

# **BANGLADESH TECHNICAL EDUCATION BOARD**



**SYLLABUS FOR THE SHORT COURSE**

**ON**

## **IT Support Technician**

**Total Duration: 360 hours**

# Course Title: **IT Support Technician**

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# Course Name : IT Support Technician

## Introduction:

**IT Support Technician** course provides a solid foundation in the basic and intermediate skills for working with Hardware, Operating system, Application Software, Networking and Internet basic applications. This course is ready to extend the knowledge and upgrade skill into some of the more specialized and advanced capabilities of basic operations in IT Support.

## Objectives:

After completion of the course the students will be able to-

- Hardware Assembling & Troubleshooting.
- Installing and operating PC with different operating system like Windows, Linux Desktop, etc.
- Installing various Application and/or Utility Software like Antivirus Software, Browsers, Office Applications, Audio/Video/Image Editing Software, Typing Software (English and Bangla), etc.
- Work with Microsoft Office Applications.
- Basic SOHO Network design and implementation.
- Use e-mail and Internet.

## Course Outline:

Name of Course	Duration of Course		Entry Qualification
<b>Certificate in Computer Office Application</b>	Total 360 hrs	5 days per week, Per day 3 hrs	Minimum SSC Pass.
	Theory= 60 hrs Practical= 240 hrs. English= 60 hrs	Theory = 1 hr, per lesson Practice = 2 hrs. per practice	
		Total = 3 hrs, per working day	

## LIST OF COMPETENCIES:

### Basic Competencies:

- a) Receive and respond, Participate and Lead to workplace communication:
1. Work with others, Team Environment and Lead small Teams:
  2. Demonstrate work values, Practice career professionalism and Develop & Practice Negotiation skills.
  3. Practice housekeeping procedures. Occupational health and safety procedure and Solve problems related to work Activities:

4. Use Mathematical Concepts & Techniques and Use Relevant Technologies:

5. Personal Manner

a) (ii) Efficiently communicate in English

1. Speak in English with confidence.
2. Communicate with target persons effectively.
3. Understand the speech of English users.
4. Achieve better professional performance

### Common Competencies:

1. Acquire knowledge on Computer Fundamentals
2. Understand Hardware, software and Firmware
3. Assembling & Troubleshooting Hardware
4. Installing Peripheral Components and managing system components
5. Installing Operating System (Windows and Linux Desktop)
6. Operate PC with Windows and Linux Desktop Operating System
7. Installing & Troubleshooting Printer, Scanner and Modem.
8. Formatting, Installing & working with Portable Hard drive, USB Drive & CD/DVD.
9. Installing and learn Microsoft Office Applications.
10. Working with MS Word, MS Excel, MS PowerPoint, MS Outlook, MS Access.
11. Working with different Application Software, Utility Software & System Monitoring Software
12. Compose sample Documents (Using Bangla & English software)
13. Basic SOHO Network Design & Implementation.
14. Basic Router (Wired and/or WiFi) Installation & Maintenance
15. Working with E-mail & Internet.

### Core Competencies:

1. Operate PC with Windows & Linux Desktop Operating System, connect each part of a personal computer system and install /uninstall program/software.
2. Create a complete document with MS Word in Bangla and English using all necessary formatting.
3. Create Spreadsheet and working with different functions of MS Excel.
4. Create and use a complete Database using MS Access
5. Perform attractive presentation using MS PowerPoint.
6. Network cabling & SOHO network designing.
7. Check/Send e-mail and Internet Browsing.

