development	Communication Skills & Personality Development
10	DMADAI 10	Project	-

**CERTIFICATE IN  
COMPUTER APPLICATIONS  
(CCA)**



## Certificate in Computer Applications (CCA)

### कम्प्यूटर एप्लीकेशन में सर्टीफिकेट (CCA)

(A) Duration : 6 Months  
(अ) अवधि : 6 माह

(B) Eligibility : 10<sup>th</sup> Pass  
(ब) पात्रता : 10वीं पास

(C) Contents and Scheme of Examination  
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

(D) Courses : 07  
(द) कोर्सेस : 07

(E) Credit : 16  
(इ) क्रेडिट : 16

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CCA1	Fundamentals of Computers & Information Technology सूचना तकनीक एवं कम्प्यूटर से परिचय	3	100	70	28	-	-	30	12	<ul style="list-style-type: none"> <li>Understand functions, components of a computer system, storage devices &amp; their physical structure &amp; working.</li> <li>Understand operating system &amp; file system</li> <li>Understand &amp; use computer networks</li> </ul>
CCA2	Operating System (DOS, Windows) ऑपरेटिंग सिस्टम (डॉस, विंडोज)	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Understand booting process of OS &amp; file system, installation</li> <li>Understand Windows: accessories &amp; system tools.</li> </ul>
CCA3	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबंध	1	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>

CCA4	MS-Office (Word, Excel, Powerpoint) एम.एस. ऑफिस (वर्ड, एक्सेल, पावरपॉइंट)	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>● Familiarity with creation, &amp; printing a document/presentation/ &amp; excel sheet in MS Office.</li> <li>● Ability to use advanced features in MS Word like inserting word art, shapes, clipart, charts, smart arts, symbols, graphs etc. in a document/slide.</li> <li>● Familiarity with using various formulas, function in Excel.</li> <li>● Familiarity with importing &amp; exporting excel sheets to/from various formats.</li> </ul>
CCA5	Programming Concepts & Techniques and Programming in Foxpro प्रोग्रामिंग की अवधारणाएँ एवं तकनीक, फॉक्स-प्रोग्रामिंग	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>● Understand programming concept coding, debugging &amp; testing of program.</li> <li>● Understand designing FoxPro reports /label &amp; printing them</li> <li>● Ability to identify common error messages &amp; apply debugging techniques &amp; commands</li> </ul>
CCA6	Introduction to Financial Accounting with Tally टैली के साथ फाइनेंशियल एकाउंटिंग से परिचय	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>● Understand the basic concepts of accounting and inventory Tally configuration.</li> <li>● Understand working with accounts books, purchase and journal registers.</li> <li>● Ability to analyze: - stock group and item, stock category, ageing.</li> </ul>
CCA7	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	1	100	70	28	-	-	30	12	<ul style="list-style-type: none"> <li>● Basic communication skills</li> <li>● Personality grooming</li> </ul>

**Note: For a PASS** - A Student would require to secure 40% for both Theory and Practical.

<b>Grand Total</b>	<b>Pass</b>
700	280

# Detailed Syllabus

## CCA1 - Fundamentals of Computers and Information Technology

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/Output their functions and characteristics, instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/Output & Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control, Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.

## CCA2 - Operating Systems

Fundamentals of operating system, definition and need. Main Services of operating system, various types of operating system, (definition and characteristics), multitasking, multiprocessing, multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

**DISK OPERATING SYSTEMS (DOS)** - Introduction, History & versions of DOS DOS basics- Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.

DOS commands: Internal - DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.

External Commands - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc

**WINDOWS** - Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (**XP or Windows 7**) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders. My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, Volume Control. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software –Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication –Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial, Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

## CCA3: Safety Practices in the Work Environment

**Safety Signs & Colour at Work** : Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting,

Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CCA4 – Ms Office

**MS Word Basics:** Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting- Using page border and watermark, Text Editing using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options

**Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and SamrtArts, symbol in Document. Using Macros in Word- Record, edit and run macros.

**MS Excel:** Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations using various type of functions-Logical, string, date & time, maths and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types; Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet-Record, edit and run macros.

**MS PowerPoint:** Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Insert WordArt and other objects like shapes, clipart, charts and Samrt Arts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your

presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

## **CCA5 - Programming Concepts & Techniques, Programming in Foxpro**

### **Programming Concepts**

Introduction, Steps in program development, Problem identifications task, data analysis, input design, output identification and specifications, decision tables, algorithm, data validation.

Flowcharts, coding the program, debugging, testing, flowchart symbols, rules for making flowcharts, some examples of flowcharts, types of flowcharts, use of flowcharts, advantages and disadvantages of flowcharts.

Pseudo code – introduction, logical construction of Pseudo code, Advantages of using Pseudo code, Meta-code, Programming techniques-Top down and Bottom Up design and implementation, Modular design and Programming.

Structured Programming, Three basic modules of structured programming, Iterative logic, Modular Design and programs.

Testing and Debugging- Introduction, Testing process, debug, compiler and interpreters as debuggers, data definition languages, cohesion in modular design, Kinds of modules – sequential, selective and interactive.

### **Foxpro - The Rdbms For Pc**

FoxPro - Versions, features, requirement of Hardware and Software, FoxPro - Menu System, Working with FoxPro, Creating Database File Some common operations on data- CREATE, LIST, APPEND, CLOSE, QUIT, FoxPro - Data Types

### **Viewining and Editing Data**

Data Displaying and Monitoring Commands - DISPLAY, LIST, LOCATE, EDIT, CHANGE, BROWSE, REPLACE, DELETE, RECALL, PACK (All Commands with various Options)

MODIFY STRUCTURE, MEMO FIELD AND FILE UTILITIES - File utilities in FoxPro - DISPLAY DIRECTORY, COPY, DELETE, RENAME.

### **Sorting and Indexing of Database Files**

Sorting & Indexing Concept, Sort Commands - Single & Multiple Key, Advantage & Disadvantages of Sort

Indexing Vs Sorting, Single & Multiple Key, Indexing, FIND, SEEK, Rushmore Technology

### **Printing Reports and Labels**

FoxPro Report - its creation, features & Utilities, Preview, Printing, Custom Report, grouping & Subgrouping.

FoxPro Label - Designing & Printing

### **Memory Variables, Date & Time Functions And Keyboard Macros**

Memory Variables - Creation and Uses, Simple Vs Array, Saving and Restoring Memory Variables, ???? Commands, Time & Date Functions and Commands, Date Arithmetic, Converting Defining Function Keys, Keyboard Macros - Creating and Using

### **MATHEMATICAL COMMANDS AND FUNCTIONS**

Arithmetic Operations, Mathematical Functions, Mathematical, Commands, Statistical Functions.

### **PROGRAMMING WITH FOXPRO**

Concepts of FoxPro commands file, Modify Commands, Conditioning, Branching and Looping within Program files with Do-While Enddo, If - Endif, Scan-Endscan, For - Endfor, Docrase-Endcase, Text - Endtext, Executing Commands from other command files, Macro Substitution

## **ERROR CONDITIONS AND PROGRAM DEBUGGING AIDS**

Common Error Messages, Debugging techniques and commands

## **MULTIPLE DATA FILES**

Concept of Multiple Database Files - Using multiple database files, Relationing the database - SET RELATION, UPDATE, APPEND FROM, COPY TO, JOIN, Relation Query by Example and SQL, CUSTOM SCREENS & USER DEFINE FUNCTIONS & OTHER TOOLS, Create Custom Screen with @, @\_GET, @\_EDIT, \_SAY\_GET\_READ, Creating Box & Lines, User Define Functions, Custom Screen, Designing and their Use, FoxDoc for documentation.

## **CCA6 - Introduction to Financial Accounting With Tally**

Basic Concepts of Accounting, Financial Statements, Financial Statement Analysis, Cost Centre, Basic concepts of Inventory Tally Configuration & INI setup, Data Directory & Folders configuration, Single & Multiple User, Tally Screen Components, Mouse / Keyboard Conventions & Key, Combinations, Switching between screen areas, Quitting Tally. Maintaining Company Data, Basic Company Details, Create/ Alter/ Select/ Load/ Close a Company, Chart of Accounts, Company Features, Configuration.

Create, Alter & Display Groups and Ledgers, All accounting voucher types and transactions, Create and Alter new Voucher type, Item and Account Invoice transactions, Excise Invoice, Export Invoice, Transactions using Bill-wise details Create, Alter & Display Cost Centre and Cost Categories, Cost centre& Cost Category allocation in voucher entry, Creating Cost centre Class, Invoice entry in a Class situation, Create, Alter & Delete Foreign Currencies, Voucher entry using foreign currency, Bank Reconciliation, Interest calculations using simple & advance parameters, Interest calculations on outstanding balances & on invoices, Use of voucher class, adjustment of interest, Creation of voucher class, Invoice entry in a class situation.

Create, Alter & Delete Budgets for groups, ledgers & cost centres, Defining credit limit & credit period, Display Budgets & variances, Create, Alter & Delete a scenario. Enabling Job Costing in Tally, Master creation & configuration for Job costing, Creation of Voucher type & Voucher class for Stock Transactions, Creation of Transfer journal for transfer of stock between godowns, Consumption journal Transactions, payment

Voucher, Godown summary Report, Job Work Analysis, Material consumption summary. Reports like balance sheet, Profit & Loss account, Ratio analysis, Trial Balance. Accounts books like cash/bank book, All ledgers, Group summary & vouchers, Sales, purchase & journal registers, Cost centre& category summary, Cost centre breakup, ledger & group breakup, outstanding receivables & payables, interest receivable & payable, Statistics, Cash & Fund flow, Day book, List of Accounts, Reversing journals, optional vouchers, post-dated vouchers.

Create, Alter & Display Stock Groups and Stock Items, Stock item behaviour using costing and market valuation method, other behaviour like treating all sales as new manufacture, treating all purchases as consumed, treating all rejections inward as scrap, ignoring negative balances, Treating difference due to physical counting, Create, Alter & Display Stock categories, Create, Alter, Display simple & compound units of measures, Stock items using alternate units, Defining standard cost & selling price, Defining Rate of duty, Defining MRP, Create, Alter & Display Godowns, Allocation of items to the Godowns, All inventory voucher types and transactions, Inventory details in accounting vouchers, Defining re-order level, Transactions using tracking numbers, Use of batch-wise details in voucher, Additional cost details in vouchers, Creating Bill of material, Cost estimation, Creating Price list & defining Price levels, invoice using Price list, Zero valued entries, Transactions in case of Different actual & billed quantities. Reports like Stock summary, Inventory books like Stock item, Group summary, Stock transfers, Physical stock register, Movement analysis, Stock group & item analysis, stock category analysis, Ageing analysis, Sales order & Purchase order book, Statement of inventory related to Godowns, categories, stock query, Reorder status, Purchase & Sales order summary, Purchase & Sales bill pending, Exception reports like negative stock & ledger, overdue receivables & payables, memorandum vouchers, optional vouchers, post-dated vouchers, reversing journals.



Cheque Printing, Common printing options, Different printing formats, Multi-Account printing, Dynamic- Report specific options. Creating Group company, Use of Tally vault, Using Security control & defining different security levels, Use of Tally Audit. Back-up & Restore, Splitting company data, Export & import of Data, ODBC compliance, use of E-mail, Internet publishing, Upload, web browser & online help, Re-write data.

## **CCA7 - Communication and Personality Development**

### **Grammar:**

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CCA 1	Fundamental of Computers & Information Technology	3	90	12	51	-	27
2	CCA 2	Operating System (DOS, Windows)	3	90	12	33	18	27
3	CCA 3	Safety Practices in the Work Environment	1	30	4	11	6	9
4	CCA 4	MS-Office (Word, Excel, PowerPoint)	3	90	12	33	18	27
5	CCA 5	Programming Concepts & Techniques and Programming in FoxPro	2	60	8	22	12	18
6	CCA 6	Introduction to Financial Accounting with Tally	3	90	12	33	18	27
7	CCA 7	Communication and Personality Development	1	30	4	17	-	9

### Study Modules & Books Information

Sr. No	Course Code	Subject Name	Modules to be used
1	CCA 1	Fundamentals of Computers & Information Technology	S01 - Fundamentals of Computers & Information Technology
2	CCA 2	Operating Systems (DOS, Windows)	S02 - Disk Operating System S18 - MS-Windows
3	CCA 3	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
4	CCA 4	MS-Office (MS-Word, Excel, PowerPoint)	S19 - MS-Word, S20-MS-Excel S25 - MS-Power Point
5	CCA 5	Programming Concepts & Techniques and Programming in FoxPro	S05 - Programming Concepts & Techniques, S07 - FoxPro
6	CCA 6	Communication and Personality Development	S68: Effective Communication & Personality Development
7	CCA 7	Introduction to Financial Accounting with Tally	S51- Introduction to Financial Accounting

**CERTIFICATE IN JAVA  
PROGRAMMING (CJP)**

## Certificate in JAVA Programming (CJP)

### जावा प्रोग्रामिंग में सर्टीफिकेट (CJP)

(A) Duration : 6 Months (D) Courses : 07  
(अ) अवधि : 6 माह (द) कोर्सेस : 07

(B) Eligibility : 12<sup>th</sup> Pass (E) Credit : 16  
(ब) पात्रता : 12वीं पास (इ) क्रेडिट : 16

### (C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CJP1	Fundamentals of Computers & Information Technology सूचना तकनीक एवं कम्प्यूटर से परिचय	3	100	70	28	-	-	30	12	<ul style="list-style-type: none"> <li>Understand functions, components of a computer system, storage devices &amp; their physical structure &amp; working.</li> <li>Understand operating system &amp; file system</li> <li>Understand &amp; use computer networks</li> </ul>
CJP2	Operating System (Windows) ऑपरेटिंग सिस्टम (विंडोज़)	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Understand booting process of OS &amp; file system, installation</li> <li>Understand Windows: accessories &amp; system tools.</li> <li>Understand advanced features of Windows &amp; setup Network connection.</li> </ul>
CJP3	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	1	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CJP4	Programming Concepts प्रोग्रामिंग की अवधारणाएँ	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Understanding of the Business Requirements Specification (BRS)/User Requirements Specification (URS)</li> </ul>

										<ul style="list-style-type: none"> <li>• Understanding of the Software Requirements Specification (SRS)</li> <li>• Understanding of High Level Design (HLD)</li> <li>• Design basic programming structures to implement functionality in line with requirements defined in BRS/URS, SRS and HLD</li> <li>• Able to document designs using standard templates and tools</li> <li>• Ability to analyze and use feedback to improve your designs</li> <li>• Able to know and understand how to use information technology effectively to input and/or extract data accurately</li> <li>• Should be able to record any defects and corrective actions taken to inform future work</li> </ul>
CJP5	Basic Java programming बेसिक जावा प्रोग्रामिंग	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>• Understand the process for converting technical specifications into code</li> <li>• Knowledge of current practice in the infrastructure design of software code</li> <li>• Understanding of how to write software code that is efficient, readable and maintainable</li> <li>• Awareness about the range of code generation tools and unit testing tools used to develop software code</li> </ul>
CJP6	Advance Java programming एडवान्स जावा प्रोग्रामिंग	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>• Knowledge about use of coding tools</li> <li>• Competency in the use of the Java programming language in the development of small to medium-sized application programs that demonstrate professionally acceptable</li> </ul>

										coding and performance standard and Understand the basic principles of the object-oriented programming <ul style="list-style-type: none"> <li>• Solve problems using the Java programming language</li> <li>• Design programming solutions</li> <li>• Construct well structured Java solutions using software development life cycle techniques</li> <li>• Test, validate and document Java solutions</li> </ul>
CJP7	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	1	100	70	28	-	-	30	12	<ul style="list-style-type: none"> <li>• Basic communication skills</li> <li>• Personality grooming</li> </ul>

**Note: For a PASS** - A Student would require to secure 40% for both Theory and Practical.

<b>Grand Total</b>	<b>Pass</b>
700	280

## **Detailed Syllabus**

### **CJP1 - FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY**

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/Output their functions and characteristics. Instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/output & Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control, Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.



