



GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

CERTIFICATE COURSE ON

BASICS OF IT SKILLS



NSQF LEVEL- 3.5

SECTOR – IT & ITES

BASICS OF IT SKILLS

Duration: 240 Hours

NSQF LEVEL- 3.5

(Version: 1.0)

Designed in 2024

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

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1. COURSE INFORMATION

1.1 GENERAL

This course has been developed for CTS/CITS trainees to take up as optional courses during course of study for technical and behavioural upgradation of trainees to meet industry related job roles. During the 240 hours duration of 'Professional IT Skills' course, a candidate is trained on professional skills & knowledge related to job role. The Broad components covered during the course are given below:

During the course, Trainee will learn about the professional IT Skills i.e., MS Word, MS Excel, Computer Networking, Internet, Cloud Computing concepts. This is a hands-on intensive course, which covers the IT skills every professional requires in current professional world.

1.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of 6 weeks: -

S No.	Course Element	Notional Training Hours
1.	Professional Skill (Trade Practical)	180
2.	Professional Knowledge (Trade Theory)	60
	Total	240

1.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course through assessment at the end of the course through skill testing at Training Center & CBT through examination conducted by DGT.

The minimum pass percentage for skill test is 60% and for theory will be 33% as in main CTS examination.

2. JOB ROLE

Brief description of Job roles:

This course is designed for Trainees who want to get the basic professional IT skills which is required for every professional in today's world. The course comprises of MS office package, Computer Networking, Internet & Cyber Security which are essential for IT Skills. Emerging technologies i.e., Artificial Intelligence, Big data, Machine learning included in the course as fundamental concepts. Installation of Operating System & application software i.e., Antivirus included to enable trainees perform basic computer maintenance. After completion of the course, trainees will be ready to meet day to day challenges found in every sector related to IT.

Computer Operator: operates computer and peripheral equipment to process business, scientific, engineering, or other data, according to operating instructions. Enters commands, using keyboard of computer terminal, and presses buttons and flips switches on computer and peripheral equipment, such as tape drive, printer, data communications equipment, and plotter, to integrate and operate equipment, following operating instructions and schedule. Loads peripheral equipment with selected materials, such as tapes and printer paper for operating runs, or oversees loading of peripheral equipment by Peripheral Equipment Operators. Enters commands to clear computer system and start operation, using keyboard of computer terminal. Observes peripheral equipment and error messages displayed on monitor of terminal to detect faulty output or machine stoppage. Enters commands to correct error or stoppage and resume operations. Notifies supervisor of errors or equipment stoppage. Clears equipment at end of operating run and reviews schedule to determine next assignment. Records problems which occurred, such as down time, and actions taken. May answer telephone calls to assist computer users encountering problem. May assist workers in classifying, cataloguing, and maintaining tapes.

Reference NCO-2015:

- i) 4131.0600 – Computer Operator

Mapped NOS: SSC/N9526

3. GENERAL INFORMATION

Name of the Trade	BASICS OF IT SKILLS
Reference NCO - 2015	4131.0600
NOS Covered	SSC/N9526
NSQF Level	Level – 3.5
Duration of Craftsmen Training	240 Hours
Entry Qualification	10 th Class passed and pursuing/ passed out in any trade under CTS / CITS Candidates
Unit Strength (No. of Student), Space & Power Norms	Same as COPA / IT / CHNM / ICTSM / DBSA under CTS OR CSA / CHNM under CITS.
Instructors Qualification	<p>B.Voc/Degree in Computer Science/ Information Technology from AITCE/UGC Recognized University with one year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>Post Graduate in Computer Science /Computer Application / IT from UGC Recognized University or NIELIT B Level with one-year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>Bachelor in Computer Science / Computer Application / ITOR PGDCA from UGC recognized University or NIELIT A Level with two-year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>03 years Diploma in Computer Science / IT from recognized Board/ Institute or relevant Advanced Diploma (Vocational) (ADIT) from DGT with two-year experience in the relevant field.</p> <p style="text-align: center;">OR</p> <p>NTC/NAC in Computer Operator & Programming Assistant or any trade in IT-ITeS sector trade with three-year experience in the relevant field.</p>
List of Tools and Equipment	As per Annexure – I

4. LEARNING OUTCOME

Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.