### Contents:

a) (i) Basic Competencies - 30 hours

Period	Topics	Hours
1. Receive and Respond, Participate and Lead to workplace communication:		
1	a) Explain & follow routinely speaking & messages in a workplace.	1
2	b) Follow routinely Speaking & message.	1
3	c) Perform work duties following written notices.	1
2. Work with others, Team Environment and Lead small Teams:		
3	a) Develop effective workplace relationship.	1.5
4	b) Contribute to work group activities.	1.5
3. Demonstrate work values, Practice career professionalism and Develop & Practice Negotiation skills		

5	a) Define the purpose of works.	1
6	b) Apply work values/ethics.	1
7	c) Deal with ethical problems.	1
8	d) Maintain integrity of conduct in the workplace.	1
4. Practice housekeeping procedures, Occupational health and safety procedure and Solve problems related to work Activities:		
9	a) Sort and remove unnecessary items.	1
10	b) Arrange items.	1
11	c) Maintain work areas, Tools and Equipments.	1
12	d) Follow standardizes work process and procedures.	1
13	e) perform work spontaneously.	1
14	a. Use Mathematical Concepts & Techniques and Use Relevant Technologies:	3
6. Personal Manner:		
15	a) Show good Manner.	2
16	b) Respect honorable person (Sir, Senior, Trainees).	2
17	c) Cooperate & Thinking to each and other about practical works.	2
18	d) Maintain sequence in practical works.	2
19	e) Own Responsibility & Duties of practical works.	2
20	f) Observation of all practical works.	2

**a) (ii) Communicative English - 30 hours (Practical)**

- a) Interpret the meaning of given words (by the teachers) - Vocabulary.
- b) Speaking on a specific Situation.
- c) Public speaking.
- d) Exchanging views with target persons.
- e) Introducing one self.
- f) Describing & narrating events, places, objects etc.

**Communicative English - 30 hours**

Related Subject-10 hours and General Subject- 20 hours 1 hour/period

On the completion of this course trainees will be able to:

1. Speak in English with confidence
2. Communicate with target persons effectively.
3. Understand the speech of English users.
4. Achieve better professional performance.

No. of period	Tropics- Conversational Situation	hours
01	Speaking English – Getting Information & Finding one’s way	1
02	Speaking English – About Tools and Equipments	1
03	Speaking English – About meeting some one & participating in class.	1
04	Speaking English – Daily Activities & Asking About Activities	1
05	Speaking English – Evening Activities and about theoretical contents.	1
06	Speaking English – Meeting at the Train station & Asking Question at the Train station.	1
07	Speaking English – Meeting at the Airport & Getting information at the Airport’s	1
08	Speaking English – About different type of Measuring Tools and Cutting Tools	1

09	Speaking English – Getting to the Hotel & Asking direction.	1
10	Speaking English – Asking about Buses & Traveling by bus.	1
11	Speaking English - About Practical Class.	1
12	Speaking English – Going by Taxi and Asking the time.	1
13	Speaking English – Arriving early or late and Time and the calendar.	1
14	Speaking English – Living in an Apartment.	1
15	Speaking English – Using the Telephone.	1
16	Speaking English – Getting help in stores and talking about shopping.	1
17	Speaking English – Sending and Receiving Letters.	1
18	Speaking English – Talking about the Weather & Trips and sight seeing.	1
19	Speaking English – Talking about Eating & Dinner Conversation.	1
20	Speaking English – About Machines and Materials.	1
21	Speaking English – Common Health problem and Quitting & Finding Jobs.	1
22	Speaking English – Office Details and Office Conversation.	1
23	Speaking English – About Practical Job.	1
24	Speaking English – On a specific situation & Public speaking.	1
25	Speaking English – About Exchanging view with a Persons & Introducing oneself.	1
26	Speaking English – Describing and Narrating events, place, Objects etc.	1
27	Speaking English – About different type of computer, operating system, system and operating software, add remove software, DBM, Email and internet .	4

### **Practical:**

1. Speaking on a specific Situation.
2. Public Speaking.
3. Exchanging views with target persons.
4. Introducing one self.
5. Describing & Narrating events, places, objects etc.
6. Producing the meaning of given words (by the teachers)-Vocabulary.
7. Prepared speech.