## CJP2 - OPERATING SYSTEMS

Fundamentals of operating system, definition and need. Main Services of operating system, various types of operating system, (definition and characteristics), multitasking, multiprocessing, multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

WINDOWS - Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (XP or Windows 7) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders. My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, and Volume Control. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them), Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software –Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication –Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial, Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user passwordetc. Accessibility Features of Windows.-Sharing Information between Programs,sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

## CJP3 - SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## **CJP4 - PROGRAMMING CONCEPTS**

### **Programming Concepts**

Introduction, Steps in program development, Problem identifications task, data analysis, input design, output identification and specifications, decision tables, algorithm, data validation.

Flowcharts, coding the program, debugging, testing, flowchart symbols, rules for making flowcharts, some examples of flowcharts, types of flowcharts, use of flowcharts, advantages and disadvantages of flowcharts.

Pseudo code – introduction, logical construction of Pseudo code, Advantages of using Pseudo code, Meta-code, Programming techniques-Top down and Bottom Up design and implementation, Modular design and Programming. Structured Programming, Three basic modules of structured programming, Iterative logic, Modular Design and programs. Testing and Debugging-Introduction, Testing process, debug, compiler and interpreters as debuggers, data definition languages, cohesion in modular design, Kinds of modules – sequential, selective and interactive.

## **CJP5 – BASIC JAVA PROGRAMMING**

### **Getting Started**

What is Java, What is JVM, What is JDK and NetBeans, Getting Started with Java, Rules for Constructing Constants, Rules for Constructing Variable Names, Java Keywords, The First Java Program, Compilation and Executin, Receiving Input, Command-line Arguments, More About Data Types, Integer Types, Real Types, *char* Data Type, *boolean Data Type*, Java Instructions, Type Declaration Instruction, Arithmetic Instruction, Type Conversion In Arithmetic Instruction, Explicit Conversion, Hierarchy of Operations, Associativity of Operators, Constant Variables, Console Input / Output In Java, *readLine ( )* Function, *println ( )* And *format ( )* Functions, Escape Sequences, Control Instructions in Java,

### **Decision Control Instruction**

Decisions! Decisions!, The if Statement, The Real Thing, Multiple Statements Within if, The if-elses, Nested if-elses, Forms of if, Use of Logical Operators, The else if clause, The! Operator, The & And| Operators, Hierarchy of Operators Revisited, A Word of Cautin, The Conditional Operators.

### **Loop Control Instruction**

*Loops, The while Loop, Tips and Traps, More Operators, The for Loop, Nesting of Loops, Multiple Initialisations In The for Loop, The break Statement, The continue Statement, The do-while Loop, The Odd Loop*

### **Case Control Instruction**

*Decisions Using switch, The Tips and Traps, Switch Versus if-else Ladder,*

### **Function**

*What is a Functions, Why Use Functions, Passing Values between Functions, Scope Rule of Functions, Function Overloading, Recursion, Recursion and Stack*

### **Introduction To OOP**

*Structured Programming, Object-Oriented Programming, Characteristics of OOP, Objects, Classes, Inheritance, Polymorphism, Containership, Reusability, Object-Oriented Design,*

## **Classes and Objects**

*Classes and Constructors, Object Destruction, Terminology, A Complex Class, The this reference, Static Constructors*

## **Arrays**

*What are Arrays, A Simple Program Using Array, More on Array, Array Initialization, Array Access, Bounds Checking, Passing Array Elements To A Function, Passing Array Reference To A Function, Returning An Array, Common Array Operations, The Eight Queens Problem, Array of Objects, Two Dimensional Arrays, Passing And Returning 2-D Array, Three-Dimensional Array, Jagged Array, Passing Jagged Arrays, 3-D Jagged Arrays, Resizing of Arrays*

## **Strings**

*What are Strings, More about Strings, Splitting Strings, StringBuilder Class, Array of Strings, Sorting Strings, The Calendar Program, Enumerations, Use of Enumerated Data Type .*

## **Inheritance**

*Uses of Inheritance, More Inheritance, Constructors in Inheritance, Shadowing Functions and Data, The final Keyword, Incremental Development.*

## **Polymorphism**

*Polymorphism, Abstract Classes and Functions, Abstract Functions, Interfaces, Practical Uses of Interfaces, Interfaces – Focused View, Interfaces – Different Implementations, Interfaces-Unrelated Inheritance.*

## **Exception Handling**

*Exception Handling In Java, Catching Multiple Exceptions, The finally Block, User-defined Exceptions*

## **Effective Input/output**

*Expectation From An I/O System, File, Directory and Drive Operations, The Java Streams Solution, Stream Classes, Byte and Character Operations, Reading Strings From A File, Record IO, User-defined Streams,*

*File Encryption/Decryption*

## **Operations On Bits**

*Bitwise Operators, One's Complement Operator, Right Shift Operator, Left Shift Operator, Bitwise and Operator, Bitwise or Operator, Bitwise XoR Operator, The showBits ( ) Function, Hexadecimal Numbering System. Relationship between Binary and Hex*

# **CJP6 – ADVANCE JAVA PROGRAMMING**

## **The Basics of Java**

*A brief history of Java, The java Architecture, Java Features, Importance of Java to the Internet, Java Applets and Applications*

*Fundamentals of Object Oriented Programming*

*Concepts of OOP, Benefits of OOP, Java and C++*

## **Java Environment**

*Java Development Kit, Application programming Interface (API), Getting started with JDK, Java program structure, Using Java with Other Tools*

*Java tokens*

Java character set, Keywords, Identifiers, Literals, Separators,  
 Constants, Variables and Data types  
 Data Types, Type Casting, Constants, Variables and their Scope  
 Operators and Expressions  
 Arithmetic Operators, Relational & Conditional Operators, Logical Operators, Assignment Operators  
 Increment & Decrement, Bitwise Operators, Special Operators, Precedence of Operators  
 Control Flow statements  
 If & If else statements, Switch Statement, For loop, While do loop, Branching  
 Introduction to Elaseses  
 Defining a class, Creating objects, Methods  
 Constructors and Access Specifiers  
 Application of Constructor, Parameterized Constructors, Overloading Methods and Constructors, Access control Modifiers : Public, Private, and Protected, Static, Final and Abstract Modifiers  
 Inheritance and Method Overriding  
 Inheritance basics, Method overriding  
 Arrays  
 One-dimensional array, Multidimensional array  
 Strings  
 Strings class, Working with strings, stringBuffer elass  
 Vector and wrapper class  
 Vector Constructors, Working with vector methods, Wrapper Class  
 Using Java Interfaces  
 Defining an Interface, Implementing an Interface, Extending an Interface  
 Using Java Packages  
 Defining a Package, Brief discussion on CLASSPATH, Access Protection, Importing a package, Java API Package  
 Introduction to Exception Handling  
 Why use Exception Handling, Fundamentals of Exception Handling, Exceptions & their types, Common Exceptions  
 Using Exception Handling  
 Using try and catch, Multiple Catch Statements, Nested try Statements, Methods available to Exceptions  
 Throwing your own Exception  
 Throw statement, Throws statement, Using finally, Creating your own exceptions  
 Multithreading  
 The Main Thread, Creation of a thread, Creating Multiple Threads, Life cycle of a thread, Controlling and getting information of Threads  
 Advanced Multithreading  
 Thread Priority, Thread Groups, Synchronization, Interthread Communication, Deadlock  
 Writing Applets

The Basics of Applets, Life Cycle of an Applet, Painting the Applet, The Applet Tag, Security Restrictions when using Applets

Taking Advantage of the Applet API

Finding and Loading Data Files, Displaying Short Status Strings, Displaying Documents in the Browser

Playing Sounds, Defining and Using Applet Parameters

The Graphics Class

java.awt.Graphics, uses of class java.awt.Graphics

Custom Painting

Drawing Lines, Drawing Rectangles, Drawing Ellipses and Circles, Drawing Arcs, Drawing Polygons

## **CJP7 - COMMUNICATION AND PERSONALITY DEVELOPMENT**

### **Grammar:**

Parts of Speech, - Articles and Determiners, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## COUNSELING AND STUDY STRUCTURE

Sl. N o.	Course Code	Title of the Course	Cred it	Total Hour s of Stud y	Counseling and Study Structure (hours)			
					Face to Face Counseli ng	Self stud y	Practic al	Assignme nts
1	CJP 1	Fundamental of Computers & Information Technology	3	90	12	51	-	27
2	CJP 2	Operating System (Windows)	3	90	12	33	18	27
3	CJP 3	Safety Practices in the Work Environment	1	30	4	11	6	9
4	CJP 4	Programming Concepts	2	60	8	22	12	18
5	CJP 5	Basic Java Programming	3	90	12	33	18	27
6	CJP 6	Advance Java Programming	3	90	12	33	18	27
7	CJP 7	Communication And Personality Development	1	30	4	17	-	9

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CJP 1	Fundamental of Computers & Information Technology	S01 - Fundamentals of Computers & Information Technology
2	CJP 2	Operating System (Windows)	S18 - MS-Windows
3	CJP 3	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
4	CJP 4	Programming Concepts	S05- Programming Concepts and Techniques
5	CJP 5	Basic Java Programming	Let Us JAVA, by Yeshavant Kanetkar, BPB publications
6	CJP 6	Advance Java Programming	Programming in Java, by Amita Dev, BPB Publications
7	CJP 7	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN WORD  
PROCESSING/TYPEWRITIN  
G (HINDI/ENGLISH) (CWP)**



## Certificate in Word Processing/Typewriting (Hindi/English) (CWP)

1 fVZQdV bu oMziK fl x VbZjkbZVx 1gUhh@अंग्रेजी (CWP)

(A) Duration : 4 Months  
1/2 vof/k : 4 ek

(D) Courses : 06  
1/2 dkl 1 : 06

(B) Eligibility : 8<sup>th</sup> Pass  
1/2 ik=rk : 8ohaiK

(E) Credit : Non-Credit  
1/2 ØfMV : ukW ØfMV

(C) Contents and Scheme of Examination  
1/2 ikB; Øe fo"K l ph , oaijhK योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CWP 1	Fundamentals of Computers & Information Technology सूचना तकनीक एवं कम्प्यूटर से परिचय	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Understand functions of components of a computer system, storage devices &amp; their physical structure &amp; working.</li> <li>Understand operating system &amp; file system</li> <li>Understand &amp; use computer networks</li> </ul>
CWP 2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CWP 3	Operating System (DOS, Windows) ऑपरेटिंग सिस्टम (डॉस, विंडोज़)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand booting process of OS &amp; file system, installation</li> <li>Understand Windows: accessories &amp; system tools.</li> </ul>

										<ul style="list-style-type: none"> <li>Understand advanced features of Windows &amp; Setup Network connection.</li> </ul>
CWP 4	Communication and Personality Development कम्प्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>
CWP 5	MS-Office (Word, Excel, PowerPoint) एम.एस. ऑफिस (वर्ड, एक्सेल, पावरपॉइंट)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand creation &amp; printing a document/ presentation &amp; excel sheet in MS Office.</li> <li>Ability to use advanced features in MS Word like inserting word art, shapes, clipart, charts, smart arts, symbols, graphs etc. in a document/slide.</li> <li>Ability to use various formulas, function in Excel.</li> <li>Understand importing &amp; exporting excel sheets to/from various formats.</li> </ul>
CWP 6	Methods and Techniques of Typewriting टाइपराइटिंग के मैथड एवं टेक्निक	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Ability to comprehend sight &amp; touch method of typewriting</li> <li>Understand techniques of typewriting</li> <li>Understand keyboard basics</li> <li>Familiarity with the use of MS Office basics</li> </ul>

**Note: For a PASS -** A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
600	240

## **Detailed Syllabus**

### **CWP 1 - FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY**

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/Output their functions and characteristics. instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/Output & Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control, Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.

## CWP2- SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CWP3 - OPERATING SYSTEMS

Fundamentals of operating system, definition and need. Main Services of operating system, various types of operating system, (definition and characteristics), multitasking, multiprocessing, multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

**DISK OPERATING SYSTEMS (DOS) -** Introduction, History & versions of DOS DOS basics-Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.

DOS commands: Internal - DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.

External Commands - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc

**WINDOWS -** Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (XP or Windows 7) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files,

emptying the recycle bin, searching files and folders .My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, Volume Control. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software –Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication –Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial, Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

## **CWP4-Communication And Personality Development**

### **Grammar:**

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## **CWP5- MS OFFICE**

**MS Word Basics:** Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting- Using page border and watermark, Text Editing using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options

**Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and Samrt Arts, symbol in Document. Using Macros in Word- Record, edit and run macros.

**MS Excel:** Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and

Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations using various type of functions-Logical, string, date & time, maths and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types; Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet-Record, edit and run macros.

**MS PowerPoint:** Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Insert WordArt and other objects like shapes, clipart, charts and SmartArts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

## **CWP6 - METHODS AND TECHNIQUES OF TYPEWRITING**

Introduction of typewriter, Typewriter – its use and importance, Makes and categories of typewriters, Essential parts of a typewriter and their uses.

Care and upkeep of a typewriter, Paper feeding, Ribbon changing and ribbon economy.

Methods of Typewriting : Slight method, Touch method.

Techniques of Typewriting : Position of the machine, Size of table and chair, Sitting position of the typist, Rhythm in typewriting, Feeding of paper into the machine, Fixing of margins, Warning bell, Kinds and sizes of types, line spaces and paper.

Knowledge of Keyboard : . Depression of keys, Guide keys and home keys.

Important Operations of the Keyboard : Paper feeding, Fixing of margins, Changing the line, New paragraph, Taking out the paper; Keyboard and Finger Chart.

