Syllabus For Domestic IT Support Technician

Course Name	Domestic IT Support Technician		
Sector	IT-ITES		
Course Code	ITE/2024/DITT/415		
Level	3		
Occupation	Domestic IT Support Technician		
Job Description	The role of a Domestic IT Support Technician involves ensuring the safe		
	setup of computer systems, performing hands-on tasks in computer		
	labs, troubleshooting hardware and software issues, providing user		
	support, and overseeing the maintenance and security of computer		
	networks. Additionally, this role includes facilitating effective		
	communication through social media platforms and e-services.		
Course Duration	Total Duration 390 Hrs. (T- 90 , P-180 , OJT-60 and ES-60)		
Trainees' Entry Qualification	Grade 10		
	OR		
	Grade 8 with two years of (NTC/ NAC) after 8th		
	OR		
	Grade 8 pass and pursuing continuous schooling in regular school with		
	vocational subject		
	OR		
	8th-grade pass with 2 years of relevant experience		
	OR		
	Previous relevant Qualification of NSQF Level 2 with one year of		
	experience		
	OR		
	Previous relevant Qualification of NSQF Level 2.5 with 6 months		
	experience		
Trainers Qualification	Graduate in any discipline with 2 years of experience in IT Support		
	Service		
	OR/		
	MCA with 1 year experience in the relevant field		

Structure of Course:

Module No.	Module name	Outcome	Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.) [Multiple of 30]
1	Occupational safety hazards	Apply safe working practices	10	20	30
2	Introduction to Computers	Describe the fundamental concepts of computers along with the installation of different parts of computers	10	20	30

Module No.	Module name	Outcome	Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.) [Multiple of 30]
3	MS Office fundamentals includes Word, Excel and Power Point	Perform basic operations on Word, Excel, and PowerPoint, like creating formatting and editing, etc.	10	20	30
4	Software and Languages	Demonstrate the basic functionalities of different types of Operating Systems with the knowledge of installation and configuration of Windows / Linux Operating System	10	20	30
5	Computer Networking	Describe the concept of networking with the practical knowledge of network installation to enable smooth communication and data exchange between devices	10	20	30
6	The Internet and Cyber Security	Explain the procedure of accessing information from Internet using different Web Browser along with basic knowledge of computer security.	10	20	30
7	Social networking and e-services	Communicate responsibly on social networking sites and use e-services	10	20	30
8	IT service Requests Handling	Identify & resolve customers service requests using organization's procedure	10	20	30
9	Manage customer requirements	Plan and organize the work in order to complete it on time	10	20	30
10	ОЈТ	Work in real job situations with special emphasis on basic safety and hazards in this domain (OJT).		60	60
11	Employability Skill	As per guided curriculum	60		60
TOTAL:		150	240	390	

SYLLABUS:

Module no. 1: Occupational safety hazards

Outcome: Apply safe working practices

Theory Content:

- Explain the scope of Computer Application Trade
- Identify safety rules and safety signs
- Identify types and working of fire extinguishers
- Introduction to special keys and numeric keys and their usage
- Introduction to computer system with the concept of hardware and software

Practical Content:

- Visit the Computer Application lab. of the institute and locate the electrical connections with the computer system setup
- Identify the safety symbols and hazard identification
- Practice safe methods of fire fighting in case of electrical fire
- Use of fire extinguishers

Module No. 2: Introduction to Computers

Outcome:

Describe the fundamental concepts of computers along with the installation of different parts of computers

Theory Content:

Introduction to Computers

- Evolution of computers
- Computer hardware generations
- Classification of Computers
- Basic Computer Organization
- Computer System: Hardware, Software, Data and People
- Applications of computers in modern society

Describe Memory and Storage Systems

- Cache Memory
- Primary memory: RAM,ROM
- Secondary memory: Hard disks, CD Rom, DVD Rom, USB Flash drive etc

Explain Input and Output Devices

- Input Devices: Keyboard, Pointing devices, Handheld devices, Optical devices etc
- Output Devices: Monitors, Projectors, Printers, Plotters etc
- Study of Motherboard, SMPS, HDD

Practical Content:

- Identify computer peripherals and internal parts (CPU, SMPS, RAM etc.) of a PC
- Remove and refit RAM, Processor etc.
- Identify cable connections inside a PC
- Identify the components of a motherboard
- Practice on Hard Disk Partitioning And formatting
- Identify various components of HDD and write their functions
- Install ,uninstall and make settings for the devices like keyboard, mouse, display etc

- Installing a printer and carry out self test
- Carry out replacement of toner cartridge of laser printer
- · Change mechanical parts of laser/inkjet printers
- Study the different expansion slots of a motherboard, set the NIC to expansion slot and to install the driver.