4.1 LEARNING OUTCOMES

1. Install OS & application software in computer following safety precautions.
2. Perform document designing with formatting in MS Word.
3. Perform basic data analytics using MS Excel.
4. Create presentation in MS Power Point.
5. Browse websites & use E-commerce platforms using Internet.
6. Configure and setup computer Network in an office/Institution.
7. Familiarize with cyber security and cloud computing.

5. SYLLABUS

SYLLABUS – BASICS OF IT SKILLS			
Duration: 240 Hours			
Duration Weeks	Reference Learning outcome	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
Professional skills 35 Hrs. Professional Knowledge 10 Hrs.	LO-1: Install OS & application software in computer.	<ol style="list-style-type: none"> 1. Demonstrate basic safety features to be followed in computer lab. 2. Identify basic components of computer hardware and basic assembling practice. 3. Install Windows OS in a computer. 4. BIOS setup. 5. Practice DOS commands. 6. Install MS Office package, PDF Reader, Antivirus, browser software in a computer. 7. Backup and restoration of data using windows tools, recovery of data using opensource/free software. 	<ul style="list-style-type: none"> • Safety precautions is to be followed while working on computer. • Fundamentals of Computer, generations of computer, computer hardware & software concepts. • Types of software with examples. • Functions of operating system. • Backup and restore of data, data recovery.
Professional skills 35 Hrs. Professional Knowledge 10 Hrs.	LO-2: Perform document designing with formatting in MS Word.	<ol style="list-style-type: none"> 8. Perform document formatting using formatting options. 9. Create and format tables in MS Word. 10. Insert symbol, Smart Art, Picture, Shapes, Charts in documents. 11. Insert equation in document. 12. Perform page layout in document. 13. Perform mail merge to design letters for multiple recipients. 	<ul style="list-style-type: none"> • MS Word basics • Different font and paragraph options. • Word options for display, saving, general & advance. • Mail merge options. • Grammatical checking in a document. • Password protection to open/edit in a document. • Different save options as PDF, template, XPS.

		<p>14. Use references to insert caption, footnote, Index, Citation & Table of contents in a document.</p> <p>15. Carry out track changes in a document.</p>	
<p>Professional skills 35 Hrs.</p> <p>Professional Knowledge 10 Hrs.</p>	<p>LO-3: Perform basic data analytics using MS Excel.</p>	<p>16. Create a salary sheet with formulas and functions.</p> <p>17. Perform sorting data on single/multi columns.</p> <p>18. Perform filtering on a data set.</p> <p>19. Calculate using if, countif, sumif, product, sqrt, mod, power, ceiling, floor, round, roundup, rounddown, len, replace, concatenate, now, left, right, mid, today, time, date if functions.</p> <p>20. Trace precedence and dependence in a formula.</p> <p>21. Perform conditional formatting on a data set.</p> <p>22. Create column chart based on salary sheet.</p> <p>23. Create a lookup using VLOOKUP function on salary sheet.</p> <p>24. Create a Pivot table on a dummy data.</p> <p>25. Perform what if analysis using goal seek, solver and scenarios.</p> <p>26. Remove duplicates from a data set.</p> <p>27. Perform data consolidation on a data set.</p> <p>28. Create a data table on a data set on one/two variables.</p> <p>29. Create forecast sheet on a</p>	<ul style="list-style-type: none"> • Introduction to MS Excel- The electronics spreadsheet. • Functions & formulas in MS Excel. • Data visualization - Different types of charts. • What if analysis. • Sort on multiple columns, filter, Advance filter, VLOOKUP & Pivot table. Data analysis tool pack in Excel menu.