Speed Development : daily pre-practice exercises (finger operations), Accuracy and speed development (operational exercises, Instructions for speed and accuracy development (mental exercises); Spacing in punctuation; Syllabification; Errors in typing; Calculation of speed.

### COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CWP1	Fundamental of Computers & Information Technology	Non-Credit	60	8	52	-	-
2	CWP2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CWP3	Operating System (DOS, Windows)	Non-Credit	60	8	34	18	-
4	CWP4	Communication and Personality Development	Non-Credit	30	4	26	-	-
5	CWP5	MS-Office (MS-Word, Excel, Power Point)	Non-Credit	60	8	34	18	-
6	CWP6	Methods and Techniques of Typewriting	Non-Credit	60	8	34	18	-

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CWP1	Fundamental of Computers & Information Technology	S01 - Fundamentals of Computers & Information Technology
2	CWP2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CWP3	Operating System (DOS, Windows)	S02 - Disk Operating System S18 - MS-Windows
4	CWP4	Communication and Personality Development	S68: Effective Communication & Personality Development
5	CWP5	MS-Office (MS-Word, Excel, Power Point)	S19 - MS-Word S20 - MS-Excel S25 - MS-Power Point
6	CWP6	Methods and Techniques of Typewriting	V 40 : Typewriting



**CERTIFICATE IN WEB DESIGNING  
USING PHP& MYSQL (CWDPM)**

## Certificate in Web Designing using PHP& MYSQL (CWDPM)

1 fVZQdV bu or fMt hbfu ; ft x ih, pi h , M ek , l D; wy (CWDPM)

(A) Duration : 4 Months  
1/4 1/2 vof/k % 4ek

(D) Courses : 05  
1/4 1/2 dk 1 % 05

(B) Eligibility : 12<sup>th</sup> Pass  
1/4 1/2 ik=rk % 12ohik

(E) Credit : Non-Credit  
1/4 1/2 ØfMV % ukW ØfMV

(C) Contents and Scheme of Examination  
1/4 1/2 ikB; Øe fo" k l ph , oaijh k ; k uk

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CWDPM1	Introduction of Web Technology वेब प्रौद्योगिकी का परिचय	Non - Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand computer network concept (topologies, layers)</li> <li>Narrate evolution of internet, WWW- history &amp; working.</li> <li>Understand basics of web browsers, concepts of search engines and web protocols.</li> <li>Familiarity with the use of FTP.</li> <li>Understand Unix/Linux &amp; Windows based web servers</li> <li>Understand internet languages like: HTML</li> </ul>

CWDPM2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबंध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CWDPM3	RDBMS and MY SQL आरडीबीएमएस एंड मायएसक्यूएल	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Understand RDBMS concepts &amp; drawing E-R diagram</li> <li>• Familiarity with relational data model</li> <li>• Understand 1<sup>st</sup>, 2<sup>nd</sup> &amp; 3<sup>rd</sup> normal forms</li> <li>• Understand concept of distributed database</li> <li>• Ability to install WAMP &amp; LAMP servers and Linux</li> <li>• Understand data insertion &amp; data fetching to and from the table</li> <li>• Understand query running in database</li> <li>• Understand row &amp; column operation in database</li> </ul>
CWDPM4	Web Designing in PHP वेब डिजाइनिंग इन पीएचपी	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Understand basic PHP syntax</li> <li>• Ability to use conditional statements &amp; operators</li> <li>• Understand working with functions &amp; classes</li> <li>• Understand forms in PHP</li> <li>• Understand output handling &amp; debugging</li> </ul>

CWDPM5	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>• Basic communication skills</li> <li>• Personality grooming</li> </ul>
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**Note : For a PASS** - A Student would require to secure 40% for both Theory and Practical.

<b>Grand Total</b>	<b>Pass</b>
500	200

## Detail Syllabus

### CWDPM1 - INTRODUCTION OF WEB TECHNOLOGY

Internet – History, WWW and HTTP evaluation, services offered by Internet – e-mail, WWW, FTP, telnet, News and USENET, Gopher, WAIS, IRC, VOIP, WAP, Webcasting and Podcasting, e-com, m-com, Social Networking. Connectivity method to Internet – Dialup, DSL, ISDN, VSAT, RFID, Broadband, leased line- advantages and limitations of each method. Setting in Windows/Linux to connect the Internet. Internet addressing basics, domain names basics, DNS, DHCP, TCP/IP protocols, URIs and URLs, Domain name, process of obtaining domain names – TLD and Sub domains, Indian Domain names, Web servers – functions and capabilities, Introduction to PWS, IIS, Apache etc.

Browsers – features, services offered by browsers, browsers evaluation, extensions and plug-ins for browsers, some important plug-ins introduction like – flash, java, silverlight, etc. features of some major browsers – IE, Firefox, and Google Chrome.

E-mail- Process, obtaining an e-mail address, types of email services – Web based and POP3. Understanding e-mail address, SMTP and MIME protocols, Using web based and pop3 e-mail – creating a message, sending a message, CC, BCC, replay, forward, reply to all, attach a document, add signature to mail, spam mails handling, junk mails, etc. email clients software – installation and configuration. Configuring and Using Outlook Express.

File Transfer using FTP – FTP Process fundamentals, How to use FTP using browsers, FTP using client software like – Cute FTP, WS FTP, File Zilla etc. File formats and Transfer types, Anonymous and non- anonymous FTP.

Telnet – Features, session, using telnet with browsers, Client programs, with Windows.

UseNet – Features, differences between e-mails and newsgroups, various types of usenet groups, usenet protocols, major newsgroups, process of joining a newsgroup of your interest. Start your own newsgroup. Using browser as the newsgroup reader.

Languages of Internet – a brief introduction to HTML, DHTML, XML, .NET, PHP, JAVA, JavaScript, AJAX, VB.Net, C# and CSS (Brief intro, features, at least 2 examples and explanation of each

HTML introduction, features, uses & versions Using various HTML tags, Elements of HTML syntax, Head & Body Sections,, Inserting texts, Text alignment, Using images in pages, Hyperlinks – text and images, bookmarks, Backgrounds and Color controls, creating and using Tables in HTML, and presentation, Use of font size & Attributes, List types and its tags.

### CWDPM2- SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CWDPM3–RDBMS AND MYSQL

RDBMS Concepts - Basic concepts of database ; Data independence ; Data models, Relational Data Model; Relational Algebra, Relational Query language – SQL ; Functional dependencies; 1st, 2nd and 3rd Normal forms, Decomposition; Integrity; Security; Concurrency; Recovery; Concept of distributed databases.

Getting Started with MySQL, introduction of WAMP and LAMP Server Installing on windows ,Installing on Linux, Configuring Your System, Setting the Root Password, Deleting Anonymous Accounts, Creating an Account for Basic Use, Starting and Terminating mysql, Specifying Connection Parameters by Using Option Files, Protecting Option Files, Mixing Command-Line and Option File Parameters, Setting Environment Variables, Creating and Using a Database, Creating and Selecting a Database, Creating a Table, Loading Data into a Table, Retrieving Information from a Table, Selecting All Data, Selecting Particular Rows, Selecting Particular Columns, Sorting Rows, Restricting Data, Displaying Data from Multiple Table, Aggregate Functions, Manipulating table, Indexing & Engine, Removing Duplicates with DISTINCT, Date Calculations, Working with Advanced Queries, Using Joins to Run Queries over Multiple Tables, understanding the Different Join Types Working with Null Values, Pattern Matching, Counting Rows, Using More Than one Table,Getting Information About Databases and Tables, Using Mysql in Batch Mode, Examples of Common Queries, The Maximum Value for a Column, The Row Holding the Maximum of a Certain Column, Maximum of Column per Group, The Rows Holding the Group-wise Maximum of a Certain Column, Using User-Defined Variables,

## CWDPM4 –WEB DESINING IN PHP

Getting Started with PHP, Understanding Basic PHP Syntax, Combining HTML and PHP, Using White Space in PHP and HTML, Adding Comments to Your Scripts, Testing Your Script, Working with Variables in PHP, Understanding Quotation Marks, Working with Constants in PHP, Working with Operators in PHP, Working with Expressions in PHP, Controlling Programming Flow, Using Control Statements.

Using the If Statement, Using the else and else if Statement, Using the switch / case Statement, Using the ? Operator, Comparing for Equality or Identity, Using Looping, while, do ... while, for, break and continue, exit Statement, Working with Some Advance Program Flow Statement, Using require ( ), include ( ),requireonce ( ), include once ( ) Statement.

Working with Functions, Understanding Variable Scope, Saving State between Function Calls with the static Statement, Creating Anonymous Functions, Testing for Function Existence,

Implementing Recursion, Working with Arrays, basic of opps concepts, Implementing Object-Orientation in PHP, Implementing Cloning, Implementing Inheritance, Working with Interfaces, Using Abstract Classes, Introducing Name spaces, Handling Errors and Exceptions, Understanding Configuration Directives, Implementing Error Logging, Implementing Exception Handling.

Processing Web Forms in PHP, Working with Forms in PHP, Designing a Simple Input Form, Using the Form GET Method, Using the Form POST Method, Obtaining Data from Forms through Variables, Using Hidden Fields, Splitting Form across Pages, Redirecting Users, Sending Mail on Form Submission, Working with File Uploads, Making Forms Sticky, Validating Input Data, Enforcing Field Cannot Be Left Blank, Enforcing Data Rules, Displaying Error Messages, Keeping Focus on the Incorrect Field, Using Magic Quotes, What are Magic Quotes, Why use Magic Quotes, Why not use Magic Quotes, Disabling Magic Quotes.

Implementing File and Directory Access in PHP, PHP File Handling, PHP Directory Handling, Retrieving File Time Information, Getting File Information, Changing File Permissions or Ownership, Analyzing Filename Information, Deleting a File, Copying or Moving a File, Creating a Directory, Getting a List of Filenames Matching a Pattern, Processing all Files in a Directory, Processing All Files in a Directory and Its Subdirectories.

Working with Strings, Formatting Strings, Introducing printf (), Padding Output with the Padding Specifiers, Specifying a Field Width, Specifying Precision, Storing a Formatted String, Investigating Strings, A Note About Indexing Strings, Finding the Length of a String, Finding a Substring Within a String, Finding the Position of a Substring, Extracting Part of a String, Manipulating Strings, Cleaning Up a String, Replacing a Portion of a String, Replacing Substrings, Converting Case, Wrapping Text, Breaking Strings into Arrays, Joining Arrays to Form a String, Working with Dates and Times, Getting the Date with time (), Converting a Timestamp with getdate (), Converting a Timestamp with date (), Creating Timestamps with mktime ().

Introducing Cookies, Creating Cookies, Reading from Cookies, Adding Parameters to a Cookie, Deleting a Cookie, Saving Form Data Using Sessions, Session Function Overview, Working with Session Variables, Handling Databases, Working with the Database Functions, Finding Out About Errors, Adding Data to a Table, Acquiring the Value of an Automatically Incremented Field, Accessing Information, Changing Data, SQLite: A Lightweight SQL Engine, Selecting Data, Using the PEAR DB Package.

Handling Graphical Output with PHP, Manipulating Images, Choosing a Format, Getting Arty, Working with More Shapes, Handling Complex Shapes, Outputting Text, Loading Existing Images, Using Color and Image Fills, Adding Transparency, Using Brushes, Performing Basic Image Copying, Scaling and Rotating.

Working with Points and Lines, Interlacing an Image, Getting an Image's MIME Type, Creating PDFs, Adding More Pages and More Style, Adding Images, Implementing PDF Special Effects, Adding Document Data, Debugging and Optimizations, Debugging Your PHP Scripts, Optimizing Your PHP Scripts, Securing Your PHP Application, Implementing User Authentication, Authenticating Users in PHP, Securing PHP Code, Implementing Data Encryption, Differentiating Shared Secret Versus Public Key, Implementing Shared Secret Algorithms, Understanding Public Key Cryptography, Using Public Keys in PHP.

## **CWDPM5-COMMUNICATION AND PERSONALITY DEVELOPMENT**

### **Grammar:**

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

### Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CWDPM 1	Introduction to Web Technology	Non Credit	60	8	34	18	-
2	CWDPM 2	Safety Practices in the Work Environment	Non Credit	30	4	17	9	-
3	CWDPM 3	RDBMS AND MYSQL	Non Credit	90	12	51	27	-
4	CWDPM 4	Web Designing in PHP	Non Credit	90	12	51	27	-
5	CWDPM 5	Communication and Personality Development	Non Credit	30	4	26	-	-



### STUDY MODULES & BOOKS INFORMATION

S. No	Course Code	Subject Name	Modules to be used
1	CWDPM1	Introduction to Web Technology	S27 : Internet S37 : HTML
2	CWDPM 2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CWDPM 3	RDBMS and Mysql	S 66 : RDBMS & PHP with MYSQL
4	CWDPM 4	Web Designing in PHP	S 66 : RDBMS & PHP with MYSQL
5	CWDPM 5	Communication and Personality Development	S68: Effective communication & personality development

**CERTIFICATE FOR BPO& CALL  
CENTER (CBCC)**

## Certificate for BPO& Call Center (CBCC)

### 1 fVZQdV QkV ch hvk, M dW l Vj (CBCC)

(A) Duration : 4 Months

¼½ vof/k % 4ekl

(B) Eligibility : 10<sup>th</sup> Pass

¼½ ik=rk % 10ohikl

(C) Contents and Scheme of Examination

¼½ ikB; Øe fo"k l ph , oaijhkk ; kt uk

(D) Courses : 07

¼½ dkl 1 % 07

(E) Credit : Non-Credit

¼½ ØfMV % ukW ØfMV

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CBCC1	Fundamentals of Computers & Information Technology सूचना तकनीक एवं कम्प्यूटर से परिचय	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Understand functions and components of a computer system, storage devices &amp; their physical structure &amp; working.</li> <li>Understand operating system &amp; file system</li> <li>Understand &amp; use computer networks</li> </ul>
CBCC2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CBCC3	Operating System (Windows) & MS-Office (Word, Excel, PowerPoint)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand booting process of OS &amp; file system, installation</li> </ul>

	ऑपरेटिंग सिस्टम (विंडोज़) एवं एम.एस. ऑफिस (वर्ड, एक्सेल, पावरपॉइंट)									<ul style="list-style-type: none"> <li>Understand Windows: accessories &amp; system tools.</li> <li>Understand advanced features of Windows &amp; Setup Network connection.</li> <li>Understand creation, &amp; printing a document/presentation/ &amp; excel sheet in MS Office.</li> <li>Ability to use advanced features in MS Word like inserting word art, shapes, clipart, charts, smart arts, symbols, graphs etc. in a document/slide.</li> <li>Ability to use various formulas, function in Excel.</li> <li>Understand importing &amp; exporting excel sheets to/from various formats.</li> </ul>
CBCC4	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>
CBCC5	BPO & Call Centre Process बीपीओ एण्ड कॉल सेंटर प्रोसेस	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand basics &amp; work culture of BPO industry</li> <li>Ability to handle client calls</li> <li>Ability to handle customer complaints</li> <li>Knowledge about terminology of BPO's &amp; Call Centers</li> </ul>

CBCC6	E-mail & Chatting Ethics ई-मेल और चैटिंग एथिक्स	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Dealing with e-mail account efficiently</li> <li>• Acquaintance with all operations of e-mail</li> <li>• Ability to use e-mail attachments</li> <li>• Competency in providing complete satisfaction to customers on chatting</li> <li>• Competency in use of language in chatting</li> </ul>
CBCC7	Voice Accent & Communication वॉइस् एक्सेंट एण्ड कम्युनिकेशन	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Ability to pronounce difficult words without getting stuck</li> <li>• Capability of voice modulation</li> <li>• Competency in having updated information about customers queries</li> </ul>

**Note : For a PASS** - A Student would require to secure 40% for both Theory and Practical.

<b>Grand Total</b>	<b>Pass</b>
700	280

## **Detailed Syllabus**

### **CBCC1 – FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY**

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/output their functions and characteristics. instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/output& Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control, Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.