Module No. 3: MS Office fundamentals includes Word, Excel and Power Point Outcome

Perform basic operations on Word, Excel and Power Point, like creating formatting and Editing etc.

Theory Content:

Basics of MS word

- Introduction to the various applications in MS office.
- Introduction to Word features, Office button, toolbars.
- · Creating, saving and formatting and printing documents using Word.
- Discuss on working with objects, macro, mail merge, templates and other tools in Word

Basics of MS Excel

- Introduction to Excel features and Data Types.
- Demonstrate Cell referencing and linking Sheets.
- Introduction to various functions in all categories of Excel.
- Explain the concepts of sorting, filtering and validating data.
- Analyzing data using charts, data tables, pivot tables, goal seek and scenarios.

Basics of MS Power Point

- Introduction to Open Office.
- Introduction to the properties and editing of images.
- Introduction to different formats of images and their uses.
- Introduction to Power Point and its advantages.
- Create Slide Shows.
- Discuss Fine tuning of presentation and good presentation technique.

Practical Content:

Microsoft Word

- Familiarize with basic word components including creating, resizing, renaming, and closing documents
- Edit and save documents, exploring "Save As" options
- Utilize menu bar and standard toolbar features, practicing the insertion and formatting of tables and objects
- · Create document and non-document files
- Create tables, insert pictures and videos
- Practice on mail merge documents, creating bookmark, hyperlinks

Microsoft Excel

- Familiarize with MS Excel components, creating and formatting spreadsheets
- Utilize absolute and relative referencing, linking sheets, and applying conditional formatting.
- Explore various data types in Excel, sorting, filtering and validating data.
- Create static and dynamic charts, and practice importing and exporting data
- Utilize Excel for creating worksheets with graphs and visuals

Microsoft PowerPoint

- Open power point presentation and familiarize with basic application components
- Create Slide shows, Insert picture and theme.
- Add new slide, format text, link with word and excel documents.
- Create slide shows by inserting audio & video and synchronize with presentation.
- Practice on working with MS Power point for creating multimedia presentation
- Practice on working with custom animation and effects

Module 4: Software and Languages

Outcome

Demonstrate the basic functionalities of different types of Operating Systems with the knowledge of installation and configuration of Windows / Linux Operating System

Theory Content:

- Explain the Functions of software
- Identify different types of software
 - System Software : Operating System, Utility Programs, Device Drivers, Language Translator, Linker, Loader
 - Application Software: General purpose and Application purpose software

Operating System

- Definition and Functions of OS
- Identify various types of OS
- Discuss System Operations: Booting, Buffering, Virtual Memory, Directory, and File Structure
- Explain DOS commands and their uses
- Demonstrate MS Windows OS
- Introduction to UNIX Commands and its uses

Troubleshooting

- Describe troubleshooting and types of troubleshooting
- Steps of troubleshooting.

Practical Content:

- Practice on Windows interface and navigating windows
- Practice on managing files and folders using drives
- Customize desktop settings and manage user accounts
- Practice Hard Disk partitioning
- Identify various components of HDD and write their functions
- Print and scan documents using different commands
- Install necessary application software for windows i.e. office package, PDF reader Media player
- Install Drivers for printer, scanner, webcam etc.
- Manage files and folders using basic DOS commands for directory listing
- Use DOS commands
- Install and configuration of Microsoft Windows latest OS (Windows 7/8/10)
- Install Linux with necessary software for Linux
- Use basic Linux commands
- Work with basic troubleshooting techniques
- Different types of problems and make solutions (e.g. application running slowly and frozen, computer is frozen, mouse/keyboard has stopped working, screen is blank etc.)

Module 5: Computer Networking

Outcome

Describe the concept of networking with the practical knowledge of network installation to enable smooth communication and data exchange between devices

Theory Content:

- Different types of network media are required for successful LAN and WAN connections, along with their distinct roles.
- Basic concepts of Client, Server, Workstation, Hubs, and their applications.
- Explore network architectures like Peer-to-Peer, Client-Server, and Distributed.
- Differentiate transmission types: Simplex, Half duplex, and Full Duplex Mode.
- Different network topologies and their pros and cons.
- Familiarize with networking devices and media like Switches, Repeaters, Connectors, and Cables etc.
- Explore IP addressing.
- Introduction to Layer 3 Switch, IP Routing Process, Configuration mechanism from CLI.
- Explain URL, SMTP, TELNET, FTP, HTTP, SNMP, LDAP, SSH, NTP, IPP, HTTPS etc.