Common & Core Competencies 300 hours

a) Theoretical: 60 hours

Sl. No.	Competencies	Hours
01	Acquire knowledge on Computer Fundamentals Describe the history of computer. List different types of computer depending on data processing. Classify computer depending on capability, size, speed, etc. Difference between Hardware & Software.	3
02	Learn Computer System Components Learn Storage Devices Classification of different type of Storage Devices Define Hard Disk Type (PATA, SATA, SSD, etc)	3
03	RAM Types and Features List the types of Memory Identify Primary and secondary Memory Distinguish between RAM and ROM State Bit, Byte, Kilobyte, Megabyte, Terabyte.	3
04	Device Connections and Interfaces Hardware Port (Ex: Serial, Parallel, HDMI, USB/PS2, etc.) Learn Hardware specification for PC	3
05	Learn Operating System Fundamentals Personal Computer Operating System Define Single user OS, Multiple user OS, multitasking	3
06	Control Panel Utilities Security Settings Operating System Tools	3
07	Difference between System Software and Application Software. Learn Operational Procedures Basic Maintenance Tools & Techniques	3
08	Describe computer virus and anti-virus, computer security. Describe Printer Technologies.	3
09	Describe MS word and its environment. Mention the advantage & disadvantage of using word processor. State the significance of different type of documents Define different Tools/Ribbon options Acquire knowledge about MS word and its components.	3
10	Define "Type Tutor" and the importance of systematic procedure and speed of typing.	3
11	Define Spread Sheet. Mention the application of spreadsheet program. Identify the components of MS Excel Identify Rows, Columns, Cells and range	3
12	Describe the different Functions of MS Excel.	3
13	State Slide Presentation. Describe components of MS Power point.	3
14	Describe about Webpage, Website and Internet. State the components of Internet and their uses. State IT vulnerability assessment State SPAM, SCAM, SPOOFING	3
15	Describe the application of Internet, E-mail message, E-mail account, List the type of web browser (Internet Explorer, Mozilla Firefox, Chrome, Safari) etc.	3

	State components of Web Browser State components (sections) of e-mail. Define To, CC & BCC	
16	Define Database Mention its application. Define Data, Information, Record, Row, Column, Table, DBMS, RDBMS, Distributed Database Model. List of Popular database software.	3
17	Define Data types and list the available data types in MS Access Define Fields and Naming convention of fields and mention the Field Properties Define Primary & Foreign Key, composite key, candidate key Independent & dependent table	3
18	State Database components (Table, form, query, report, macro, module, etc.) Mention the different types of query and its importance. Define Report, identify the necessity of reports and the different sections in a report	3
19	Learn Network Fundamentals Physical Network Connections Physical Cards and ports TCP/IP IPv4 Classification (A Class, B Class, C Class, etc.)	3
20	Describe Network Connectivity Describe Ports and Protocols Describe Networking Tools	3
		=60

### b) Practical Common and Core 240 hours

Sl. No.	Competencies	Hours
<b>Overview of Computer and Operating System</b>		
01	Identify the different units of a Personal Computer – Casing, Motherboard, Power Supply, Hard Disk, RAM, Lan Card/ Wifi Lan Card, PCI VGA Adapter, etc. BIOS Setup Assemble all the components, ensure power cables and data cables connection. Front panel power switch, Front or Back panel USB ports, LEDs, etc.	4
02	Re-assemble all the components of a Personal Computer Identify the different units of Laptop/Notebook.	4
03	Plugin the external devices of computer – Printer, Scanner, Modem, Webcam, etc.	2
04	Install Microsoft Windows Windows upgrade and preventive maintenance	4
05	Install, Configure and maintain Printer Install, Configure and maintain Scanner Install, Configure and maintain Modem	3
06	Practice on Windows Operating System Environment. Select, open and close Desktop icons for navigation purposes. Create / Rename a folder, Cut/Copy/Paste a File or Folder. Run program/application based on job requirements.	3