## CBCC2- SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CBCC3 - OPERATING SYSTEM & MS OFFICE

Fundamentals of operating system, definition and need. Main Services of operating system, various types of operating system, (definition and characteristics), multitasking, multiprocessing, multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

**WINDOWS -** Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (XP or Windows 7) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders. My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound and Audio device settings. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software – Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication – Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial, Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

**MS Word Basics:** Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting- Using page border and watermark, Text Editing using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options

Advanced Features of MS-Word: Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and SmartArts, symbol in Document. Using Macros in Word- Record edit and run macros.

**MS Excel:** Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations using various type of functions-Logical, string, date & time, math and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types; Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet- Record, edit and run macros.

**MS PowerPoint:** Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Insert WordArt and other objects like shapes, clipart, charts and SmartArts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

## **CBCC4-COMMUNICATION AND PERSONALITY DEVELOPMENT**

### **Grammar:**

Parts of Speech, - Articles and Determiners, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### **Written English:**



Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development** : Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

### **CBCC5 - BPO & CALL CENTER PROCESS**

History of the industry, Basics of the industry, Work culture in BPOs, Responsibility and hierarchy of a BPO agent, Eligibility, recruitment and training of agent, Skills set for BPO and KPO: Selling skills required in the industry, Customer handling skills, Listening skills, Handling complaints of the customers, Important terms used in the industry: Spoken English, Breathing & Relaxation, Neutralizing regional sounds.

### **CBCC6- E-MAIL & CHATTING ETHICS**

Creating and Opening an E-mail account. Writing, reading and sending emails, Copy received, Email. The to line, The cc line, The bcc line, subject line, Signatures, copy/Print received mail. Send Email with attachment. Open/Download attachments. Common email and letter writing errors. Think twice send once, be concise, be precise.

Chatting: What is chatting?, Set-up for Chat. Practice chatting. Practice chatting with Video. Join News group. Surfing of different web sites and chatting.

SMS, Type of SMS: Text, Multimedia, Voice SMS, SMS Sending through internet.

### **CBCC7- VOICE ACCENT & COMMUNICATION**

Pronunciation of alphabets, Days months and numbers, Commonly Mispronounced Words, Difficult Word Pronunciation, Pronunciation symbols, Etymology, Inflection, Diphthongs, Polyphones, Arabic-Persian sound, Minimal Pair Exercise, Emphasis Control,, Intonation, Modulation, Liaison, Listening Skills, Tone and Expression, English Slang, Speaking like a native - assimilations/elisions, Speaking effectively - voice modulation and stress, Vocabulary.

## Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CBCC 1	Fundamental of Computers & Information Technology	Non Credit	60	8	52	-	-
2	CBCC2	Safety Practices in the Work Environment	Non Credit	30	4	17	9	-
3	CBCC 3	Operating System (Windows) & MS-Office (Word, Excel, PowerPoint)	Non Credit	60	8	34	18	-
4	CBCC 4	Communication and Personality Development	Non Credit	30	4	26	-	-
5	CBCC 5	BPO & Call Centre Process	Non Credit	60	8	34	18	-
6	CBCC 6	E-mail & Chatting Ethics	Non Credit	60	8	34	18	-
7	CBCC 7	Voice Accent & Communication	Non Credit	60	8	34	18	-

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules & books to be used
1	CBCC 1	Fundamentals of Computers & Information Technology	S01 - Fundamentals of Computers & Information Technology
2	CBCC2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CBCC 3	Operating System (Windows) & MS-Office (Word, Excel, PowerPoint)	S18 - MS-Windows S19 - MS-Word S20 - MS-Excel S25 - MS-Power Point
4	CBCC 4	Communication and Personality Development	S68: Effective Communication & Personality development
5	CBCC 5	BPO & Call Centre Process	S67: Introduction of BPO & Call Center
6	CBCC 6	E-mail & Chatting Ethics	S67: Introduction of BPO & Call Center
7	CBCC 7	Voice Accent & Communication	S67: Introduction of BPO & Call Center

**ADVANCE CERTIFICATE IN  
DIGITAL MARKETING (ACDM)**

## Advance Certificate in Digital Marketing (ACDM)

### एडवांस सर्टिफिकेट इन डिजिटल मार्केटिंग (ACDM)

(A) Duration : 4 Months

(अ) अवधि : 4 माह

(B) Eligibility : 10+2 or Equivalent

(ब) पात्रता : 10+2 ; k l ed{k

(C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

(D) Courses : 03

(द) कोर्सेस : 03

(E) Credit : Non-Credit

(इ) क्रेडिट : नॉन क्रेडिट

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
ACDM1	Digital Marketing डिजिटल मार्केटिंग	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Understand Digital Marketing</li> <li>Learn Google Analytics</li> </ul>
ACDM2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
ACDM3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

# Detailed Syllabus

## ACDM1-DIGITAL MARKETING

- Digital Marketing
- Website Planning
- Google Analytics
- Social Media Marketing
- E- Commerce Marketing
- Content Marketing
- Search Engine Optimization
- Email Marketing
- You tube Marketing

## ACDM2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## ACDM3-COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	ACDM1	Digital Marketing	Non-Credit	90	12	33	18	27
2	ACDM2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	ACDM3	Communication and Personality Development	Non-Credit	30	4	17	-	9

## STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	ACDM1	Digital Marketing	-
2	ACDM2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	ACDM3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN AFFILIATE  
MARKETING (CAM)**



## Certificate in Affiliate Marketing (CAM)

### सर्टिफिकेट इन एफिलिएट मार्केटिंग (CAM)

(A) Duration : 4 Months

(अ) अवधि : 4 माह

(D) Courses : 03

(द) कोर्सेस : 03

(B) Eligibility : 10+2 or Equivalent

(ब) पात्रता : 10+2 ; k l ed{k

(E) Credit : Non-Credit

(इ) क्रेडिट : नॉन क्रेडिट

(C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CAM1	Affiliate Marketing एफिलिएट मार्केटिंग	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Learn Affiliate Marketing</li> <li>Learn about various Affiliate Programs</li> </ul>
CAM2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CAM3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

# Detailed Syllabus

## CAM1- AFFILIATE MARKETING

- What is Affiliate Marketing
- Becoming a Merchant
- How to become an Affiliate
- Managing an Affiliate Program
- Affiliate Marketing Compensation Models
- Affiliate Marketing Strategies for Merchants
- Affiliate Software, Popular Affiliate Programs, Affiliate Marketing Tools

## CAM2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CAM3-COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CAM1	Affiliate Marketing	Non-Credit	90	12	33	18	27
2	CAM2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CAM3	Communication and Personality Development	Non-Credit	30	4	17	-	9

## STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CAM1	Affiliate Marketing	-
2	CAM2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CAM3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN CONTENT  
MARKETING (CCM)**

## Certificate in Content Marketing (CCM)

### सर्टिफिकेट इन कंटेंट मार्केटिंग (CCM)

(A)	Duration	:	4 Months	(D)	Courses	:	03
(अ)	अवधि	:	4 माह	(द)	कोर्सेस	:	03
(B)	Eligibility	:	10+2 or Equivalent	(E)	Credit	:	Non-Credit
(ब)	पात्रता	:	10+2 ; k l ed{k	(इ)	क्रेडिट	:	नॉन क्रेडिट
(C)	Contents and Scheme of Examination						
(स)	पाठ्यक्रम विषय सूची एवं परीक्षा योजना						

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CCM1	Content Marketing कंटेंट मार्केटिंग	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Learn about Content Creation</li> <li>Learn tools to use Content Marketing</li> </ul>
CCM2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CCM3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

# Detailed Syllabus

## CCM1- CONTENT MARKETING

- Basics of Content Marketing
- Types of Content
- Content Creation
- Content Optimization
- Content Management
- Content Marketing
- Content Distribution
- Tools to use Content Marketing
- Content / Influencer Marketing

## CCM2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CCM3-COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

### Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CCM1	Content Marketing	Non-Credit	90	12	33	18	27
2	CCM2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CCM3	Communication and Personality Development	Non-Credit	30	4	17	-	9

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CCM1	Content Marketing	-
2	CCM2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CCM3	Communication and Personality Development	S68: Effective Communication & Personality Development

# **CERTIFICATE IN E-COMMERCE (CEC)**



## Certificate in E-Commerce (CEC)

### सर्टिफिकेट इन ई-कॉमर्स (CEC)

(A) Duration	:	4 Months	(D) Courses	:	03
(अ) अवधि	:	4 माह	(द) कोर्सेस	:	03
(B) Eligibility	:	10+2 or Equivalent	(E) Credit	:	Non-Credit
(ब) पात्रता	:	10+2 ; k l ed{k	(इ) क्रेडिट	:	नॉन क्रेडिट
(C) Contents and Scheme of Examination					
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना					

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CEC1	E-Commerce इ-कॉमर्स	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Understand the importance of E-Commerce</li> <li>Learn to create business plan</li> </ul>
CEC2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबंध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CEC3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

## DETAILED SYLLABUS

### CEC1- E-COMMERCE

- What is E-Commerce
- Creating a Business Plan
- Legal Guide for E-Commerce
- Having an E-Commerce Website
- Choosing an E- Commerce Platform
- How to Promote your Business
- Strategies to increase sales
- E-Commerce SEO

### CEC2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work:** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CEC3-COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

### Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CEC1	E-Commerce	Non-Credit	90	12	33	18	27
2	CEC2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CEC3	Communication and Personality Development	Non-Credit	30	4	17	-	9

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CEC1	E-Commerce	-
2	CEC2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CEC3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN EMAIL  
MARKETING (CEM)**

## Certificate in Email Marketing (CEM)

### सर्टिफिकेट इन ईमेल मार्केटिंग (CEM)

(A) Duration	:	4 Months	(D) Courses	:	03
(अ) अवधि	:	4 माह	(द) कोर्सेस	:	03
(B) Eligibility	:	10+2 or Equivalent	(E) Credit	:	Non-Credit
(ब) पात्रता	:	10+2 ; k l ed{k	(इ) क्रेडिट	:	नॉन क्रेडिट
(C) Contents and Scheme of Examination					
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना					

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CEM1	Email Marketing ईमेल मार्केटिंग	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Learn to write official E-mails</li> <li>Learn E-mail marketing techniques</li> </ul>
CEM2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CEM3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

## DETAILED SYLLABUS

### CEM1- EMAIL MARKETING

- Basics of E-Mail Marketing
- Types of E-Mail
- Grow your Mailing List
- How to Write an E-Mail
- E-Mail Deliverability
- E-Mail Marketing Metrics
- Lead Nurturing
- Email Marketing Tools & Automations

### CEM2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work:** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene:** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

### CEM3-COMMUNICATION AND PERSONALITY DEVELOPMENT

#### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

#### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

### COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CEM1	Email Marketing	Non-Credit	90	12	33	18	27
2	CEM2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CEM3	Communication and Personality Development	Non-Credit	30	4	17	-	9

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CEM1	Email Marketing	-
2	CEM2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CEM3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN SEARCH ENGINE  
MARKETING (CSEM)**



## Certificate in Search Engine Marketing (CSEM)

### सर्टिफिकेट इन सर्च इंजन मार्केटिंग (CSEM)

(A) Duration	:	4 Months	(D) Courses	:	03
(अ) अवधि	:	4 माह	(द) कोर्सेस	:	03
(B) Eligibility	:	10+2 or Equivalent	(E) Credit	:	Non-Credit
(ब) पात्रता	:	10+2 ; k l ed{k	(इ) क्रेडिट	:	नॉन क्रेडिट
(C) Contents and Scheme of Examination					
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना					

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CSEM1	Search Engine Marketing सर्च इंजन मार्केटिंग	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Familiarity with the components of SEM</li> </ul>
CSEM2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबंध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CSEM3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

# Detailed Syllabus

## CSEM1- SEARCH ENGINE MARKETING

- Search Engine and Marketing
- Google Ad Words
- Google Ad Words Accounts & Structure
- Keywords, Bidding and Budget
- Creating Campaigns and Ads
- Campaign Optimization and Tracking
- Advertising with Bing/Yahoo Network
- SEO/ SEM Type of Marketing
- SEM Strategy and Analyzing

## CSEM2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work:** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene:** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CSEM3-COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CSEM1	Search Engine Marketing	Non-Credit	90	12	33	18	27
2	CSEM2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CSEM3	Communication and Personality Development	Non-Credit	30	4	17	-	9

## STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CSEM1	Search Engine Marketing	-
2	CSEM2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CSEM3	Communication and Personality Development	S68: Effective Communication & Personality Development

# **CERTIFICATE IN SEARCH ENGINE OPTIMIZATION (CSEO)**

## Certificate in Search Engine Optimization (CSEO)

### सर्टिफिकेट इन सर्च इंजन ऑप्टिमाइजेशन (CSEO)

(A) Duration	:	4 Months	(D) Courses	:	03
(अ) अवधि	:	4 माह	(द) कोर्सेस	:	03
(B) Eligibility	:	10+2 or Equivalent	(E) Credit	:	Non-Credit
(ब) पात्रता	:	10+2 ; k l ed{k	(इ) क्रेडिट	:	नॉन क्रेडिट
(C) Contents and Scheme of Examination					
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना					

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CSEO1	Search Engine Optimization सर्च इंजन ऑप्टिमाइजेशन	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Learn the importance of Search Engine Optimization</li> <li>Learn to use and select appropriate keywords</li> </ul>
CSEO2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CSEO3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS** - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
300	120

# Detailed Syllabus

## CSEO1- SEARCH ENGINE OPTIMIZATION

- Introduction to SEO
- Understanding Search Engines
- Search Engine Friendly Site Design and Development
- Basics of Keyword Research
- Website Optimization & SEO Recommendations
- Google Panda and Other algorithm updates with Google Ranking
- Link Building
- Search Engine Tools & Services