Practical Content:

- Demonstrate network implementations and device applications.
- Demonstrate Client, Server, Workstation, Hubs, and their applications through Slides / Pictures.
- Identify different network systems like Peer-to-Peer and Client-Server.
- Practice identifying transmission media types.
- Crimp RJ45 Connectors and IO BOX.
- Hand-on practice on Windows networking, Data Sharing, and Printer Sharing
- Remote Desktop Connection using Windows RDC.
- Configure shared folders and access rights in Windows Server.
- Create Shared Folders for each user and assign
- Print Sharing in Linux OS, and sharing between Windows & Linux systems using NFA, and SAMBA services.
- Connect computers to the network via Drop cable and Wi-Fi configuration.
- Configure Layer 3 Switch and verify IP Routing Process.
- Configure mailbox with Outlook and router/modem settings
- Install VLANs, configure SSID for secure wireless connections

Module No. 6: The Internet and Cyber Security

Outcome:

Explain the procedure of accessing information from Internet using different Web Browser along with basic knowledge of computer security.

Theory Content:

The Internet and Cyber Security

- Explore the Internet's history and applications with an understanding of the World Wide Web
- Describe the use of Web Browsers, Search Engine, E-mail Service
- Define Computer Security
- Explain Cyber Stalking, Malware, Fraud and Abuse
- Overview of Information Security, SSL, HTTPS, Security threats

- Introduction to Privacy protection, Audit and Security.
- Introduction to IT Act and penalties for cyber crimes.

Practical Content:

- Use of Web Browser and World Wide Web for accessing information
- Use of Search Engine for information of some topic
- Create a new Gmail account and practice sending/receiving messages with attachments.
- Apply security measures against viruses, spyware, and malicious code, including firewall protection for internet and network systems
- Make backup copies of important file, data and information.
- Practice on securing Wi-Fi networks using password

Module no. 7: Social networking and e-services

Outcome:

Communicate responsibly on social networking sites and use e-services with respect to the requirements

Theory Content:

- Introduction to social Networking
- Explain the usage of social networking site e.g. Facebook, LinkedIn, Twitter, Blog, Wiki etc
- Demonstrate the use of Social networks for business and professional purposes.
- Identify various types of social Networking content
- Discuss about Instant messaging apps like WhatsApp, Facebook, Messenger, Telegram, Instagram
- Overview of Govt. Initiatives e-services like online booking, Railway Reservation, Passport, eHospital, e-Sewa etc.
- Explain the benefits of using e-services
- Discuss Institution Initiatives e-services e. g. online registration, result declaration etc.

Practical Content:

- Practice on opening Facebook, Twitter account
- Create, send and reply messages using Facebook, Twitter
- Demonstration on working with Social networking for business
- Practice for instant messaging on WhatsApp, Facebook Messenger, Telegram, Instagram etc
- Practice of e-services- Govt. Initiatives (online booking, Railway Reservation, Passport, e-Hospital)
- Practice on working with institution online services

Module no. 8: IT service Requests Handling

Outcome:

Identify & resolve customers service requests using organization's procedure

Theory Content:

- Describe service Requests/Incidents in technical support with example
- Define organization's policies, guidelines and service level agreements dealing with customers
- Importance and classify of customer's queries/requests
- Define ticketing tools, types of ticketing tools and technical tools for handling service requests.
- Describe types of incident management and steps involved in incident management process
- Describe advantages of using incident management software tools to support incident management
- Different types of customer queries and how to resolve them
- Discuss the technical skills for incident management

Practical content

- Observe Organization's management tools and systems for recording, resolving customer service requests
- Demonstrate customer relationship management (CRM) tools and systems
- Monitor, access and validate customer service requests for generic incidents

- Record and acknowledge service requests/Incidents using standard technical tools for customer service
- Resolve different types of incidents in the following work area:
 - 1. Networking/connectivity problems
 - 2. Hardware related problems
 - 3. Software installation problems
 - 4. Voice, telephone, video related problems
 - 5. Database problems
- Use different types the ticketing tools
- (e.g. HelpDesk software, customer support software, customer support software, live chat software).
- Practice Different styles and approaches when working with customers
- Practice different questioning techniques for understanding customer support
- Listen effectively and orally communicate information accurately
- Maintain positive and effective relationships with customers
- Apply problem solving approaches in different situations
- Check your own work meets customer

Module no. 9: Manage customer requirements

Outcome

Plan and organize the work in order to complete it on time

Theory Content:

- Define work activities and its requirements.
- Discuss the output of your work.
- Discuss organization's policies, procedures and priorities for area of work.
- Discuss role and responsibilities in carrying out your work.
- Prioritize workload according to urgency and importance
- Demonstrate Importance of having a tidy work area
- Explain the need of working effectively in team.
- Identify resource needed for your work.
- Purpose of keeping updated with the progress of the work.
- Core and generic skills to work effectively.

