

INDUSTRIAL TRAINING INSTITUTE (ITI)

ANNUAL INSTRUCTIONAL PLAN

TRADE: COMPUTER OPERATOR AND PROGRAMMING ASSISTANT (COPA)
DURATION: ONE YEAR (42 WEEKS)

Name of Institute:	
Trade Name:	COPA (NSQF Aligned)
Academic Session:	2026 - 2027
Instructor Name:	
Group Instructor (GI) Name:	
Superintendent / Principal:	

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 01	Safe working practices: 1. Visit COPA Lab of the institutes and locate the electrical connections with computer system setup. 2. Identifying safety symbols and hazard identification. 3. Practice safe methods of fire fighting in case of electrical fire. 4. Use of fire extinguishers.	Safe working practices & Introduction to Computers: 1. Scope of the COPA trade. 2. Safety rules and safety signs. 3. Types and working of fire extinguishers. 4. Introduction to computer system.
WEEK 02	Assemble a Desktop PC: 5. Identify computer peripherals and internal components of a desktop computer. 6. Assemble components of desktop computer.	Computer components: 5. Concepts of Hardware and Software. 6. Function of motherboard components and various processors. 7. Various Input/Output devices in use and their features.
WEEK 03	Using Windows Operating Systems: 7. Practice on Windows interface and navigating windows. 8. Practice on managing files and folders using removable drives. 9. Customize the desktop Settings and manage user accounts. 10. View system properties and control panel details.	Windows Operating System: 8. Introduction to operating System. 9. Main features of Windows OS. 10. Concept of various shortcut commands.
WEEK 04	11. Practice typing using keyboard using English and any regional language. 12. Work with keyboard shortcut commands. 13. Print and scan document using different commands. 14. Perform screen capturing and Recording.	11. Introduction to the booting process. 12. Introduction to various types of memories and their features. 13. Basic Hardware and software issues and their solutions. 14. Usage of Application software and Antivirus.
WEEK 05	Computer basics and Software Installation: 15. View the BIOS settings and their modifications. 16. Install Windows operating system. 17. Format hard disk and create partition. 18. Identify and rectify common hardware and software issues during OS installation.	DOS & Command Line Interface: 15. Introduction to DOS & power shell Command Line Interface & Linux Operating Systems. 16. Introduction to basic DOS Internal and External Commands.

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 06	19. Install necessary application software for Windows (Office Package, PDF Reader, Media Player etc.). 20. Configure Bluetooth and Wi-Fi settings. 21. Install Drivers for printer, scanner, webcam and DVD etc. 22. ISO image creation - Flash drive.	17. Introduction to Open-Source Software. 18. Learn power shell cmdlet.
WEEK 07	DOS & power shell Command Line Interface: 23. Use basic DOS commands for directory listing. 24. Manage files and folders using DOS commands. 25. Practice basic power shell cmdlet.	19. Advanced DOS commands, file management and batch operations. 20. Scripting basics with PowerShell.
WEEK 08	Install Ubuntu Linux OS & execute basic commands: 26. Installation of Ubuntu Linux operating system. 27. Install necessary application software for Linux (Office Package, PDF Reader, Media Player etc.). 28. Use Basic Linux commands for directory listing, file and folder management, password etc.	Linux Operating System: 21. Introduction to Linux Operating System features, structure, files and processes. 22. Basic Linux commands.
WEEK 09	29. Use Linux graphical user interface for file/folder management and exploring system. 30. Customize desktop settings and manage user accounts in Linux. 31. View system properties and manage system setting in Linux. 32. Browse Internet, use e-mail, social media and mobile online activities.	23. Linux GUI environment, desktop settings, user account privileges and process control. 24. Internet basics, browsers, email protocols and web navigation.
WEEK 10	Using Word Processing Software: 33. Navigate within documents, search text, link locations, show/hide formatting symbols. 34. Format documents: page setup, style sets, headers/footers, watermark, background elements. 35. Save and share documents in alternative file formats, modify print settings.	Word Processing Software: 25. Introduction to the various applications in MS office. 26. Introduction to Word features, Office button, toolbars. 27. Creating, saving, formatting and printing documents using Word.