## CSEO2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CSEO3-COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CSEO1	Search Engine Optimization	Non-Credit	90	12	33	18	27
2	CSEO2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CSEO3	Communication and Personality Development	Non-Credit	30	4	17	-	9

## STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CSEO1	Search Engine Optimization	-
2	CSEO2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CSEO3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN SOCIAL MEDIA  
MARKETING (CSMM)**



## Certificate in Social Media Marketing (CSMM)

### सर्टिफिकेट इन सोशल मीडिया मार्केटिंग (CSMM)

(A) Duration	:	4 Months	(D) Courses	:	03
(अ) अवधि	:	4 माह	(द) कोर्सेस	:	03
(B) Eligibility	:	10+2 or Equivalent	(E) Credit	:	Non-Credit
(ब) पात्रता	:	10+2 ; k l ed{k	(इ) क्रेडिट	:	नॉन क्रेडिट
(C) Contents and Scheme of Examination					
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना					

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CSMM1	Social Media Marketing सोशल मीडिया मार्केटिंग	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Learn Social Media Management</li> <li>Learn various Social Media Strategy</li> </ul>
CSMM2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CSMM3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

# Detailed Syllabus

## CSMM1- SOCIAL MEDIA MARKETING

- Social Media Marketing
- The Most Important Social Media Websites
- Blogging
- Social Media Engagement
- Social Media and Target Audience
- Sharing Content on Social Media
- Social Media Strategy
- Social Media & SEO
- Tools for managing Social Media
- Automation and Social Media

## CSMM2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CSMM3-Communication and Personality Development

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CSMM1	Social Media Marketing	Non-Credit	90	12	33	18	27
2	CSMM2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CSMM3	Communication and Personality Development	Non-Credit	30	4	17	-	9

## STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CSMM1	Social Media Marketing	-
2	CSMM2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CSMM3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN WEB ANALYTICS  
(CWA)**

## Certificate in Web Analytics (CWA)

### सर्टिफिकेट इन वेब एनालिटिक्स (CWA)

(A) Duration : 4 Months

(अ) अवधि : 4 माह

(D) Courses : 03

(द) कोर्सेस : 03

(B) Eligibility : 10+2 or Equivalent

(ब) पात्रता : 10+2 ; k l ed{k

(E) Credit : Non-Credit

(इ) क्रेडिट : नॉन क्रेडिट

(C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CWA1	Web Analytics वेब एनालिटिक्स	Non Credit	100	50	20	20	8	30	12	<ul style="list-style-type: none"> <li>Learn how to increase visibility of Website</li> <li>Understand basics of Web analytics</li> </ul>
CWA2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CWA3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS** - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
300	120

# Detailed Syllabus

## CWA1- WEB ANALYTICS

- Understanding Web Analytics
- Using Web Analytics
- Google Web Analytics Basics
- Increase visibility of your Website
- Web Analytics Methods
- Social Media Analytics
- Mobile Analytics
- Analyzing Analytical Data
- Web Analytics: Best Practices

## CWA2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work:** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene:** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CWA3-COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership

## COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CWA1	Web Analytics	Non-Credit	90	12	33	18	27
2	CWA2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CWA3	Communication and Personality Development	Non-Credit	30	4	17	-	9

## STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CWA1	Web Analytics	-
2	CWA2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CWA3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN C++ (CC)**



## Certificate in C++ (CC)

### सी++ में सर्टिफिकेट (CC)

(A) Duration : 3 Months  
(अ) अवधि : 3 माह

(B) Eligibility : 10<sup>th</sup> Pass  
(ब) पात्रता : 10वीं पास

(C) Contents and Scheme of Examination  
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

(D) Courses : 03  
(द) कोर्सेस : 03

(E) Credit : Non-Credit  
(इ) क्रेडिट : नॉन क्रेडिट

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CC1	OOPs Concepts and Programming in C++ ऊप्स कन्सेप्ट्स एवं सी++ में प्रोग्रामिंग	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand the difference between procedure oriented programming &amp; OOPs .</li> <li>Ability to construct, compile, link &amp; execute the C++ programs.</li> <li>Understand function declaration and pointer.</li> </ul>
CC2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CC3	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
300	120

# Detailed Syllabus

## CC1 - OOPS CONCEPTS & PROGRAMMING IN C++

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 ,Turbo C++ IDE Creating the Source File, Compiling, Linking and executing.

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++, Conditional statements, various loops in C++, Arrays, string processing in C++, Scope Resolution Operator, Member Dereferencing Operators, Manipulators, Type Cast Operator, Expressions and Implicit Conversions, Operator Precedence, Control Structures.

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

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.

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.

The C++ I/O system basics : C++ streams, The basic stream classes: C++ predefined streams, Formatted I/O: Formatting using the ios members, Setting the format flags, Clearing format flags, An overloaded form of setf ( ), Examining the formatted flags, Setting all flags, Using width ( ) precision ( ) and fill ( ), Using manipulators to format I/O.

## CC2- SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

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Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

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**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

### CC3-COMMUNICATION AND PERSONALITY DEVELOPMENT

#### Grammar:

Parts of Speech, - Articles and Determiners, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

#### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

### COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CC 1	Oops Concepts and Programming in C++	Non-Credit	120	16	68	36	-
2	CC 2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CC 3	Communication and Personality Development	Non-Credit	30	4	26	-	-

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CC 1	Oops Concepts & Programming in C++	S30 - OOPs & C++
2	CC 2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CC 3	Communication and Personality Development	S68: Effective Communication & Personality Development

**CERTIFICATE IN COMPUTER  
CONCEPTS (CCC)**

## Certificate in Computer Concepts (CCC)

1 VhQdV bu dE; Wj dM IVl (CCC)

(A) Duration : 3 Months  
1/2 vof/k : 3elg

(B) Eligibility : 10<sup>th</sup> Pass  
1/2 ik=rk : 10ohikl

(C) Contents and Scheme of Examination  
1/2 ikB; Øefo"kk l ph , oajhkk ; kt uk

(D) Courses : 05  
1/2 dk 1 : 05

(E) Credit : Non-Credit  
1/2 ØfMV : ukWØfMV

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CCC1	Fundamentals of Computers & Information Technology सूचनातकनीक एवं कम्प्यूटर से परिचय	Non-Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Understand functions, components of a computer system, storage devices &amp; their physical structure &amp; working.</li> <li>Understand operating system &amp; file system</li> <li>Understand &amp; use computer networks</li> </ul>
CCC2	Safety Practices in the Work Environment कार्यपरिवेश में सुरक्षा प्रबन्ध	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CCC3	Operating System (DOS, Windows)&MS-Office (Word, Excel, Powerpoint) ऑपरेटिंगसिस्टम (डॉस, विंडोज़)एवं एम.एस. ऑफिस (वर्ड, एक्सेल, पॉवरपाइंट)	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand booting process of OS &amp; file system, installation</li> <li>Understand Windows: accessories &amp; system tools.</li> <li>Understand advanced features of Windows &amp; setup Network connection.</li> <li>Ability to use advanced features in MS Word like inserting word art, shapes, clipart, charts, smart arts, symbols, graphs etc. in a document/slide.</li> <li>Understand using various formulas, function in Excel.</li> </ul>

										<ul style="list-style-type: none"> <li>Understanding importing &amp; exporting excel sheets to/from various formats</li> </ul>
CCC4	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non-Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>
CCC5	Internet and E-mail इंटरनेट एवं ई-मेल	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand basics of web browsers, concepts of search engines and web protocols.</li> <li>Ability to install &amp; configure email client software</li> <li>Understand data transmission protocols, client-server architecture, FTP and its usages</li> <li>Understand know-how of HTML, design tools, HTML editors, various issues in website creation and maintenance, FTP software for uploading website</li> <li>Ability to comprehend HTML, concepts, versions, elements, tags etc.</li> <li>Ability to create effective and structured web pages using HTML</li> <li>Familiarity with MS front page/Macromedia Dreamweaver/ MS expression web etc HTML editors.</li> </ul>

**Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.**

Grand Total	Pass
500	200

## **Detailed Syllabus**

### **CCC1 - FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY**

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/Output their functions and characteristics, instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/Output & Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band, Types of Network - LAN, WAN, MAN, Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control,



Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.

## **CCC2: SAFETY PRACTICES IN THE WORK ENVIRONMENT**

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## **CCC3 - OPERATING SYSTEMS (DOS, WINDOWS) & MS OFFICE (WORD, EXCEL, POWERPOINT)**

Fundamentals of operating system, definition and need. Main Services of operating system, various types of operating system, (definition and characteristics), multitasking, multiprocessing, multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

**DISK OPERATING SYSTEMS (DOS) -** Introduction, History & versions of DOS DOS basics-Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.

DOS commands: Internal - DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.

External Commands - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc

**WINDOWS** - Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (**XP or Windows 7**) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders .My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, Volume Control.Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software –Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication –Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial ,Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

**MS Word Basics:** Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles,Text Attributes; Paragraph and Page Formatting- Using page border and watermark, Text Editing using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options

**Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and Samrt Arts, symbol in Document. Using Macros in Word- Record, edit and run macros.

**MS Excel:** Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations using various type of

functions-Logical, string, date & time, maths and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types; Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet-Record, edit and run macros.

**MS PowerPoint:** Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Insert WordArt and other objects like shapes, clipart, charts and SmartArts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

## CCC4 - COMMUNICATION AND PERSONALITY DEVELOPMENT

### **Grammar:**

Parts of Speech, - Articles and Determiners, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## CCC5 - INTERNET AND E-MAIL

Internet: Evolution, Concepts, Internet Vs Intranet, Growth of Internet, ISP, ISP in India, Types of connectivity - Dial-up, Leased line, DSL, Broadband, RF, VSAT etc., Methods of sharing of Internet connection, Use of Proxy server.

Internet Services – USENET, GOPHER, WAIS, ARCHIE and VERONICA, IRC

WORLD WIDE WEB (WWW) - History, Working, Web Browsers, Its functions, Introduction to various Browsers in the Market - Internet Explorer, Mozilla Firefox, Google Chrome, etc. Getting started, Finding information on the Internet – Search engines – Working principle of search engines, Search engines types, finding information with Google, Bing, Altavista, Yahoo, Rediff etc. Security and privacy features in browsers, Marking and Managing favorites, Customize browser settings, Managing add-ons and ActiveX controls, Update browser, Working with browser settings.

TCP/IP and others main protocols used on the Web.

Concepts of Hypertext, HTML introduction, features, uses & versions Using various HTML tags, Elements of HTML syntax, Head & Body Sections,, Inserting texts, Text alignment, Using images in pages, Hyperlinks – text and images, bookmarks, Backgrounds and Color controls, creating and using Tables in HTML, and presentation, Use of font size & Attributes, List types and its tags.

Introduction to WYSIWYG Design tools for HTML, Overview of MS FrontPage, Macromedia Dream weaver, and other popular HTML editors, designing web sites using MS FrontPage/Expression Web.

Cascading Style sheets – defining and using simple CSS.

E - Commerce An introduction, Concepts, Advantages and disadvantages, Technology in E-Commerce, Internet & E-business, Applications, Feasibility & various constraints.

E-security – Security on the internet, network and web site risks for e-business, use of firewalls, secure physical infrastructure.

E-Mail: Concepts, POP and WEB Based E-mail, merits, address, Basics of Sending & Receiving, E-mail Protocols, Mailing List, Free E-mail services, e-mail servers and e-mail clients programs. Creating messages, Attaching documents with e-mail,, Customizing messages, Sending your messages, add tracing to your message, Maintaining and Using Address book, Apply Junk e-mail filter, Replying to messages, add graphics and images to your messages, Flagging messages, Using Signatures in emails, Send/Receive e-mails to groups, add and remove contacts, import contacts, print email messages, create emails in Indian languages.

### COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CCC 1	Fundamental of Computers & Information Technology	Non-Credit	60	8	52	-	-
2	CCC 2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CCC 3	Operating System (DOS, Windows) & MS-Office (Word, Excel, PowerPoint)	Non-Credit	60	8	34	18	-
4	CCC 4	Communication and Personality Development	Non-Credit	30	4	26	-	-
5	CCC 5	Internet & E - mail	Non-Credit	60	8	34	18	-

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CCC 1	Fundamentals of Computers & Information Technology	S01 - Fundamentals of Computers & Information Technology
2	CCC 2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CCC 3	Operating Systems (DOS, Windows)&MS-Office (MS-Word, Excel, PowerPoint)	S02 - Disk Operating System S18 - MS-Windows S19 - MS-Word S20 - MS-Excel S25 - MS-Power Point
4	CCC 4	Communication and Personality Development	S68: Effective Communication & Personality Development
5	CCC 5	Internet & E-mail	S27 - Internet

**CERTIFICATE IN APPLICATION  
SOFTWARE (CAS)**

## Certificate in Application Software (CAS)

1 fVZQdV bu , Iyhd\$ku l Wos j (CAS)

(A) Duration : 3 Months	(D) Courses : 06
1/2 vof/k : 3 ek	1/2 dk 1 : 06
(B) Eligibility : 10 <sup>th</sup> Pass	(E) Credit : Non-Credit
1/2 i k=rk : 10ohai k	1/2 ØfMV : uW ØfMV

### (C) Contents and Scheme of Examination

1/2 i B; Øe fo" k l ph , oaijh k ; k uk

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CAS 1	Fundamental of Computer & Information Technology सूचना तकनीक एवं कम्प्यूटर से परिचय	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Understand the functions, characteristics &amp; basic components of a computer system.</li> <li>Know-how of various peripherals, storage devices &amp; understand their physical structure &amp; working.</li> <li>Understand operating system &amp; file system basics</li> <li>Understand &amp; use computer networks</li> </ul>
CAS 2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with electrical safety, fire safety, first aid, food</li> </ul>

										safety, primary health and basic hygiene
CAS 3	Operating System (DOS, Windows) & MS-Office (Word, Excel, PowerPoint) ऑपरेटिंग सिस्टम (डॉस, विंडोज़) & एम. एस. ऑफिस (वर्ड, एक्सेल, पावरपाइंट)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Understand booting process of OS &amp; file system, installation</li> <li>• Understand Windows: accessories &amp; system tools.</li> <li>• Understand advanced features of Windows &amp; setup network connection.</li> <li>• Understand creation &amp; printing a document/ presentation &amp; excel sheet in MS Office.</li> <li>• Ability to use advanced features in MS Word like inserting word art, shapes, clipart, charts, smart arts, symbols, graphs etc. in a document/slide.</li> <li>• Understand using various formulas, function in Excel.</li> <li>• Importing &amp; exporting excel sheets to/from various formats.</li> </ul>
CAS 4	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>• Basic communication skills</li> <li>• Personality grooming</li> </ul>
CAS 5	Internet and E-mail इंटरनेट एवं ई-मेल	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Narrate evolution of internet, WWW- History &amp; working.</li> <li>• Understand basics of web browsers, concepts of search engines and web protocols.</li> </ul>



										<ul style="list-style-type: none"> <li>● Familiarity with the use of FTP.</li> <li>● Understanding of Unix/Linux &amp; Windows based web servers</li> </ul>
CAS 6	Introduction to Application Software (Choose any one from Photoshop, PageMaker, Corel Draw, Tally, Outlook Express, MS Access & AutoCad) एप्लीकेशन सॉफ्टवेयर से परिचय (फोटोशॉप, पेजमेकर, कोरल ड्रा, टैली, आउटलुक एक्सप्रेस, एमएस एक्सेस एवं आटोकेड में से किसी एक का चयन करें)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>● Ability to comprehend &amp; use any one application software</li> </ul>

**Note : For a PASS** - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
600	240

## **Detailed Syllabus**

### **CAS1 - FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY**

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/Output their functions and characteristics. instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/Output & Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control,

Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.