		<p>temperature data set.</p> <p>30. Create a histogram/pareto chart.</p> <p>31. Create rank and percentile chart.</p>	
<p>Professional skills 10 Hrs.</p> <p>Professional Knowledge 05 Hrs.</p>	LO-4: Create presentation in MS Power Point.	<p>32. Create a presentation in MS power point on a chosen topic.</p> <p>33. Apply different design options on the slide.</p> <p>34. Apply animations to objects in the slide & slide transition.</p>	<ul style="list-style-type: none"> • Introduction to MS Power Point. • Presentation techniques. • Slide Design options in MS Power Point. • Master Slide design. • Animation in presentation.
<p>Professional skills 10 Hrs.</p> <p>Professional Knowledge 05 Hrs.</p>	LO-5: Browse websites & use E-commerce platforms using Internet.	<p>35. Set-up internet connectivity.</p> <p>36. Set-up digital communication.</p> <p>37. Browse the Internet.</p> <p>38. Setup & use e-mail.</p> <p>39. Use social media.</p> <p>40. Use the smart phone for online activities.</p>	<ul style="list-style-type: none"> • 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 and Social Networking concepts.
<p>Professional skills 45 Hrs.</p> <p>Professional Knowledge 15 Hrs.</p>	LO-6: Configure and setup computer Network in an office/Institution.	<p>41. Visit computer lab for demonstration on computer network.</p> <p>42. Familiarize with Network devices, connectors and cables.</p> <p>43. Crimping practice with CAT cable & RJ45 jack.</p> <p>44. Share devices i.e., drives, files, printers on network.</p> <p>45. Assign static IP Addressing and Subnet masking for IPV4/ IPV6 in Static & DHCP mode.</p> <p>46. Check connectivity using ping command.</p> <p>47. Configure Wi Fi router.</p>	<ul style="list-style-type: none"> • Introduction to computer network. • Concept of Network topology. • Concept of LAN/MAN/WAN. • Network devices, connectors & network media. • Principles of communication - OSI models & TCI/IP. • Concept of static/dynamic IP addressing. • Concept of peer to peer & client server network. •

		<p>48. Install Wi Fi Dongle.</p> <p>49. Setup a wired/wireless computer network in computer Lab.</p>	
<p>Professional skills 10 Hrs.</p> <p>Professional Knowledge 05 Hrs.</p>	<p>LO-7: Familiarize with cyber security and cloud computing.</p>	<p>50. Install antivirus in the computer.</p> <p>51. Install firewall in computer.</p> <p>52. Follow safe browsing techniques.</p> <p>53. Browse different e commerce sites & demo purchase items from the site.</p> <p>54. Familiarize with cloud computing.</p> <p>55. Familiarize with artificial intelligence, big data and Machine learning.</p>	<ul style="list-style-type: none"> • Introduction to Cyber Security. • Different types of threats in Cyber security and how to protect ourselves. • E Commerce and its types. • Introduction to cloud computing & different types of cloud computing i.e., SAAS, PAAS & LAAS • Introduction to AI, Big data & Machine learning.

6. ASSESSMENT CRITERIA

LEARNING OUTCOME	ASSESSMENT CRITERIA
1. Install OS & application software in computer following safety precautions.	Demonstrate basic safety features to be followed in computer lab.
	Install and configure Windows OS.
	Install the printer and other peripheral devices.
	Install application software.
2. Perform document designing with formatting in MS Word.	Create your resume using editing/formatting options in a document.
	Create purchase order using tables and images.
	Create magazine using columns page borders, header footers.
	Create an invitation letter using mail merge for invitees.
3. Perform basic data analytics using MS Excel.	Identify Excel tools in the Ribbon.
	Create mark sheet using a spreadsheet with data validation.
	Create a chart for the mark sheet.
	Create Pay slip using functions and formula with sharing two different sheets/files.
	Create a table and Perform Sorting; filtering, Subtotal, validation, and goal seek on a table.
	Prepare a pivot table on any existing table with data.
4. Create presentation in MS Power Point.	Create simple presentations
	Create presentations with tables, images & graphic elements
	Create presentations with audio & video elements with transitions
	Create simple presentations
5. Browse websites & use E-commerce platforms using Internet.	Place order for products from E commerce websites for purchase.
	Upload a product in E Commerce site for sale.
	Identify security issues in E- commerce and payment operations.
6. Configure and setup computer Network in an office/Institution.	Identify different cables and connectors used in networking.
	Assign Computer Name and workgroup to a computer Prepare UTP cross cable & connect computers.
	Share a printer with Network.
	Share Internet using Windows Tools.
	Check Network connectivity.
	Configure HUB & Switch.
	Configure DHCP.