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 11	36. Inspect documents for issues, remove hidden properties, accessibility, spell check and grammar. 37. Insert text, find/replace, insert symbols and rupee symbol. 38. Format text/paragraphs, text effects, Format Painter, line/para spacing, indentation, styles. 39. Create/configure document sections, multiple columns, breaks.	28. Formatting rules, text styling standards, sectioning, columns and document inspection methods. 29. Working with objects, macro, mail merge, templates and other tools in Word.
WEEK 12	40. Create tables, convert text to tables and vice-versa. 41. Modify tables: sort, cell margins, merge/split cells, resize, repeating row header. 42. Create and modify numbered/bulleted lists, custom bullets, indents. 43. Create footnotes/endnotes, citations, bibliography, table of contents.	30. Tables and document structuring. 31. Managing reference elements, citations, bibliography and Table of Contents.
WEEK 13	44. Insert illustrations: shapes, pictures, 3D models, SmartArt, screenshots, text boxes. 45. Format illustrations, picture styles, artistic effects, wrap text, position objects. 46. Add and manage comments, review, reply, resolve, delete. 47. Manage change tracking, accept/reject tracked changes. 48. Perform mail merge (envelopes, labels, mailing lists) and add digital signature.	32. Working with graphic elements, SmartArt, 3D models and layout positioning. 33. Collaboration tools: Track changes, comments, Document review and Digital signature.
WEEK 14	Presentations Software: 49. Open Presentation software, create new from template, add slides, titles/text, slide layouts. 50. Modify slide masters, handout masters, note masters, theme/background. 51. Change presentation options, slide size, views, save in alternative formats, print settings, share electronically. 52. Configure slide shows, hide slides, presenter view, protect with passwords.	Presentations & Image Editing: 34. Introduction to Open Office. 35. Introduction to the properties and editing of images. 36. Introduction to different formats of images and their uses. 37. Introduction to PowerPoint and its advantages. 38. Creating Slide Shows. 39. Fine tuning the presentation and good presentation techniques.

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 15	53. Insert text, format paragraphs, text effects, built-in styles, columns. 54. Create/modify tables and bulleted lists in slides. 55. Create hyperlinks within presentations and external sources. 56. Insert shapes, pictures, SmartArt, screen clippings, charts. 57. Add and configure Audio and Video elements and playback options. 58. Add slide transitions and animations, reorder animations, manage comments, screen recording.	40. Slide formatting, visual elements, embedding media (audio/video). 41. Animation effects, transition timings and presentation delivery methods.
WEEK 16	Spread Sheet Application: 59. Open spreadsheet, create from template, import data from txt and csv files. 60. Navigate within workbooks, search data, named cells/ranges, hyperlinks. 61. Format worksheets: page setup, row height, column width, headers/footers. 62. Customize options: views, freeze rows/columns, display formulas, print area.	Spreadsheet Application Basics: 42. Introduction to Spreadsheet features and Data Types. 43. Cell referencing and linking Sheets.
WEEK 17	63. Manipulate data: paste special, AutoFill, insert/delete cells/rows/columns. 64. Format cells: alignment, orientation, indentation, Format Painter, wrap text, number formats, cell styles. 65. Define named ranges, sparklines, built-in conditional formatting. 66. Create, format, manage and sort/filter table data.	44. Cell formatting techniques, styles, conditional formatting concepts. 45. Managing tables, sorting and multi-column filtering.
WEEK 18	67. Insert relative, absolute and mixed references. 68. Calculate data using AVERAGE(), MAX(), MIN(), SUM(), COUNT(), COUNTIF(), COUNTBLANK(), and IF(). 69. Format text using RIGHT(), LEFT(), MID(), UPPER(), LOWER(), LEN(), CONCAT(), TEXTJOIN().	46. Introduction to various functions in all categories of Spreadsheet (Statistical, Mathematical, Logical, Text). 47. Concepts of data validation.