## **CAS2 - SAFETY PRACTICES IN THE WORK ENVIRONMENT**

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## **CAS3 - OPERATING SYSTEMS & MS OFFICE**

Fundamentals of operating system, definition and need. Main Services of operating system, various types of operating system, (definition and characteristics), multitasking, multiprocessing, multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

**DISK OPERATING SYSTEMS (DOS) -** Introduction, History & versions of DOS DOS basics-Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.

DOS commands: Internal - DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.

External Commands - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc

WINDOWS - Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (**XP or Windows 7**) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders .My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, Volume Control. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software –Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication –Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial, Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

**MS Word Basics:** Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting- Using page border and watermark, Text Editing using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options

**Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and SamrtArts, symbol in Document. Using Macros in Word- Record, edit and run macros.

**MS Excel:** Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations using various type of functions-Logical, string, date & time, maths and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types;

Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet-Record, edit and run macros.

**MS PowerPoint:** Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Insert WordArt and other objects like shapes, clipart, charts and SmartArts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

## **CAS4-COMMUNICATION AND PERSONALITY DEVELOPMENT**

### **Grammar:**

Parts of Speech, - Articles and Determiners, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## **CAS5 - INTERNET AND E-MAIL**

Internet: Evolution, Concepts, Internet Vs Intranet, Growth of Internet, ISP, ISP in India, Types of connectivity - Dial-up, Leased line, DSL, Broadband, RF, VSAT etc., Methods of sharing of Internet connection, Use of Proxy server.

Internet Services – USENET, GOPHER, WAIS, ARCHIE and VERONICA, IRC

WORLD WIDE WEB (WWW) - History, Working, Web Browsers, Its functions, Introduction to various Browsers in the Market - Internet Explorer, Mozilla Firefox, Google Chrome, etc. Getting started, Finding information on the Internet – Search engines – Working principle of search engines, Search engines types, finding information with Google, Bing, Altavista, Yahoo, Rediff etc. Security and privacy features in browsers, Marking and Managing favorites, Customize browser settings, Managing add-ons and ActiveX controls, Update browser, Working with browser settings.

TCP/IP and others main protocols used on the Web.

Concepts of Hypertext, HTML introduction, features, uses & versions Using various HTML tags, Elements of HTML syntax, Head & Body Sections,, Inserting texts, Text alignment, Using images in pages, Hyperlinks – text and images, bookmarks, Backgrounds and Color controls, creating and using Tables in HTML, and presentation, Use of font size & Attributes, List types and its tags.

Introduction to WYSIWYG Design tools for HTML, Overview of MS FrontPage, Macromedia Dream weaver, and other popular HTML editors, designing web sites using MS FrontPage/Expression Web.

Cascading Style sheets – defining and using simple CSS.

E - Commerce An introduction, Concepts, Advantages and disadvantages, Technology in E-Commerce, Internet & E-business, Applications, Feasibility & various constraints.

E-security – Security on the internet, network and web site risks for e-business, use of firewalls, secure physical infrastructure.

E-Mail: Concepts, POP and WEB Based E-mail, merits, address, Basics of Sending & Receiving, E-mail Protocols, Mailing List, Free E-mail services, e-mail servers and e-mail clients programs. Creating messages, Attaching documents with e-mail,, Customizing messages, Sending your messages, add tracing to your message, Maintaining and Using Address book, Apply Junk e-mail filter, Replying to messages, add graphics and images to your messages, Flagging messages, Using Signatures in emails, Send/Receive e-mails to groups, add and remove contacts, import contacts, print email messages, create emails in Indian languages.

## **CAS6 - INTRODUCTION TO APPLICATION SOFTWARE**

(Choose any one from –Photoshop, PageMaker, CorelDraw, Tally, Outlook Express, MS-Access& AutoCad)

### **PHOTOSHOP**

Adobe Photoshop : introduction, features, starting Photoshop, interface details, open an image, navigation and viewing modes, Rulers and guides, saving image, close Photoshop.

Digital Image basics - Introduction, file size, modes and channels, bit depth, Hue, Saturation and Brightness, colors and light, file formats, resolution, calculate file size, re-sampling, RGB and CYMK model, printer setting, preview images, convert to grayscale. printing document.

Layers : introduction, layer types, channels, adjustment layers, layer mask, working with layers and masks, layer blends, sample blend, advanced bending techniques using selection tools, modify your selection, saving and loading selections, feather and anti alias, defringe and matting, Using Magic wand, quick mask, color range, channel masking, extract filter controlling tones, retouching images, using special effects - Layer comps, Gradient maps, cast shadow, posterization, cross process effect, digital diffusion Using filters. Using Text in Photoshop, apply effects on Text, Creating vector graphics in Photoshop, Creating Images for the Web - factors for creating images for Web.

Image slicing for Web. Save file as PDF.

### **PAGEMAKER**

Introduction, features of PageMaker, Versions of PageMaker, Starting PageMaker, Understanding Interface, Create a New Document, Document Setup, Writing Text, rules and guidelines,, display modes of pages, Saving Document, Closing PageMaker.

Drawing Text Box, Writing Text, Insert Pages, Place Text, Format Text, Reverse Text, Align Text, Insert and delete pages. Flow Text in linked text box. Using toolbox, setting tabs. Using Toolbar, Importing text and graphics, wrapping text around picture, Paragraph level formatting, Multiple publication windows, Using Story Editor, Editor an existing story, creating a new story, using story editor efficiently.

Checking spelling, Find and replace, View page and zooming, Grouping and arranging objects, Using styles, using predefined styles, creating new style, using style effectively, Using Document Master Pages

Working with columns, working with tables, layers and tables, redefining objects, ways to geometrical figures, coloring texts and geometrical figures, mask objects, master pages and pagination, numbering of pages, creating header and footer, summary and index, combining documents, creating a book, printing a book, printing and distributing publications,

Creating different type of document using PageMaker - Visiting cards, Letterheads, Magazines, 2 and 3 fold brochures, Marriage cards and envelopes, Technical documents, Banner etc.

Printing document as PostScript, EPS and PDF format.

## **CORELDRAW**

Introduction to CorelDraw – Understanding vector drawing, various features of CorelDraw, Understanding Interface – Menu bar, Property bar, Toolbar, Title bar, Rulers, Toolbox, Drawing window, Drawing page, Docker window/palette, Color palette, Status bar, Document navigator, Navigator, CorelDRAW terminology and concepts, CorelDraw workspace tools

Creating a New document, Open a previous built document, use prebuilt templates, draw some object, write some text using text tool, import graphics and text in document, arrange objects, filled in color, resizing objects, undo, redo and repeat action, save file, backup a file, export a file, zoom view, close file.

Drawing objects – making square, rectangle, circles, triangles and other basic shapes, fill color, fill patterns, grouping objects, select, move copy and resizing objects, cloning objects, making lines & curves, Bezier curve, eraser use, Polly tool, brush mode, calligraphic mode, preset mode, spray mode, artistic media tools, text and object creation & removal, making spiral and arrow shapes, flowchart shapes,, star shapes etc, create callout, making graph paper.

Page and document setup – page size, layout, background setup, insert a page, delete a page, using rulers, grids and guidelines.

Filling and patterns- Filling objects with colors and pattern, using solid, bitmap, wignnet, postscript colors and patterns, interactive and mash fills.

Using Text – Insert Text, Using Fonts and Sizes, Editing Text, Aligning and spacing text, Setting colors, Text fitting on Path, Changing case of text, text skew and rotation, transform text, rotate text, find and replace text, Wrapping paragraph text around objects and text, Working with symbols.

Special Effects – Envelop tool, blending, PowerClip, shadow, transparencies, distortion tools, smudge tool, cantor tool, lens effect, convert bitmap to vector, bitmap filter, creation a Wignnet.

Creating Web-enabled objects with CorelDraw, Creating Web pages in CorelDraw, Using Web safe palette, Save Document in HTML format, Image Optimization for Web, bookmark creation, hyperlink documents, Publishing to the Web.

Printing in CorelDraw – Print document from coreldraw, PS file, EPS file, PDF file, Print Preview, Color separation.

## **TALLY**

Basic Concepts of Accounting, Financial Statements, Financial Statement Analysis, Cost Centre, Basic concepts of Inventory Tally Configuration & INI setup, Data Directory & Folders configuration, Single & Multiple User, Tally Screen Components, Mouse / Keyboard Conventions & Key, Combinations, Switching between screen areas, Quitting Tally. Maintaining Company Data, Basic Company Details, Create/ Alter/ Select/ Load/ Close a Company, Chart of Accounts, Company Features, Configuration.

Create, Alter & Display Groups and Ledgers, All accounting voucher types and transactions, Create and Alter new Voucher type, Item and Account Invoice transactions, Excise Invoice, Export Invoice, Transactions using Bill-wise details Create, Alter & Display Cost Centre and Cost Categories, Cost centre & Cost Category allocation in voucher entry, Creating Cost centre Class, Invoice entry in a Class situation, Create, Alter & Delete Foreign Currencies, Voucher entry using foreign currency, Bank Reconciliation, Interest calculations using simple & advance parameters,

Interest calculations on outstanding balances & on invoices, Use of voucher class, adjustment of interest, Creation of voucher class, Invoice entry in a class situation.

Create, Alter & Delete Budgets for groups, ledgers & cost centres, Defining credit limit & credit period, Display Budgets & variances, Create, Alter & Delete a scenario. Enabling Job Costing in Tally, Master creation & configuration for Job costing, Creation of Voucher type & Voucher class for Stock Transactions, Creation of Transfer journal for transfer of stock between godowns, Consumption journal Transactions, payment

Voucher, Godown summary Report, Job Work Analysis, Material consumption summary. Reports like balance sheet, Profit & Loss account, Ratio analysis, Trial Balance. Accounts books like cash/bank book, All ledgers, Group summary & vouchers, Sales, purchase & journal registers, Cost centre & category summary, Cost centre breakup, ledger & group breakup, outstanding receivables & payables, interest receivable & payable, Statistics, Cash & Fund flow, Day book, List of Accounts, Reversing journals, optional vouchers, post-dated vouchers.

Create, Alter & Display Stock Groups and Stock Items, Stock item behaviour using costing and market valuation method, other behaviour like treating all sales as new manufacture, treating all purchases as consumed, treating all rejections inward as scrap, ignoring negative balances, Treating difference due to physical counting, Create, Alter & Display Stock categories, Create, Alter, Display simple & compound units of measures, Stock items using alternate units, Defining standard cost & selling price, Defining Rate of duty, Defining MRP, Create, Alter & Display Godowns, Allocation of items to the Godowns, All inventory voucher types and transactions, Inventory details in accounting vouchers, Defining re-order level, Transactions using tracking numbers, Use of batch-wise details in voucher, Additional cost details in vouchers, Creating Bill of material, Cost estimation, Creating Price list & defining Price levels, invoice using Price list, Zero valued entries, Transactions in case of Different actual & billed quantities. Reports like Stock summary, Inventory books like Stock item, Group summary, Stock transfers, Physical stock register, Movement analysis, Stock group & item analysis, stock category analysis, Ageing analysis, Sales order & Purchase order book, Statement of inventory related to Godowns, categories, stock query, Reorder status, Purchase & Sales order summary, Purchase & Sales bill pending, Exception reports like negative stock & ledger, overdue receivables & payables, memorandum vouchers, optional vouchers, post-dated vouchers, reversing journals.

Cheque Printing, Common printing options, Different printing formats, Multi-Account printing, Dynamic- Report specific options. Creating Group company, Use of Tally vault, Using Security control & defining different security levels, Use of Tally Audit. Back-up & Restore, Splitting company data, Export & import of Data, ODBC compliance, use of E-mail, Internet publishing, Upload, web browser & online help, Re-write data.

## **OUTLOOK EXPRESS**

**Introducing Outlook 2007 :** New features in outlook 2007, Configuring an outlook account, Outlook 2007 user interface, Changing the current view, Arranging items inside the content pane, Auto-previewing items in the content pane, Performing an instant search, Changing the send /receive settings, Customizing outlook, Getting help in outlook 2007, Existing outlook 2007.

**Working with E-mails :** Creating a new e-mail message, Creating and adding signatures, Setting other message options, Sending messages, Viewing received messages, Responding to a message, Working with junk e-mails, Printing a message.

**Adding and Managing Contacts :** Creating a new contact, Adding a picture to a contact, Recording journal entries, Working with distribution lists, Sharing contact information, Importing a list of contacts from other programmes.

**Working with Calender :** Viewing your calendar, Working with appointments, Planning a meeting, Scheduling an event, Adding holidays to your calendar, Sharing calendar information



**Working with Tasks and Notes :**Creating a task, Setting a task as a recurring task. Assigning a task, Viewing your assigned tasks, Marking a task as complete, Sending status report about an assigned task, Creating notes, Viewing notes.

**Managing Files and Folders :** Setting the start up folder, Creating a new folder, Viewing items and folders using outlook today, Copying an item to another folder, Moving an item to another folder, Creating a message rule, Archiving data, Importing and exporting items, Backing up and restoring a data file, Cleaning up the mailbox, Emptying out the deleted items folder, Setting security and privacy options.

## **MS ACCESS**

**Getting Started with Microsoft Access 2010 :** Introducing a database, Exploring new and enhanced features of MS Access 2010, Exploring the database objects, Starting MS Access 2010, Introducing the file tab (backstage view), Creating a database, Opening an existing database, Exploring the MS Access 2010 user interface, Getting help in MS Access 2010, Exploring MS Access 2010, Closing a database and quitting MS Access 2010.

**Introduction to Tables in Microsoft Access 2010 :** Creating a table, Saving a table, Working with fields in a table, Understanding data types, Entering records in a table, Adding validation to the table, Understanding the primary and foreign keys, Understanding the relationship between tables.

**Working with Queries :**Introducing query types, Creating a query, Saving a query, Working with fields in a query, Specifying criteria in a query field, Working with the action query.

