SKVV : SYLLABUS FOR TRADE IN VOCATION TRAINING CERTIFICATE PROGRAM
TRADE : COMPUTER OPERATOR AND PROGRAMMING ASSISTANT

FIRST SEMESTER : 1

DURATION:6 MONTHS

Course Code No.	Trade Practical	Trade Theory
VTC COPA-101	Computer components and Windows Operating System • Disassembling,Identification of components and Reassembling a Desktop computer. • Familiarization with Windows O.S desktop, using icons,buttons and customizing the desktop. • Managing files and folders, using removable drives. • Viewing system properties and control panel details.Viewing and setting environmental variables • Working with MS Paint.	Introduction to Computers and Windows Operating System • History,Generations, Types, Advantages and Applications of Computers. • Concepts of Hardware and Software. Computer Hardware basics. • Introduction to various processors. • Introduction to the functions of an Operating System, Popular Operating Systems in Use. • Main features of Windows O.S • Various Input/ Output devices in use and their features. • Using Scanner, Printer and Webcam.
VTC COPA-102	Computer Hardware basics and Software Installation • Viewing the BIOS and changing the Boot order • Identify and rectify common hardware and software issues. • Formatting the hard disk and loading O.S and necessary application software. • Installation of DVD, using different types of hard disks. • Bluetooth Configuration, DVD write techniques	Computer Hardware basics and Software Installation • Introduction to the booting process, BIOS settings and their modification. • Introduction to various types of memories and their features. • Basic Hardware and software issues and their solutions. •Formatting and Loading O.S and Application software and Antivirus.
VTC COPA-103	Familiarization with DOS CLI & Linux Operating Systems • Using basic DOS commands fordirectory listing, file and folder management etc • Using Basic Linux commands for directory listing, file and folder management, password etc. • Using the Linux graphical user interface for file and folder management, exploring the system etc.	Introduction to DOS Command Line Interface & Linux Operating System. • Introduction to basic DOS Internal and External Commands. • Introduction to Open Source Software. • Introduction to Linux Operating System features, structure, files and processes. • Introduction to various Linux Shells • Basic Linux commands.

VTC COPA-104	Using Word Processing Software • Familiarization with the Word window components. • Creating, saving and editingdocuments using Word. • Inserting and formatting tables and other objects. • Using templates,autocorrect tools, macrosand the mail merge tool. • Working with Page layout settings and printing documents. • Typing practice using open source typing tutor tools. • Practice of using shortcut keys.	Word Processing • Introduction to the various applications in office • Introduction to Word features, Office button, toolbars. • Creating, saving and formatting and printing documentsusing Word. • Working with inserting objects, macro, mail merge, templates and other tools in Word. • Page setup and Printing Documents using word.
VTC COPA-105	Using Spread Sheet Application • Creating, Saving and Formatting Excel Spreadsheets. •Using Absolute and Relative referencing, linking sheets, Conditional formatting etc • Using Excel functions of all major categories • Using various data types in Excel, Sorting, filtering and validating data. • Creating and formatting charts. • Importing &Exporting Excel Data. • Performing data analysis using "what if" tools • Modifying Excel Page setup and printing. • Simple projects using Excel & Word.	Spread Sheet Application • Introduction to Excel features and Data Types. • Cell referencing. Use of functions of various categories, linking Sheets • Introduction to various functions in all categories of Excel. • Concepts of Sorting, Filtering and Validating Data. • Analyzing data using charts, data tables, pivot tables, goal seekingand scenarios • Introduction to Reporting.
VTC COPA-106	Image editing, Creating presentations & Using Open Office • Use of windows and open source image editing software like Open Office Draw, GIMP, Irfan View or a similar tool • Creating Slide shows, Inserting objects. • Animating Slide transitions and Objects. • Creating a simple presentation project using Open Office. • Working with Open Office for word processing and spreadsheet application.	Image editing, Creating presentations & Using Open Office • Introduction to Open Office. • Introduction to the properties and editing of images. • Introduction to Power Point and its advantages. • Creating Slide Shows. • Fine tuning the presentation and good presentation techniques.