Practical Content:

- Plan and organize work to achieve targets.
- Ask for clarification and advice from line managers.
- Provide relevant information to others.
- Establish and agree work requirements with appropriate people.
- Work effectively in a team environment.
- Keep work area clean and tidy.
- Utilize resources correctly and effectively.
- Check own work meets customer requirements.

Module No 10: OJT

Outcome: Work in real job situations with special emphasis on basic safety and hazards in this domain

Practical Content:

The assessor will check the report prepared for this component of Practical training of the course and assess whether competency has been developed to work in real job situations with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in the actual workplace

Duration: 1.5 Hours

Duration: 1.5 Hours

Duration: 2.5 Hours

Duration: 2 Hours

under any supervisor/contractor for **60 Hours.**)

Module No 11: Employability Skills (60 Hrs.)

Key Learning Outcomes

Introduction to Employability Skills

After completing this program, participants will be able to:

- 1. Discuss the Employability Skills required for jobs in various industries
- 2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship

- 3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible
- 4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century

- 5. Discuss importance of relevant 21st century skills.
- 6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
- 7. Describe the benefits of continuous learning.

Basic English Skills

- **Duration: 10 Hours** 8. Show how to use basic English sentences for everyday conversation in different contexts,
 - in person and over the telephone
- 9. Read and interpret text written in basic English
- 10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills Duration: 5 Hours

- 12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
- 13. Explain the importance of active listening for effective communication
- 14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion

- **Duration: 2.5 Hours** 15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders
- and PwD
- 16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy

Duration:5 Hours

Duration: 10 Hours

- 17. Outline the importance of selecting the right financial institution, product, and service
- 18. Demonstrate how to carry out offline and online financial transactions, safely and securely
- 19. List the common components of salary and compute income, expenditure, taxes, investments
- 20. Discuss the legal rights, laws, and aids

Essential Digital Skills

- 21. Describe the role of digital technology in today's life
- 22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
- 23. Discuss the significance of displaying responsible online behavior while browsing,

Duration: 8 Hours

- using various social media platforms, e-mails, etc., safely and securely
- 24. Create sample word documents, excel sheets and presentations using basic features
- 25. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

- 26. Explain the types of entrepreneurship and enterprises
- 27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
- 28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
- 29. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 5 Hours

- 30. Describe the significance of analyzing different types and needs of customers
- 31. Explain the significance of identifying customer needs and responding to them in a professional manner.
- 32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs

- 33. Create a professional Curriculum Vitae (CV)
- 34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
- 35. Discuss the significance of maintaining hygiene and confidence during an interview
- 36. Perform a mock interview
- 37. List the steps for searching and registering for apprenticeship opportunities

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Learning Outcome - Assessment Criteria

Module No.	Outcome	Assessment Criteria
		After completion of this module students will be able to:
4	Apply safe working practices	1.1 Recognize hazards in the laboratory1.2 Respond appropriately to safety rules, signs and other safety instructions
1		1.3 Take action to minimise or eliminate any risks to health and safety.
		1.4 Demonstrate knowledge of safety rules and risk assessments for tests and examinations
		1.5 Manage work safely. After completion of this module students will be
	computers along with the installation of different parts of computers	able to: 2.1 Describe generation of computers
		2.2 Classify of computers
2		2.3 Describe input, output and storage devices used to present the processed data
		2.4 Identify various components of HDD and write
		their functions
		2.5 Perform hard Disk Partitioning And formatting
	Perform basic operations on Word, Excel	
3	and Power Point, like creating formatting	3.1 Create, edit, save, format and print a document in
J	and Editing etc.	Word Processing software.
		3.2 Create, save, modify and move a worksheet in