**Creating Forms in MS Access 2010 :**Introducing forms, Creating forms in MS Access 2010, Saving and closing a form, Creating some special types of forms, Introducing controls in a form, Classifying the form controls, Working with views in a form, Displaying the header and footer, Formatting a form, Modifying a form.

**Creating Reports in MS Access 2010 :**Working with reports, Saving a report, Exploring views in a report, Formatting a report, Working with page setup in a report, Previewing and printing a report.

**Importing, Linking and Exporting Data in MS Access 2010 :**Importing data, Linking the Access database, Exporting data.

## **AUTOCAD**

**Create a simple drawing -** Starting AutoCAD, AutoCAD's screen layout, Command line and using the keyboard, Using your pointing device, Opening an existing drawing file, AutoCAD's Cartesian workspace, Drawing lines, Erasing objects, Drawing lines with Direct Distance Entry and Polar Tracking, Drawing rectangles, Drawing circles, Drawing with Grid and Snap, Viewing your drawing, Undo, Saving your work, Exiting AutoCAD, Command summary. [Practice exercises will follow each topic so the student will understand and use the command or function immediately after it is explained and discussed. Project exercises will be assigned as needed. Student will practice on specific drawings related to Outcomes and Indicators. Testing to evaluate successful accomplishment of stated Outcome and Indicators].

**Making your drawings more precise -** Using Object Snaps, Object Snap Overrides, Polar Tracking settings, Object Snap tracking, Command summary, Selecting objects for, editing, Moving objects, Copying objects, Rotating objects, Scaling objects, Command summary. [ Practice exercises and will follow each topic so the student will understand and use the command or function immediately after it is explained and discussed. Student will practice on specific drawings related to Outcomes and Indicators. Testing to evaluate successful accomplishment of stated]

**Drawing organization and information** - Creating new drawings with templates, What are layers?, Layer state, Changing an objects layer, Command summary, Drawing arcs, Polylines, Converting polylines to lines and arcs. Converting lines and arcs to polylines, Command summary, Measuring a distance, Measuring an area, Information about objects, Command summary. [Practice exercises and will follow each topic so the student will understand and use the command or function immediately after it is explained and discussed. Project exercises will be assigned as needed. Student will practice on specific drawings related to Outcomes and Indicators. Testing to evaluate successful accomplishment of stated Outcome and Indicators].

**Creating more complex objects** – Trim, Extend, Fillet, Chamfer, Offsetting objects, Mirroring objects, Creating arrays of objects, Command summary, What are blocks?, Inserting blocks, Using Design Center to insert blocks [Practice exercises and will follow each topic so the student will understand and use the command or function immediately after it is explained and discussed. Project exercises will be assigned as needed. Student will practice on specific drawings related to Outcomes and Indicators. Testing to evaluate successful accomplishment of stated Outcome and Indicators].

**Preparing to print** - Printing concepts, Working in layouts, Creating a new layout, Guidelines for layouts, Command summary, Plot command, Plot settings, Plot preview, Command summary. [Practice exercises and will follow each topic so the student will understand and use the command or function immediately after it is explained and discussed. Project exercises will be assigned as needed. Student will practice on specific drawings related to Outcomes and Indicators. Testing to evaluate successful accomplishment of stated Outcome and Indicators].

**Annotating your drawing** - Adding multi-line text, Formatting multi-line text, Editing multi-line text, Other text tools, Spell checking, Command summary, Hatching, Editing hatch patterns, Command summary, Dimension concepts, Adding single dimensions, Other dimension tools, Quick dimensions, Basic leaders, Editing dimensions, Selecting a dimension style, Command summary

## COUNSELING AND STUDY STRUCTURE

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CAS 1	Fundamental of Computers & Information Technology	Non- Credit	60	8	52	-	-
2	CAS 2	Safety Practices in the Work Environment	Non- Credit	30	4	17	9	-
3	CAS 3	Operating System (DOS, Windows) & MS-Office (Word, Excel, PowerPoint)	Non- Credit	60	8	34	18	-
4	CAS 4	Communication and Personality Development	Non- Credit	30	4	26	-	-
5	CAS 5	Internet and E-Mail	Non- Credit	60	8	34	18	-
6	CAS 6	Introduction to Application Software ( Choose any from Photoshop, PageMaker, Corel Draw, Tally, Outlook Express, MS Access & AutoCad)	Non- Credit	60	8	34	18	-

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CAS 1	Fundamentals of Computers and Information Technology	S01 - Fundamentals of Computers & Information Technology
2	CAS 2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CAS 3	Operating Systems (DOS, Windows) & MS Office (MS Word, Excel, PowerPoint)	S02 - Disc Operating System S18 - MS-Windows, S19 - MS Word S20 - MS Excel S25 - MS PowerPoint
4	CAS 4	Communication and Personality Development	S68: Effective communication & personality development
5	CAS 5	Internet and E-mail	S27 - Internet
6	CAS 6	Introduction to Application Software (Choose any one from Photoshop, PageMaker, Corel Draw, Tally, Outlook Express, MS Access & AutoCad)	i) V24 : Photoshop ii) S09 : DTP & Pagemaker iii) Corel Draw X4 in Simple Steps by Kogent Solutions Inc iv) S51- Introduction to Financial Accounting v) S 71 – MS Access 2010 vi) S 70 – MS Outlook 2013 vii) A to Z AutoCad, by Hemant Goyal, Ravi Pocket Books (Hindi)  AutoCad 2010 in Simple Steps, by Kogent Learning Solutions, Dreamtech (English)

**CERTIFICATE FOR DATA  
ENTRY OPERATOR (CDEO)**

## CERTIFICATE FOR DATA ENTRY OPERATOR (CDEO)

1 fVZQdV QkV MVk , W h v kVj Vj (CDEO)

(A) Duration : 3 Months  
1/2 vof/k : 3 elg

(B) Eligibility : 10<sup>th</sup> Pass  
1/2 i k=rk : 10o h i k l

(C) Contents and Scheme of Examination

1/2 i k B; Øefo" k l ph , o a j h k योजना

(D) Courses : 05  
1/2 d k 1 : 05

(E) Credit : Non-Credit  
1/2 Ø f M V : u k W Ø f M V

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CDEO1	Fundamentals of Computers & Information Technology सूचनातकनीक एवं कम्प्यूटर से परिचय	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Understand functions of components of a computer, system, storage devices &amp; their physical structure &amp; working.</li> <li>Understand operating system &amp; file system</li> <li>Understand &amp; use computer networks</li> </ul>
CDEO2	Safety Practices in the Work Environment कार्यपरिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CDEO3	Operating System (DOS, Windows) ऑपरेटिंगसिस्टम (डॉस, विंडोज)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand booting process of OS &amp; file system, installation</li> <li>Understand Windows: accessories &amp; system tools.</li> <li>Understand advanced features of Windows &amp; Setup Network connection.</li> </ul>
CDEO4	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>

CDEO5	MS-Office (Word, Excel, PowerPoint) एम.एस. ऑफिस (वर्ड, एक्सेल, पावरपॉइंट)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Understand creation &amp; printing a document/presentation &amp; excel sheet in MS Office.</li> <li>• Ability to use advanced features in MS Word like inserting word art, shapes, clipart, charts, smart arts, symbols, graphs etc. in a document/slide.</li> <li>• Ability to use various formulas, function in Excel.</li> <li>• Understand importing &amp; exporting excel sheets to/from various formats.</li> </ul>
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**Note : For a PASS** - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
500	200

## **Detailed Syllabus**

### **CDEO1 - FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY**

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/Output their functions and characteristics. instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/Output & Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control,



Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.

## **CDEO2 - SAFETY PRACTICES IN THE WORK ENVIRONMENT**

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## **CDEO3 - OPERATING SYSTEMS**

Fundamentals of operating system, definition and need. Main Services of operating system, various types of operating system, (definition and characteristics), multitasking, multiprocessing, multiprogramming, real time, time sharing, parallel, network operating system, booting process, file system.

**DISK OPERATING SYSTEMS (DOS) -** Introduction, History & versions of DOS DOS basics-Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.

DOS commands: Internal - DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.

External Commands - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc

WINDOWS - Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (**XP or Windows 7**) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders .My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, Volume Control. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software –Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication –Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial ,Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

## **CDEO4-COMMUNICATION AND PERSONALITY DEVELOPMENT**

### **Grammar:**

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## **CDEO5 – MS OFFICE**

**MS Word Basics:** Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting- Using page border and watermark, Text Editing

using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options

**Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and SmartArts, symbol in Document. Using Macros in Word- Record, edit and run macros.

**MS Excel:** Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations using various type of functions-Logical, string, date & time, maths and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types; Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet-Record, edit and run macros.

**MS PowerPoint:** Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Insert WordArt and other objects like shapes, clipart, charts and SmartArts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

Introduction to WYSIWYG Design tools for HTML, Overview of MS FrontPage, Macromedia Dream weaver, and other popular HTML editors, designing web sites using MS FrontPage/Expression Web.

Cascading Style sheets – defining and using simple CSS.

E - Commerce An introduction, Concepts, Advantages and disadvantages, Technology in E-Commerce, Internet & E-bus

### COUNSELING AND STUDY STRUCTURE

S. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CDEO 1	Fundamental of Computers & Information Technology	Non-Credit	60	8	52	-	-
2	CDEO 2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CDEO 3	Operating System (DOS, Windows)	Non-Credit	60	8	34	18	-
4	CDEO 4	Communication and Personality Development	Non-Credit	30	4	26	-	-
5	CDEO 5	MS-Office (Word, Excel, PowerPoint)	Non-Credit	60	8	34	18	-

### STUDY MODULES & BOOKS INFORMATION

Sr. No	Course Code	Subject Name	Modules to be used
1	CDEO 1	Fundamentals of Computers & Information Technology	S01 - Fundamentals of Computers & Information Technology
2	CDEO 2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3	CDEO 3	Operating System, (DOS, Windows)	S02 - Disk Operating System S18 - MS-Windows
4	CDEO 4	Communication and Personality Development	S68: Effective Communication & Personality Development
5	CDEO 5	MS-Office (MS-Word, Excel, Power Point)	S19 - MS-Word, S20 - MS-Excel S25 - MS-Power Point

**CERTIFICATE IN DESK TOP  
PUBLISHING (CDTP)**

## Certificate in Desk Top Publishing (CDTP)

### सर्टिफिकेट इन डेस्क टॉप पब्लिशिंग (CDTP)

(A) Duration	:	03 Months	(D) Courses	:	06
1/2 वॉक	:	03 मं	1/2 कर्क	:	06
(B) Eligibility	:	10th Pass	(E) Credit	:	Non-Credit
1/2 कर्क	:	10वां क	1/2 कर्क	:	नॉन कर्क

### (C) Contents and Scheme of Examination

1/2 कर्क; के फॉर लॉक, ऑनलाइन; कर्क

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CDTP1	Fundamentals of Computers & Information Technology सूचना तकनीक एवं कम्प्यूटर से परिचय	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Understand functions and components of a computer system, storage devices &amp; their physical structure &amp; working.</li> <li>Understand operating system &amp; file system</li> <li>Understand &amp; use computer networks</li> </ul>
CDTP2	Safety Practices in the Work Environment कार्य परिवेश में सुरक्षा प्रबन्ध	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with safety, first aid, food safety, primary health and basic hygiene</li> </ul>
CDTP3	Operating System (DOS, Windows) & MS-Office (Word, Excel, PowerPoint) ऑपरेटिंग सिस्टम (डॉस, विन्डोज, माइक्रोसॉफ्ट ऑफिस)	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand booting process of OS &amp; file system, installation</li> <li>Understand Windows: accessories &amp; system tools.</li> </ul>

	विंडोज़,) & एम.एस. ऑफिस (वर्ड, एक्सेल, पावरपॉइंट)									<ul style="list-style-type: none"> <li>Understand advanced features of Windows &amp; setup network connection.</li> <li>Ability to use advanced features in MS Word like inserting word art, shapes, clipart, charts, smart arts, symbols, graphs etc. in a document/slide.</li> <li>Understand using various formulas, function in Excel.</li> <li>Understand importing &amp; exporting excel sheets to/from various formats.</li> </ul>
CDTP4	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Basic communication skills</li> <li>Personality grooming</li> </ul>
CDTP5	PageMaker पेजमेकर	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Understand features &amp; working with PageMaker.</li> </ul>
CDTP6	Photoshop फोटोशॉप	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with working of Photoshop</li> <li>Understanding of digital image basics</li> <li>Understand working with layers, masks &amp; selection tools</li> </ul>

**Note : For a PASS** - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
600	240

# Detailed Syllabus

## CDTP 1 -FUNDAMENTALS OF COMPUTERS & INFORMATION TECHNOLOGY

Brief history of computer, Definition of computer, characteristics of computer, applications of computer, computer v/s calculator, computer Vs human being, Types of computers Generations of computers, Basic components of a computer system - Control unit, ALU, Input/Output their functions and characteristics. Instruction cycle of computer.

Personal Computer (PCs) – evolution of PCs, configurations of PCs- PC/XT, AT, 486, Pentium computers and Newer, PCs, Motherboard and its various sections, use of Expansion slots and various types of extension cards, Introduction and main capabilities & characteristics of new microprocessors--Dual core, Core 2 duo and quad core processors, Memory –primary and secondary types of memory RAM, ROM, EPROM, PROM, Cache Memory, SDRAM, DDR, DDR2 etc.

Input/Output & Storage Units:- Introduction, types, functions and working principles of various I/O devices like - Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers and its types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Multi Functions Devices (MFD), Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Index Sequential and Direct Access, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, Utility Software, System Software - Operating System, Programming languages, Assemblers, Compilers and Interpreter, Introduction to various operating system for PCs—DOS, Windows, Linux etc.

File System basics – File Allocation Table (FAT & FAT 32), NTFS and ext3 file systems, files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files.

Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Graphics, Browsers, E-mail clients, Report Writers etc., characteristics, Uses and examples and area of applications of each of them.

Computer Virus - working principles, Types of viruses, virus detection and prevention, viruses on network, Viruses on Windows and Linux.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band ,Types of Network - LAN, WAN, MAN ,Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways. Internet & its working. Various services of Internet.

Computer Applications in Business-Need and Scope, Computer Applications in daily life, Sales, Marketing, advertising, GIS, Multimedia, Computer Applications in Classes, Virtual Classrooms, Computer applications in Offices, Information System for Accounting-Cost and Budgetary Control, Marketing and Manufacturing, Computer Applications in Materials Management, Insurance and Stock-broking, Production planning and Control, Purchasing, Banking, Credit and Collection, Warehousing. Use of computers in common public services and e-governance. Various e-governance initiatives in India.



## CDTP2-SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## CDTP 3-OPERATING SYSTEM (DOS, WINDOWS) AND MS-OFFICE (WORD, EXCEL, POWERPOINT)

**Disk Operating System (DOS) :** Introduction, History & versions of DOS DOS basics- Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.