VTC COPA-107	Database Management • Creating database and designing a simple tables in Access. • Enforcing Integrity Constraints and modifying the properties of tables and fields. • Creating Relationships and joining tables. • Creating Forms. • Creating simple select queries with various criteria and calculations. • Creating Simple update, append, make table, delete and crosstab queries. • Modifying form design with controls, macros and events • Importing and exporting data to and from Access • Compressing and Encrypting databases	Database Management Systems •Concepts of Data, Information and Databases. Overview of popular databases, RDBMS, OODB and NOSQL. •Rules for designing good tables. Integrity rules and constraints in a table. • Relationships in tables. • Introduction to various types of Queries and their uses. • Introduction to macros, designer objects controls, their properties and behavior.
VTC COPA-108	Configuring and Using Networks • Viewing Network connections. • Connecting a computer to a network and sharing of Devices, files and Folders. • Familiarization with various Network devices, Connectors and Cables. • IP Addressing and Subnetfor IPV4 / IPV6,Masking, pinging to test networks. • Configuring Hub and Switch. • Setting up and configuring LAN in a Computer Lab as peer to peer network • Setting up a proxy server/ DHCP Server with firewall. • Setting up video conferencing. • Using various tools for computer maintenance, Network security.	Networking Concepts • Introduction to Computer Networks, Necessity and Advantages. • Client Server and peer to Peer networking concepts. • Concept of Proxy Server and proxy firewall server. • Network topologies. Introduction to LAN, WAN and MAN. • Network components, viz. Modem, Hub, Switch, Router, Bridge, Gateway etc. • Network Cables,Wireless networks and Blue Tooth technology • Concept of ISO - OSI 7 Layer Model. • Overview of various Network protocols Viz. TCP/IP, FTP, Telnet etc. • Logical and Physical Addresses, Classes of Networks. • Network Security &firewall concepts. • Concept of DHCP Server.
VTC COPA-109	Internet Concepts • Browsing the Internet for information. • Creating and using e – mail for communication. • Communication using text, video chatting and social networking sites • Identifying various threats to the system connected to the net. • Protecting the computer against various internet threats. • Configure Outlook, mail service in mobile phones. Using tools like Skype, Google+ etc.	Internet Concepts • Introduction to WWW, Concept of• Internet, Web Browsers, internet servers and search engines. • Concepts of Domain naming Systems and E mail communication. • Introduction to video chatting tools, VOIP and Social Networking concepts • Concept of Cloud storage and Open Web Server. • Introduction to Internet Security, Threats and attacks, Malicious Software types, Internet security products and their advantages

VTC COPA-110	Designing Static Web Pages •Designing simple web pages with text, pictures, tables,lists, hyperlinks, frames, marquees etc. using HTML tags. • Designing Web Pages with Forms and Form Controls using HTML tags. • Creating Web Pages using CSS. • Using WYSIWYG web design tools to design and edit web pages with various styles.	Web Design Concepts • Concepts of Static and Dynamic Web pages. • Introduction to HTML and various tags in HTML. • Creating Forms with controls using HTML. • Concepts of CSS and applying CSS to HTML • Introduction to open source CMS viz,. Joomla, Wordpress etc. and Web authoring tools viz. Kompozer,FrontPageetc.
VTC COPA-111	Project Works	

FIRST SEMESTER : 2

DURATION:6 MONTHS

Course Code No.	Trade Practical	Trade Theory
VTC COPA-201	Java Script • Familiarization with JavaScript elements. • Embedding JavaScript in HTML to display information in web pages. Documentation and Formatting. • Using JavaScript Variables, Data types, Constantsand Operators. • Working with Arrays, Control statements and Loops in JavaScript. • Working with Arrays, Control statements and Loops in JavaScript. • Writing functions in JavaScript. • Working with String, Math and Date functions in JavaScript. • Switch, Loops, Breaks and Errors. • Using Java Script Objects. • Working with JavaScript Libraries. • Using simple Open source web server (like XAMPP) and FTP software (For ex. Filezilla). • A simple project using JavaScript.	Java Script • Algorithms and flowcharts. • Introduction to Web Servers and their features. • Introduction to Programming and Scripting Languages. • Introduction to JavaScript and its application for the web. • JavaScript Basics – Data types, Variables, Constants.Conversion between data types. • The Arithmetic,Comparison, Logical and String Operators in JavaScript. Operator precedence. • Arrays in JavaScript – concepts, types and usage. • Program Control Statements and loops in JavaScript. • Introduction to Functions in JavaScript. • Built in JavaScript functions overview. • The String data type in JavaScript. Introduction to String, Math and Date Functions. • Concepts of Pop Up boxes in JavaScript • Introduction to the Document Object Model.