	Create and manage User Accounts	
07	Use windows explorer and Desktop Management. Copy data on storage device	3
08	Install and Uninstall software, Run setup program	3
09	Troubleshoot Video and Display devices Troubleshoot Hard drives Troubleshoot Printers, Scanners Troubleshoot Modem	3
<b>Microsoft Office Applications</b>		
<b>Word Processing (MS Word) and Typing Practice</b>		
10	Identify the different components of MS Word program. Select Text using mouse / keyboard Edit text as per requirement	3
11	Format Text / Paragraph. Practice typing using "Type Tutor"	3
12	Save a new document in a specific folder, Open the previously saved document Practice with save and save as option Compose sample English document	3
13	Create a document with multiple page Insert page break, page numbers, date & time, footnote & endnote, header & footer, symbols in a document .	3
14	Insert Picture from ClipArt, Image File, WordArt in a created document.	3
15	Compose Bangla/English document Install and work with specialized Bangla Typing software	3
16	Use AutoSave, AutoCorrect Options and other options of tools menu.	3
17	Work with Mail Merge Wizard and Macro. Create Primary or main document, and secondary document (Add/Remove Fields, Get data or Fill up the forms) Merge Documents in accordance to task assigned Print Document, create & print Envelopes, and create & print labels in a document.	3
18	Configure Paper size, Margins, Gutters, Paper Orientation, Mirror Margin for printing a document. Print entire document or selective pages, or selective portion of the document as needed.	3
19	Use shortcut keys in MS Word.	3
20	Compose a sample document/application/Bio-data in Bengali and English with formatting.	3
<b>Spread Sheet Analysis (MS Excel)</b>		
21	Identify the different components of spreadsheet program Identify Rows, Columns, Cells and range Move cursor upward, downward, left, right, last cell, last column, last row, first cell, first row, first column	3
22	Use page setup options. Apply different options/operations of edit menu in a spreadsheet file (Cut, Copy, Paste, Paste Special, Fill, Clear)	3
23	Use various operations of find and replace in spreadsheet file in accordance to task assigned.	3

	Use Hide or show options for row/column when required and zoom the sheet.	
24	Insert AutoText and Custom Text as Header and Footer, Rows, Columns, Worksheets, symbols, Comments, Page Breaks, Copied Cells, Picture from ClipArt & Image in spreadsheet file in accordance to task assigned.	3
25	Format Rows & Columns, format Cells with Number on task necessity Practice Decimal place setting and style of Negative figures. Format Cells for Alignment, Merge, and Fonts	3
26	Practice cell reference (Absolute & Relative). <b>Logical Functions-</b> AND(), OR(), IF(), TRUE, FALSE <b>Date &amp; Time Functions-</b> Now(), Today(), DAYS360(), HOUR(), MINUTE()	3
27	<b>Practice Mathematical Functions-</b> Abs(), Sum(), SUMIF(), CEILING(), FLOOR(), MOD(), POWER() <b>Financial Functions-</b> DB(), FV(), PMT(), PV(), RATE(), IPMT(), ISPMT(), NPER(), NPV()	3
28	Create a salary sheet and prepare, sort by name/by salary/by date and also check for Spelling & Grammatical Error	3
29	Set Page Orientation, Paper Size, Scaling, Margins, print Titles to the center of the page, set printer as default Print a hardcopy of entire Book, entire Worksheet, or selective pages of a Worksheet from MS Excel. Understanding Print Area and Clear Print Area under file menu.	3
<b>Power Point</b>		
30	Identify the different components of MS Power Point Program	3
31	Design templates, color schemes, animation schemes Add/delete slides in the presentation in accordance with the necessity	3
32	Add Pictures, graphs, charts and other objects into slides as per requirements. Animate Text and other objects are in a very attractive way or motion.	3
33	Execute Slide transitions in accordance with the theme of the subject matter of the presentation. Use Sound effects and custom path of animation effects in the presentation. Add Video Clips.	3
34	View Slides of PowerPoint presentation in a different way (for example outlining, slide shorter, etc.) Reorder Slides of PowerPoint presentation on the outline Tab in accordance with the necessity.	3
35	Preview a presentation and print from MS PowerPoint.	3
36	Customized a slide show setup for a particular audience. Set up a slide show, Rehashing and timing a of a presentation. Review and adjust Slide timing as per requirement.	3
37	Present a Slide Show.	3
<b>Database Management using MS Access</b>		
38	Identify the different units of MS Access program	3
39	Create Table, insert data into the created table, sort, update, delete data on different filed in Data Grid View.	3
40	Use Input Mask.	3
41	Use Validation Table.	3