	Secure Network with various tools.
	Create E Mail ID and sending / receiving mails Perform text chat and video chat using social network sites Configure Outlook Express.
7. Familiarize with cyber security and cloud computing.	Provide firewall security for Internet connection and Network System.
	Make backup copies of important file, data, and information.
	Secure your Wi-Fi networks using wireless security features.
	Create cloud concepts.
	Use common cloud services such as Office 365, Google Drive, Dropbox.

ANNEXURE-I

LIST OF TOOLS & EQUIPMENT			
BASICS OF IT SKILLS			
S No.	Name of the Tools and Equipment	Specification	Quantity
Same as COPA / IT / CHNM / ICTSM / DBSA under CTS OR CSA / CHNM under CITS			

ANNEXURE-II

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts and all others who contributed in designing/ revising the curriculum. Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

List of members attended the Trade Committee Meeting for designing of BASICS OF IT Skills Syllabus under Short Term Courses held on 21st March, 2024 at CSTARI, Kolkata.			
Sl. No.	Name and Designation (Shri/Smt./Kumari)	Organization with Address	Remarks
1.	Sunil Kumar Gupta, DDG (ER)	CSTARI, Kolkata	Chairman
2.	G.C. Saha, Jt. Director/HoD	CSTARI, Kolkata	Member
3.	Reema Nandi, Associate Manager	Accenture, Unitech Kolkata	Member
4.	Asok Bandyopadhyay, Scientist F, Head ICT&S Group	C-DAC, Kolkata	Member
5.	Amlan Raychaudhuri, Asst. Professor	BP Poddar Institute of Management & Technology, Kolkata	Member
6.	Niladri Roy, Enterprise Architect	TCS, Kolkata, Ecospace	Member
7.	Avishek Paul, Asst. Professor	Techno India Group, Kolkata	Member
8.	Diptadip Maiti, Asst. Professor	Techno College of Engineering, Agartala	Member
9.	Amit Kumar Mondal, Asst. Professor	Bengal Institute of Technology (A unit of Techno India Group), Kolkata	Member
10.	Anindya Sundar Das Gupta	Women ITI, Banipur	Member
11.	Subhendu Chakrabarty, Technical Expert	CSCOE, DITE, WB	Member
12.	P. Suresh, Sr. Executive	Vi Micro Systems Private Limited, Chennai	Member
13.	Goutam Roy	Prime Infoserv LLP	Member
14.	Brindaban Das, Dy. Director	CSTARI, Kolkata	Member
15.	Murari Barui, Asst. Director	CSTARI, Kolkata	Member
16.	Sk. Altaf Hossain, Asst. Director	CSTARI, Kolkata	Member
17.	Akhilesh Pandey, Asst. Director	CSTARI, Kolkata	Member
18.	Bhagat Singh, Asst. Director	CSTARI, Kolkata	Member

19.	Manish Mishra, Asst. Director	NSTI, Howrah	Member
20.	P.K. Bairagi, TO	CSTARI, Kolkata	Member
21.	B. Biswas, TO	CSTARI, Kolkata	Member
22.	K.V.S. Narayana, TO	CSTARI, Kolkata	Member
23.	Swapan Sen, TO	CSTARI, Kolkata	Member
24.	Pradip Biswas, Jr. D/man	CSTARI, Kolkata	Member
25.	Hemant Kujur, Jr. D/man	CSTARI, Kolkata	Member
26.	Jinendran PK, JC	CSTARI, Kolkata	Member