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 19	70. Create and modify charts, chart sheets, add trendlines, chart layouts/styles. 71. Create and format Pivot Tables from cell ranges, manipulate fields, filters, group data, count/sum/% analysis.	48. Analyzing data using charts, data tables, pivot tables, goal seek and scenarios.
WEEK 20	Advanced Spreadsheet Concepts: 72. Create and modify simple macros, form controls, data entry form with macros. 73. Look up data by using functions (VLOOKUP, HLOOKUP, XLOOKUP), advanced date functions. 74. Create advanced charts and PivotTables.	49. Spreadsheet revision, custom formats, and spreadsheet protection. 50. Lookup and reference functions, cell naming and spreadsheet linkage. 51. Pivot table, pivot charts and advanced graphing concepts.
WEEK 21	75. Create Power Query, Power Query functions, combine queries, organize workbook queries. 76. Perform data modelling, use Power BI for simple visualizations, make a dashboard in spreadsheet.	52. Power Queries, Data modelling and Business Intelligence visualization concepts. 53. Dashboard design principles in spreadsheets.
WEEK 22	Database Management (MySQL): 77. Installation of MySQL, troubleshooting basic installation issues. 78. Creation and use of database, designing tables, applying data integrity rules. 79. Using DDL, DML, and DCL statements, enforcing primary key and foreign key, adding indices.	Database Concepts: 54. Concept of DBMS, RDBMS, Data Models, DBA, Database Users, Database Schema. 55. Designing Database using Normalization Rules. 56. Various data types, Data integrity, DDL, DML and DCL statements. 57. Enforcing Primary key and foreign key, Adding Indices.
WEEK 23	80. Execute simple SELECT, INSERT, DELETE, and UPDATE queries. 81. Using Number, Date, and Character functions. 82. Joins (inner, left, right), GROUP BY, HAVING, and subqueries.	58. Concepts of Transactions and ACID Properties of Transaction Constraints. 59. Joining of tables, Subqueries, Aggregate functions (SUM, AVG, MAX, MIN, COUNT), Naming conventions.

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 24	Computer Network: 83. View network connections, connect computer to network, share devices (printers, files, folders, drives). 84. Work with network devices, connectors and cables, create straight and cross cable, punch UTP cable in patch socket. 85. Practice IP Addressing and Subnet masking for IPV4/IPV6, pinging to test networks.	Communicating in a Connected World: 60. Concepts of computer network, LAN, MAN, WAN. 61. Introduction to basic Network protocols. 62. Local Networks, Communicating on a Local Network, Principles of Communications. 63. How do Ethernet Networks Work? How are Networks Built? Routing Across Networks.
WEEK 25	86. Configure Hub and Switch, set up wired and wireless LAN in lab with at least 3 computers. 87. Use patch panel & I/O Box for wired LAN, install and configure Internet connection in PC and LAN. 88. Set up proxy server / DHCP server with firewall. 89. Set up video conferencing using open-source software, screen sharing. 90. Use open-source/free tools for network troubleshooting, maintenance and security. 91. Set up internet connectivity and digital communication.	64. Roles of devices in a network, home network setup, Wi-Fi operation. 65. LAN Devices, Internetworking Devices, Internet Concepts. 66. Introduction to WWW, Web Browsers, internet servers, search engines. 67. Domain Name System (DNS), E-mail communication, video chatting tools and Social Networking concepts.
WEEK 26	Web Design with HTML: 92. Practice basic HTML elements (head, title, body), tags and attributes. 93. Design simple web page with text, paragraph, line breaks, formatting text, background colours, pictures. 94. Design web pages with tables, lists, marquees, hyperlinks, and mailto links.	Web Design Concepts: 68. Concepts of Static and Dynamic Web pages. 69. Introduction to HTML and various tags in HTML. 70. Web authoring tools viz. KompoZer, WordPress, FrontPage etc.
WEEK 27	95. Create frames, layout design, display web page within web page using iframes. 96. Design web page with form controls: text box, check box, combo box, password field, submit/reset/radio buttons. 97. Design web page adding flash file, audio and video files.	71. Concepts of different controls used in Web Pages. 72. Form elements, embedding media and semantic layout tags. 73. Introduction to open-source CMS (Joomla, WordPress etc.).