42	Create various sample database tables (Schema Design)- i) School Database,	3
43	Create Relations among MS Access database tables in accordance to task assigned.	3
44	Use Relational operators in access query.	3
45	Design Reports using Wizards in various orientations. Display and modify Reports in design view in accordance to task assigned.	3
46	Use Set and Remove Passwords to maintain database security.	3
47	Export data to and Import data from other compatible Application Programs as per requirements.	3
<b>MS Outlook &amp; Other Email Applications</b>		
48	Create an E-mail account (on yahoo, hotmail, etc.) for the first time. Set-up an E-mail account first time using outlook.	3
49	Check, compose, send and reply of e-mail message. Attach a file to an e-mail message and open an attached file.	3
50	Use contact/address book. Backup Outlook files.	3
51	Delete a message temporarily and permanently. Clean up mail box by managing junk e-mail. Move messages to another folder. Create custom Folders to store custom emails. Creating Rules to manage automatic email folder arrangements in Outlook, Gmail, Yahoo, etc.	3
<b>Network Connectivity</b>		
52	Configure Network Connections Cabling using Network Tools RJ45 Clipping, Cat5/6 Connections Straight Forward and Cross Connections	4
53	Lan/Wireless Lan Card Installation, Configuration and maintenance Configure IPv4 Number System Conversation (Decimal to Binary and Binary to Decimal) Sub-netting Implementing IPv4 IP Addressing Automatic IP Addressing	4
54	Enable Workgroup Settings Setup File Sharing Enable Printer Sharing Implement System Security	3
55	SOHO (Small Office Home Office) Network Design Establish Switch Connection Configure Wired/Wireless Router	3
56	Network Troubleshooting Network Connectivity Troubleshooting Ping, Tracert, Ipconfig, nslookup and other basic networking commands	3
<b>Internet applications</b>		
57	Connect to the online by using Modem, Dial up or broadband Internet connection. Browse and visit the reputed website all over the world.	3
58	Use the search engine for searching Information on the web.	3
	Total	240

## Job List :

(a)

Creating a personal Bio-data (Sample Example )

- Steps:
1. Start a personal computer
  2. Start MS Word
  3. Create a new document
  4. Write personal information
  5. Write academic information
  6. Write interest, hobby etc.
  7. Save the document
  8. Print the document
  9. Close the document
  10. Exit from MS Word

(b)

Test the formula  $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$  (Sample Example )

- Steps 1:
1. Insert the values of a, b, c
  2. Show the output.
  3. Check the output if it is correct or not.
  4. Save the spreadsheet.

(c)

Create an office or business presentation. (Sample Example )

(d)

Create an e-mail address and send an-email to your friends with an attachment. (Sample Example )

(e)

Create a business web-site. (Sample Example )

(f)

Create a complete database system for student information system with entry form and generate needed report on it (Sample Example )

- Steps 1:
1. Create a database
  2. Create entry form
  3. Insert data
  4. Generate report

## Entry Qualification:

Minimum Class Eight Pass.

**Employment opportunities:**

1. Government Services,
2. Semi Government Services,
3. Corporation,
4. Private sectors,
5. NGO's
6. Abroad,
7. Self employment.

**Training Facilities for each group of 30 students:**

<b>Physical facilities</b>	<b>Size(in ft)</b>	<b>Area (in Sq. ft)</b>
Class Room cum Laboratory	15X 20	300
Office Room cum Library	15X20	300
Wash room	4X7	28

**List of Equipments Required**

<b>Tools</b>	<b>Quantity</b>
Personal Computer System and Accessories	10
Server PC	01
Scanner	01
Printer	01
Projector	01 (Optional)
UPS	05
Modem	01
LAN Card	10
RJ 45 Connector	10
Twisted pair	10
Switch (16 port)	01
DVD Read/Writer	01
MS Office CD	01
Windows XP CD	01
Type Tutor CD	01
Bijoy 2003 CD	01
Internet Connection	01( Broadband/Dial up)
First Aid Kit	01

**Book References:**

1. Mastering Microsoft Office Application

**The End**