Module No.	Outcome	Assessment Criteria		
		spreadsheet.		
		3.3 Create, save, add and print a presentation.		
4	the knowledge of installation and	4.2 Classify software along with their functions 4.3 Work with Windows OS, Linux etc. 4.4 Classify computer languages 4.5 Install necessary application software for windows i.e. office package, PDF reader, Media player etc.		
5	Describe the concept of networking with the practical knowledge of network installation to enable smooth communication and data exchange between devices	disadvantages. 5.3 Demonstrate hands-on use of networking devices. 5.4 Install a LAN (wired or wireless) 5.5 Configure the switch. 5.6 Configure Windows, Linux, and Proxy Server. 5.7 Troubleshoot wired or wireless networks.		
6	Explain the procedure of accessing information from Internet using different Web Browser along with basic knowledge of computer security.	After completion of this module students will be able to: 6.1 Describe the applications of internet 6.2 Illustrate the use of Web Browser, Search Engine and World Wide Web for accessing information 6.3 Perform Sending and receiving messages & Sending attachment with E-mail 6.4 Protect information, computers and networks from viruses, spyware and other malicious code. 6.5 Provide firewall security for Internet connection and Network System. 6.6 Secure wifi with password		
7	Communicate responsibly on social networking sites and use e-services	After completion of this module students will be able to: 7.1 Demonstrate proficiency and understanding of social networks for business and professional use 7.2 Demonstrate the basic concepts in social networking. 7.3 Utilize social networking concepts for solving realworld social network issues. 7.4 Receive and send messages with Social network 7.5 Practice on working with e-services- Govt. Initiatives like online booking, Railway Reservation, Passport, e-Hospital etc. 7.6 Practice on working with institution online		

Module No.	Outcome	Assessment Criteria		
		services		
8	Identify & resolve customers service requests using organization's procedure	After completion of this module students will be able to: 8.1. Introduction to deal with customer and greet the customer 8.2. Define organization's policies, guidelines and service level agreements dealing with customers 8.3. Different types of service Requests/Incidents 8.4. Different styles and approaches when working with customers 8.5 Describe types of incident management and steps involved in incident management process 8.6 Describe advantages of using incident management software tools to support incident management 8.7 Apply Techniques for conveying commitment		
9	Plan and organize the work in order to complete it on time	After completion of this module students will be able to: 9.1 Define work activities and its requirements. 9.2 Discuss the output of your work. 9.3 Plan & organize work 9.4 Discuss organization's policies, procedures and priorities for area of work. 9.5 Prioritize workload according to urgency and importance 9.6 Explain importance of having a tidy work area 9.7 Illustrate the need of working effectively in team. 9.8 Explain the purpose of keeping updated with the progress of the work.		
10	OJT	Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for 60 Hours.)		
11	Employability Skill	As per guided curriculum		

List of Tools, Equipment & materials needed for 30 Trainees (Practical)

SI No	Items Name	Specification	Qty
1	Desktop PC	Desktop Computer (Core i5/ Core i7 processor) with the computer setup and different types of system Software and application software	30
2	Laptop	4 th Gen Ci5 or higher Processor, 4GB RAM, 1TB Hard Disk, Win8/latest reloaded Licensed OS, 2GB Graphic Card, DVD Writer, Standard ports and connectors.	1
3	Wi–Fi Router	With wireless connectivity	1
4	Structured Cabling in Lab	To enable working with wired networks for	As required

SI No	Items Name	Specification	Qty
		practical	
5	Switch	16 port	1
6	Internet connectivity	Broadband connection with min. 2 mbps speed	As required
7	Laser Printer	Standard	1
8	Micro Phone Cum Head Phone	Wired	5
9	LCD Projector	3000 lumens or higher	1
10	Projector Screen	Matte(antiglare) screen roll type	1
11	External Hard Disk	1 TB	1
12	Network Rack	4U for 24 port	1
13	Screw Driver Set	Standard	1
14	Patch Panel	24 port	1
15	LAN Tester	LAN Tester	1

Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Apply safe working practices	ITE/2123/OC1	10	70	0
Describe the fundamental concepts of computers along with the installation of different parts of computers	ITE/2123/OC2	10	70	0
Perform basic operations on Word, Excel, and PowerPoint, like creating formatting and editing, etc.	ITE/2123/OC3	20	70	0
Demonstrate the basic functionalities of different types of Operating Systems with the knowledge of installation and configuration of Windows / Linux Operating System	ITE/2123/OC4	20	80	0
Describe the concept of networking with the practical knowledge of network installation to enable smooth communication and data exchange between devices	ITE/2123/OC5	20	80	0
Explain the procedure of accessing information from Internet using different Web Browser along with basic knowledge of computer security.	ITE/2123/OC6	20	70	0
Communicate responsibly on social networking sites and use e-services	ITE/2123/OC7	20	70	0
Identify & resolve customers service requests using organization's procedure	ITE/2123/OC8	20	70	0
Plan and organize the work in order to complete it on time	ITE/2123/OC9	10	70	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	ITE/2123/OC10	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0