**DOS Commands :** Internal - DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.

**External Commands -** CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc

**Windows :** Introduction to Windows, its various versions and features. Hardware requirements for various versions of Windows. Working with Windows (XP or Windows 7) Windows concepts, Windows Structure, Desktop, Taskbar, Start Menu, Working with files and folders, create, copy, delete, renaming and moving files and folders, working with recycle bin-restoring deleted files, emptying the recycle bin, searching files and folders .My computer, formatting floppy disks, Using CDROM Disk and Dives.

Using Windows Accessories programs- Calculator, Notepad, Paint, WordPad, Character map, Paint, Command line.

Using Media Player, Sound Recorder, Volume Control. Taking Printout from programs, Printer Properties, Add fonts to Windows (Specially adding Hindi Fonts and using them). Setting up Regional and Language settings in Windows.

Advanced features of Windows -Managing Hardware & Software – Add or remove Hardware devices to/from computer, Add/remove programs, Using Scanner, Web camera, sharing of printers.

System Tools - Backup, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information windows update.

Communication – Setting up Dial up Networking with Windows, Internet connection with Windows, Direct Cable Connection, Setting up TCP/IP properties, Hyper Terminal, Phone Dial ,Browsing the Web with internet explorer, communication through Outlook Express, Multiple Users Features of Windows. Creating and deleting user, changing user password etc. Accessibility Features of Windows.-Sharing Information between Programs, sharing folders and drives browsing the entire network, mapping windows shared drives, Using shared printers - Understanding OLE - Embed/Link Using Cut and Paste and Embed/Link Using Insert Object - Manage Embedded/Linked Object.

MS Word Basics: Introduction to MS Office; its components, Introduction to MSWord; Features & area of use. Working with MS Word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Saving document, Saving as different format, Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting- Using page border and watermark, Text Editing using various features ; Bullets, Numbering, Auto formatting, word count, various page view options, Printing & various print options.

Advanced Features of MS-Word: Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with section breaks and page breaks, Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References – footnotes, endnotes, and Table of contents, Insert drawing, Mail Merge, Envelops & Mailing Labels, protect and secure documents in MS Word, Working in different languages in MS Word. Using Unicode in MS Word, Insert WordArt and other objects like shapes, clipart, charts and SamrtArts, symbol in Document. Using Macros in Word- Record, edit and run macros.

MS Excel: Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Zooming, Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations using various type of functions-Logical, string, date & time, maths and other types; Cell Formatting including Borders & Shading; conditional formatting, sorting data items, Working with Different Chart Types; Printing of Workbook & Worksheets with various options. Import and export excel sheets to/from various format, add headers and footers, using macros in excel sheet- Record, edit and run macros.

MS PowerPoint: Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Insert WordArt and other objects like shapes, clipart, charts and SamrtArts, symbol in PowerPoint, Designing & Presentation of a Slide Show; Master slide, Adding custom animation and effects in your presentation, Add time to your slide, Slide Sorting, Printing Presentations, Notes, Handouts with print options, Package your presentation for CD.

## CDTP4-COMMUNICATION AND PERSONALITY DEVELOPMENT

Grammar: Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### **Written English:**

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## CDTP 5 -PAGEMAKER

Introduction, features of PageMaker, Versions of PageMaker, Starting PageMaker, Understanding Interface, Create a New Document, Document Setup, Writing Text, Rules and Guidelines, Display Modes of Pages, Saving Document, Closing PageMaker.

Drawing Text Box, Writing Text, Insert Pages, Place Text, Format Text, Reverse Text, Align Text, Insert and delete pages. Flow Text in linked text box. Using toolbox, setting tabs. Using Toolbar, Importing text and graphics, wrapping text around picture, Paragraph level formatting, Multiple publication windows, Using Story Editor, Editor an existing story, creating a new story, using story editor efficiently.

Checking spelling, Find and replace, View page and zooming, Grouping and arranging objects, Using styles, using predefined styles, creating new style, using style effectively, Using Document Master Pages.

Working with columns, working with tables, layers and tables, redefining objects, ways to geometrical figures, coloring texts and geometrical figures, mask objects, master pages and pagination, numbering of pages, creating header and footer, summary and index, combining documents, creating a book, printing a book, printing and distributing publications.

Creating different type of document using PageMaker - Visiting cards, Letterheads, Magazines, 2 and 3 fold brochures, Marriage cards and envelopes, Technical documents, Banner etc.

Printing document as PostScript, EPS and PDF format.

## CDTP 6 -PHOTOSHOP

Adobe Photoshop : introduction, features, starting Photoshop, interface details, open an image, navigation and viewing modes, Rulers and guides, saving image, close Photoshop.

Digital Image basics - Introduction, file size, modes and channels, bit depth, Hue, Saturation and Brightness, colors and light, file formats, resolution, calculate file size, re-sampling, RGB and CYMK model, printer setting, preview images, convert to grayscale. printing document.

Layers : introduction, layer types, channels, adjustment layers, layer mask, working with layers and masks, layer blends, sample blend, advanced bending techniques using selection tools, modify your selection, saving and loading selections, feather and anti alias, defringe and matting, Using Magic wand, quick mask, color range, channel masking, extract filter controlling tones, retouching images, using special effects - Layer comps, Gradient maps, cast shadow, posterization, cross process effect, digital diffusion.

Using filters. Using Text in Photoshop, apply effects on Text, Creating vector graphics in Photoshop, Creating Images for the Web - factors for creating images for Web.

Image slicing for Web. Save file as PDF.

### Counseling and Study Structure

Sl. No .	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CDTP 1	Fundamentals of Computer and Information Technology	Non-Credit	60	8	52	-	-
2	CDTP 2	Safety Practices in the Work Environment	Non-Credit	30	4	17	9	-
3	CDTP 3	Operating System (DOS, Windows) & MS Office (Word, Excel, PowerPoint)	Non-Credit	60	8	34	18	-
4	CDTP 4	Communication and Personality Development	Non-Credit	30	4	26	-	-
5	CDTP 5	Page Maker	Non-Credit	60	8	34	18	-
6	CDTP 6	Photoshop	Non-Credit	60	8	34	18	-

### Study Modules & Books Information

Sr. No.	Course Code	Subject Name	Modules to be used
1.	CDTP 1	Fundamentals of Computer and Information Technology	S 01 : Fundamentals of Computers and Information Technology
2.	CDTP 2	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
3.	CDTP 3	Operating System (DOS, Windows) & MS Office (Word, Excel, PowerPoint)	i) S 02 : Disc Operating System ii) MS Office (S 18 / S 19 / S 20 / S 25 : Windows / Word / Excel / PowerPoint)
4.	CDTP 4	Communication and Personality Development	S68: Effective Communication & Personality Development
5.	CDTP 5	Page Maker	S 09 : DTP and PageMaker
6.	CDTP 6	Photoshop	V 24 : Photoshop

**CERTIFICATE IN ITIL (CITIL)**  
**CERTIFICATE IN ITIL (CITIL)**

**Certificate in ITIL (CITIL)**  
**सर्टिफिकेट इन आईटीआईएल (CITIL)**

(A) Duration	:	07 Days	(D) Courses	:	02
(अ) अवधि	:	07 दिन	(द) कोर्सेस	:	02
(B) Eligibility	:	Graduate	(E) Credit	:	Non-Credit
(ब) पात्रता	:	ग्रेज्यूएट	(इ) क्रेडिट	:	नॉन क्रेडिट

**(C) Contents and Scheme of Examination**

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CITIL1	ITIL Core Concepts and Service Strategy आईटीआईएल कोर कॉन्सेप्ट्स एवं सर्विस स्ट्रेटजी	Non - Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>Understand the core concepts of ITIL like the service lifecycle &amp; the processes</li> <li>Knowledge of ITIL functions</li> <li>Sound knowledge of ITIL service strategy concepts and models</li> </ul>
CITIL2	ITIL Service Design आईटीआईएल सर्विस डिजाइन	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>Familiarity with concepts and models of ITIL service Design</li> <li>Ability to define service design processes</li> <li>Understand Service transition</li> <li>Knowledge about service transition processes</li> <li>Understanding of Service operation and Service operation processes</li> </ul>

										<ul style="list-style-type: none"> <li>• Able to define importance of Continual Service Improvement</li> </ul>
CITIL 3	Communication Skills & Personality Development	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> <li>• Familiarity with safety practice at workplace.</li> <li>• Knowledge about various hazards and their remedies...</li> <li>• Ensure clean, dust free and organized working environment.</li> <li>• Knowledge of Primary first aid for any accidental situation.</li> <li>• Understand about personal health and hygiene.</li> </ul>
CITIL 4	Safety Practices in the Work Environment	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> <li>• Basic communication skills.</li> <li>• Personality grooming.</li> <li>• Responding to customer queries Effectively</li> <li>• Understand customer's requirements.</li> </ul>

**Note : For a PASS** - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
200	80



# Detailed Syllabus

## CITIL 1- ITIL CORE CONCEPTS AND SERVICE STRATEGY

Introduction, IT service management in the modern world, About ITIL 4, The structure and benefits of the ITIL 4 framework, The ITIL SVS, The four dimensions model, Key concepts of service management, Value and value co-creation, Value co-creation, Organizations, service providers, service consumers, and other stakeholders.

Service providers, Service consumers, Other stakeholders, Products and services, Configuring resources for value creation, Service offerings, Service relationships, The service relationship model, Value: outcomes, costs, and risks, Outcomes, Costs, Risks

The four dimensions of service management, Organizations and people, Information and technology, Partners and suppliers, Value streams and processes, Value streams for service management, Processes, External factors

The ITIL service value system, Service value system overview, Opportunity, demand, and value, The ITIL guiding principles, Focus on value, Start where you are, Progress iteratively with feedback, Collaborate and promote visibility, Think and work holistically, Keep it simple and practical, Optimize and automate, Principle interaction, Governance, Governing bodies and governance, Governance in the SVS, Service value chain, Plan, Improve, Engage, Design and transition

Obtain/build, Deliver and support, Continual improvement, Steps of the continual improvement model, Continual improvement and the guiding principles

## CITIL 2 ITIL SERVICE DESIGN

ITIL management practices, General management practices, Architecture management, Continual improvement, Information security management, Knowledge management, Measurement and reporting, Organizational change management, Portfolio management, Project management, Relationship management, Risk management, Service financial management, Strategy management, Supplier management, Workforce and talent management, Service management practices, Availability management, Business analysis Capacity and performance management, Change control, Incident management, IT asset management, Monitoring and event management Problem management, Release management, Service catalogue management, Service configuration management, Service continuity management, Service design, Service desk, Service level management, Service request management, Service validation and testing, Technical management practices, Deployment management, Infrastructure and platform management, Software development and management

## CITIL 3 COMMUNICATION AND PERSONALITY DEVELOPMENT

### Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

### Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

**Personality development:** Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

## CITIL 4 SAFETY PRACTICES IN THE WORK ENVIRONMENT

**Safety Signs & Colour at Work :** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

**First Aid & Artificial Respiration:** First Aid - Introduction, First aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, First-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

**Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, Shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

**Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

**Safe Working Measure :** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

**Managing Health and Safety at Work :** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

**Personal Hygiene :** Introduction, How to maintain good hygiene, How to ensure food safety, Grooming, What are the consequences of not maintaining good hygiene?

**Public and Home Safety :** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

**Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

## COUNSELING AND STUDY STRUCTURE

S. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1.	CITIL1	ITIL Core Concepts and Service Strategy	Non-Credit	60	8	22	12	18
2.	CITIL2	ITIL Service Design	Non-Credit	60	8	22	12	18
3.	CITIL 3	Communication Skills & Personality Development	Non Credit	30	4	26	-	-
4.	CITIL 4	Safety Practices in the Work Environment	Non Credit	30	4	17	9	-

## Study Modules & Books Information

Sr. No.	Course Code	Subject Name	Modules to be used
1.	CITIL1	ITIL Core Concepts and Service Strategy	Reference by ITIL Foundation ITIL 4 Edition Published by TSO
2.	CITIL2	ITIL Service Design	Reference by ITIL Foundation ITIL 4 Edition Published by TSO
3	CITIL 3	Safety Practices in the Work Environment	S69-Safety Practices, Primary Health and Personal Hygiene
4	CITIL 4	Communication Skills & Personality Development	S68-Effective Communication & Personality Development

## OTHER SHORT TERM CERTIFICATE PROGRAMS

S. NO.	NAME OF THE PROGRAMME	DURATION	ELIGIBILITY
1.	Certificate Course in Computer Programming (CCCP)	4 Months	10 <sup>th</sup> Pass
2.	Certificate Course in RDBMS Technology (CCRDBMS)	4 Months	10 <sup>th</sup> Pass
3.	Certificate Course in Visual C++ & OOPs (CCVCO)	3 Months	10 <sup>th</sup> Pass
4.	Certificate Course in Visual Basic (CCVB)	2 Months	10 <sup>th</sup> Pass
5.	Certificate Course in HTML & Web Page Design (CCHTML)	2 Months	10 <sup>th</sup> Pass
6.	Certificate Course in Unix Operating System (CCUNIX)	2 Months	10 <sup>th</sup> Pass
7.	Certificate Course in C Programming (CCCPRO)	2 Months	10 <sup>th</sup> Pass
8.	Certificate Course in Linux (CCLINUX)	2 Months	10 <sup>th</sup> Pass
9.	Certificate Course in Front Page (CFP)	2 Months	10 <sup>th</sup> Pass
10.	Certificate Course in Data Structure with C++ (CCDSC)	2 Months	10 <sup>th</sup> Pass
11.	Certificate Course in Corel Draw (CCOREL)	2 Months	10 <sup>th</sup> Pass
12.	Certificate Course in AutoCAD (CAUTOCAD)	2 Months	10 <sup>th</sup> Pass
13.	Certificate Course in Windows (CCWIN)	1 Month	10 <sup>th</sup> Pass
14.	Certificate Course in Internet (CCINTNET)	1 Month	10 <sup>th</sup> Pass
15.	Certificate Course in MS-Excel (CCEXCEL)	1 Month	10 <sup>th</sup> Pass
16.	Certificate Course in MS-Access (CCACCESS)	1 Month	10 <sup>th</sup> Pass
17.	Certificate Course in MS-Word (CCWORD)	1 Month	10 <sup>th</sup> Pass
18.	Certificate Course in Power Point (CCPP)	1 Month	10 <sup>th</sup> Pass

Short terms programs are listed separately along with Academy Programs. The respective Academy can conduct relevant Short Term programs choosing from a list of short term courses. The exam scheme of each program is:

- (1) Theory Paper : 70 Marks
- (2) Assignment : Not Applicable for short term certificate programmes
- (3) Practical/Project : 30 Marks

Thus, every short term program evaluation shall be done on the basis of 100 marks

**Note : For Short Term Certificate Programs, only Certificates are provided by the University after conducting examination.**