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 28	Cascading Style Sheets (CSS): 98. CSS syntax, colors, fonts, backgrounds, images, borders, text alignment, lists. 99. Implement internal, inline and external CSS stylesheets. 100. Adding Navigation Bars (horizontal/vertical), CSS dropdowns, forms, counters, animations, buttons. 101. Create web page using Bootstrap framework.	CSS Concepts: 74. Concepts of CSS and applying CSS to HTML. 75. CSS selectors, box model, responsive layouts and introduction to Bootstrap.
WEEK 29	JavaScript Basics: 102. Embed JavaScript in HTML pages to display dynamic information. 103. Practice JavaScript data types, variables, constants, type conversion. 104. Practice arithmetic, comparison, and logical operators in JavaScript.	Introduction to JavaScript: 76. Introduction to Programming and Scripting Languages. 77. Introduction to JavaScript and its application for the web. 78. Introduction to Web Servers and their features. 79. JavaScript Basics: Data types, Variables, Constants, Conversions, Operators and Operator precedence.
WEEK 30	105. Write JavaScript programs using control statements (if-else, switch) and loops (for, while, do-while). 106. Practice working with Arrays, Strings, Math and Date objects. 107. Write custom functions and use built-in JavaScript functions.	80. Program Control Statements and loops in JavaScript. 81. Arrays in JavaScript: concepts, types and usage. 82. String data type, String, Math and Date objects, Functions and Pop-Up boxes.
WEEK 31	108. Practice error handling techniques (try-catch-finally). 109. Use objects and classes in JavaScript. 110. Manipulate Document Object Model (DOM). 111. Implement animations and multimedia using JavaScript.	83. Introduction to the Document Object Model (DOM). 84. Concepts of using Animation and multimedia files in JavaScript. 85. Error handling and Object-Oriented principles in JavaScript.

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 32	112. Develop dynamic HTML pages using JavaScript. 113. Deploy web project using IIS. 114. Create a GitHub repository, create portfolio and upload project. 115. Create website using CMS.	86. Introduction to GitHub and CMS. 87. Web hosting, IIS server deployment and version control basics.
WEEK 33	e-Commerce: 116. Browse e-Commerce sites to identify products & services. 117. Shop online, undertake transactions on e-commerce sites. 118. Manage e-commerce operations: add products, order processing, payment processing, identify security issues.	e-Commerce Fundamentals: 88. Introduction to E-Commerce and advantages, Building business on the net. 89. Payment and Order Processing, Authorization, Chargeback and payment methods. 90. Security issues and payment gateways.
WEEK 34	Cloud Computing: 119. Practice with IaaS, PaaS, and SaaS using free cloud services. 120. Host a website in a free cloud. 121. Identify phases of Application Development Life Cycle (ADLC) and describe roles in each phase. 122. Create VM using OpenStack.	Cloud Concepts & ADLC: 91. Introduction to Cloud Computing, benefits of cloud services, different categories, cloud resources. 92. Explain Application Development Life Cycle (ADLC) phases and roles. 93. OpenStack architecture and virtualization concepts.
WEEK 35	Cyber Security: 123. Protect computers and networks from viruses, spyware, malicious code. 124. Secure Wi-Fi network, use antivirus software, perform data backup. 125. Identify steps for information privacy, common cybercrimes and penalties.	Cyber Security Principles: 94. Overview of Information Security, SSL, HTTPS, threats (malware, phishing, social engineering), vulnerability and risk management. 95. Directory Services, Access Control, Privacy protection, Audit and Security. 96. Introduction to IT Act and penalties for cybercrimes.

INSTRUCTIONAL PLAN

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
WEEK 36	AI Tools for Office Automation: 126. Use AI Tools for Documents, Spreadsheets, Presentations, and Code editors. 127. Use Generative AI tools for generating Text, Image, Video, and Audio.	Concept of AI: 97. Concept of AI and Generative AI platforms. 98. How to write effective prompts for various tasks. 99. Ethical use of AI and Responsible AI practices.
WEEK 37	Python Programming Basics: 128. Install, setup environment and run Python using command line and IDE. 129. Write and test Python programs: print statements, comments, variables, casting, data types (string, Boolean). 130. Perform operations using arithmetic, relational, logical operators and determine operator precedence.	Programming Language (Python): 100. Introduction to Python, History, Features, Setting up path, Basic Syntax, Comments, Variables. 101. Different Data Types, Type Casting, String, Boolean, Python Operators and Precedence.
WEEK 38	131. Construct code segments using branching statements (if, if-else, elif) and iteration (for, while). 132. Work with Lists, Tuples, Sets, Dictionaries, and comprehensions. 133. Document code using comments and docstrings. 134. Perform operations using built-in modules (math, dates), solve complex problems. 135. Write a python program to take a snapshot of a webpage and upload into word file. 136. Design a dashboard webpage using Python.	102. Conditional Statements, Looping, Control Statements (break, continue, pass). 103. String manipulation, Lists, Tuples, Sets, Dictionaries, Arrays. 104. Iterators, modules, dates, math, Modules, Input and Output, File handling.
WEEK 39 - 42	On the Job Training (OJT) / Group Project Work	On the Job Training (OJT) / Group Project Work