VTC COPA-202	Programming with VBA	Introduction to VBA, Features and Applications
	• Familiarization with the VBA Editor	• Introduction to VBA features and applications
	• Writing simple programs involving VBA Data types,Variables Operators andConstants	• VBA Data types,Variables and Constants.
	• Working with string variables in VBA.	• Operators in VBA and operator Precedence
	• Creating and Manipulating Arrays in VBA.	• Mathematical Expross in VBA
	• Writing programs involving Mathematical,Conversion, Date andString Functions in VBA.	• Introduction to Strings in VBA.
		• Introduction to Arrays in VBA.
	• Working with conditional statements like If. Elseif, Select ... Case statements in VBA.	• Conditional processing in VBA, using the IF, Elseif, Select... Case Statements.
	• Writing programs in involving Loops.	• Loops in VBA Introduction to VBA.
	• Creating Message boxes and Input boxes in VBA	• VBA message boxes and input boxes.
	• Creating Functions and Procedures. Passing Parameters and Using Returned Data.	• Introduction to Creating functions and Procedures in VBA.
	• Using VBA built in functions in programs	• Using the built in functions.
	• Creating and editing macros.	• Creating and editing macros.
	• Writing code to work with Excel VBA forms and form controls like buttons, Checkboxes, Labels, ComboBox, GroupBox, ListBox, Option Button, Scroll Bar and Spin button. Modification of object properties.	• Introduction to Object Oriented Programming Concepts. Concepts of Classes, Objects, Properties and Methods.
		• Events and Event driven programming concepts.
		• The user forms and control in Excel VBA.
	• Using ActiveX controls.	•Properties,events and methods associated with the Button, Check Box, Label, ComboBox, Group Box, Option Button, List Box, Scroll Bar and Spin button controls.
	• Programming with methods and events.	
	• Debugging, Stepping Through Code, Breakpoints, Finding and Fixing Errors.	• Overview of ActiveX Data objects.
	• A simple project involving MS excel and VBA.	• Debugging Techniques.+
VTC COPA-203	Using Accounting Software	Smart Accounting
	• Basic accounting practice.	• Basics of Accounting, Golden Rules of Accounting, Voucher Entry, Ledger Posting, Final Accounts Preparation.
	• Familiarization with the Tally interface	
	• Company creation,Account Creation, Voucher Entry in Tally.	• Cash Book. Ratio Analysis, Depreciation, Stock Management.
	• Report Generation (Creating statements like Invoice, Bill, Profit & Loss account etc.).	• Analysis of VAT,Cash Flow, Fund FlowAccounting.
		• Introduction to Tally, features and Advantages.
	• Performing Cost Centre & Cost Category management.	• Implementing accounts in Tally
	• Managing Budgeting Systems	• Double entry system of bookkeeping.
	• Scenario management and Variance Analysis.	• Budgeting Systems, Scenario management and Variance Analysis.
	• Using Tally for Costing, Ratio Analysis,Cash Flow, Funds Flow Statements.	• Costing Systems, Concepts of Ratios, Analysis of financial statements,Inventory Basics, POS Invoicing, TDS, TCS, FBT, VAT & Service Tax Processing in Tally
	• Analyzing and Managing Inventory.	
	• Performing Point of Sales and Taxation. Performing Systems Administration and using other Utilities, User creation, Backup &Restore of Company.	• Tally Interface in Different Languages.
	• Using the Multilingual Functionality	

VTC COPA-204	E Commerce • Familiarization with latest E commerce websites viz. E bay, Amazon, FlipCart, OLX, Quikr etc. and comparative study of the main features of these sites. • Using E Commerce Simulator Software for Marketplace Business Simulation. • Identifying and solving security issues inE- commerce and payment operations.	E Commerce • Definition of E commerce, Types, scope and benefits of E commerce. • Difference between E commerce and traditional commerce. • Capabilities requirements and Technology issues for E commerce. • Types of E commerce web sites. • Building business on the net. • Concepts of on line Catalogues, Shopping carts, Checkout pages. • Payment and Order Processing, Authorization, Chargeback and other payment methods. • Security issues and payment gateways.
VTC COPA-205	Typing practice • Typing Practice in Regional Language	Cyber Security: • Overview of Information Security, Security threats, information Security vulnerability and Risk management • Introduction to Directory Services, Access Control, Software Development Security, Privacy protection, Audit and Security. • Introduction to I.T Act and penalties for cybercrimes.
VTC COPA-206	Project Work	

1. Name of the Trade   : COMPUTER OPERATOR AND PROGRAMMING ASSISTANT

2. N.C.O. Code No.   : 4112.20, 3121.20

3. Duration of Craftsmen Training   : 1 year (Two Semesters)

4. Power norms   : 3.45 KW

5. Space norms   : 70 Sq. m.

6. Entry Qualification   : Passed 10th class examination

7. Unit strength   : 20 Trainees

8. Instructors Qualifications   : Degree in Computer Engineering/IT, MCA with one year of relevant experience OR

Diploma in Computer Engineering /IT, BCA, NIELIT A Level with two years

of relevant experience OR NTC/ NAC and National

Craft Instructor Certificate in COPA Trade with three

years of relevant experience after NAC/NTC.

Job Roles:

After completion of the course the trainees shall be qualified for one or more of the following job roles:

1. Office Automation.

2. Smart Accounting

3. Web design and maintenance.

4. Computer maintenance.

5. Computer Training in schools and institutes.

6. Cyber Cafe setup and management.

7. IT online support