IT-ITES

DOMESTIC IT HELPDESK ATTENDANT

REFERENCE ID: SSC/Q0110

WELCOME NOTE

Information Technology (IT) and Information Technology-enabled Services (ITeS) are one of the most significant growth stimulator of the Indian economy. IT industry has not only influenced the employment prospects of the people but also affected the social lives of the people by connecting them through network and social websites. The major segments of the Industry are IT Services, Business Process Outsourcing (BPO), engineering services, research and development and products. IT Products being manufactured in India include personal computers, servers, workstations, supercomputers, data processing equipment, printers, digitizers, etc. Much of the IT related activities are centred on services in Banking, Financial Services, Insurance, Telecommunication, Manufacturing, and Retail.

Indian IT Industry has been contributing substantially to India's Gross Domestic Product, exports and employment. The sector is responsible for enabling employment to an additional 8.9 million people in various associated sectors, such as security, transportation, housekeeping, catering, etc. It has grown tremendously over the last 15 years. The industry employs around 2.2 million people.

IT Helpdesk Attendant in IT-ITeS Industry is also known as Helpdesk Executive, Service Desk Executive, Technology Support Executive, IT Support Executive, and Helpdesk Coordinator. An IT helpdesk attendant is the initial point of contact for internal company customers seeking assistance and support with the company's intranet, desktop devices, and other business applications that are maintained by the support team. Primary responsibility of individuals at this job is to provide user support, managing Customer Service Desk application, responding to all incoming service requests and customer service; quickly diagnose technical issues and arrange solutions during normal operational business hours. He/she should be responsible for the smooth running of computer systems and ensuring users get maximum benefits from them.

The tasks of a Helpdesk Attendant vary depending on the size and structure of the organization and may include installing and configuring computer hardware operating systems and applications; monitoring and maintaining computer systems and networks; dealing with staff/clients either face to face or over the telephone to help set up systems or resolve issues; troubleshooting network problems and diagnosing and solving hardware/software faults of IT Helpdesk Attendant.

The job of IT Helpdesk Attendant requires the individual to have thorough knowledge of various technology trends and processes as well as have updated knowledge about IT initiatives. He/she should be highly motivated and energetic to timely respond to all issues, updates internal customers on status, solicits additional information, and troubleshoots issues. IT Helpdesk Attendant can explore job opportunities in IT multi-national companies, private IT organizations, IT call centers, IT software or equipment suppliers, IT maintenance companies, etc.

This Student Handbook will help you learn and practice the skills required to become a Domestic IT Helpdesk Attendant. You can highlight the important points and make notes too. The more you interact with the handbook, the more you learn.

It contains Activities to be performed in class and at home as well as Study Material for you to read.

This handbook will help you to learn better during the course and be useful later as a reference.

You will find this course material useful both for studying and as future reference. We welcome your feedback on any issue relating to this course and wish you all the best. Happy Learning!

Objectives of the Course

Upon completion of this course, you will be able to:

- Demonstrate the knowledge of modern computers and their parts and peripherals
- Communicate effectively at workplace
- Describe the use of various operating systems and software
- Demonstrate the knowledge of health, safety and security issues and follow best practices
- Demonstrate the knowledge of helpdesk system fundamentals
- Demonstrate the knowledge of fundamentals of network operating systems

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Unit 1 – Introduction to IT-ITES Industry

<u>**Learning Objectives:**</u>

- Introduction to IT-ITES Industry
- Objectives of the Course
- Meaning of IT Helpdesk
- Roles & Responsibilities of IT Helpdesk Attendant
- Required Skills to become an IT Helpdesk Attendant

Introduction to IT-ITES Services

Information Technology (IT) and Information Technology-enabled Services (ITeS) are one of the most significant growth stimulator of the Indian economy. IT industry has not only influenced the employment prospects of the people but also affected the social lives of the people by connecting them through network and social websites.

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Indian IT Industry has been contributing substantially to India's Gross Domestic Product, exports and employment. The sector is responsible for enabling employment to an additional 8.9 million people in various associated sectors, such as security, transportation, housekeeping, catering, etc. It has grown tremendously over the last 15 years. The industry employs around 2.2 million people.

Internet has made revolutionary changes with possibilities of online booking of tickets rail or air, filing Income Tax returns, online application for passports, online banking, etc. With an internet user-base of over 125 million, which is likely to grow to about half-a-billion over the next few years, and also an established base of 950 million mobile users, India will be a key player in the cyber-world.

With biometric technology fast maturing and becoming increasingly sophisticated, biometric solutions are starting to make serious inroads as a high-tech identity management and verification tool within the society. Such momentum has introduced the new possible markets for biometric data operator which has the largest impact on future societies. Future scope of the biometric systems in customer"s identification and authentication is seen in access and attendance control, travel control, financial and other transactions requiring authorization, remote voting (authorization) and use in automatic working devices.

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- Demonstrate the knowledge of helpdesk system fundamentals
- Demonstrate the knowledge of fundamentals of network operating systems

IT Helpdesk

IT Helpdesk is a service providing information and support to computer users, especially within a company.

In a business enterprise, a help desk is a place that a user of information technology can call to get help with a problem. In many companies, a help desk is simply one person with a phone number and a more or less organized idea of how to handle the problems that come in.

In larger companies, a help desk may consist of a group of experts using software to help track the status of problems and other special software to help analyze problems (for example, the status of a company's telecommunications network).

Typically, the term IT Helpdesk is used for centralized help to users within an enterprise. A related term is call center, a place that customers call to place orders, track shipments, get help with products, and so forth.

The World Wide Web offers the possibility of a new, relatively inexpensive, and effectively standard user interface to help desks (as well as to call centers) and appears to be encouraging more automation in help desk service.

Some common names for a helpdesk include: Computer Support Center, IT Response Center, Customer Support Center, IT Solutions Center, Resource Center, Information Center, and Technical Support Center.

IT Helpdesk Attendant

IT Helpdesk Attendant in IT-ITeS Industry is also known as Helpdesk Executive, Service Desk Executive, Technology Support Executive, IT Support Executive, and Helpdesk Coordinator.

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Primary responsibility of individuals at this job is to provide user support, managing Customer Service Desk application, responding to all incoming service requests and customer service; quickly diagnose technical issues and arrange solutions during normal operational business hours. He/she should be responsible for the smooth running of computer systems and ensuring users get maximum benefits from them.

Roles & Responsibilities of IT Helpdesk Attendant

The tasks of a Helpdesk Attendant vary depending on the size and structure of the organization and may include:

- Installing and configuring computer hardware operating systems and applications;
- Monitoring and maintaining computer systems and networks;

- Dealing with staff/clients either face to face or over the telephone to help set up systems or resolve issues;
- Troubleshooting network problems and diagnosing and solving hardware/software faults of IT Helpdesk Attendant.

What does it take to work at an IT Help Desk?

The job of IT Helpdesk Attendant requires the individual to have thorough knowledge of various technology trends and processes as well as have updated knowledge about IT initiatives. He/she should be highly motivated and energetic to timely respond to all issues, updates internal customers on status, solicits additional information, and troubleshoots issues. IT Helpdesk Attendant can explore job opportunities in IT multi-national companies, private IT organizations, IT call centers, IT software or equipment suppliers, IT maintenance companies, etc.

Here are some of the most commonly sought-after skills for a IT Help Desk Attendant

The Necessary Skills

If you're an IT worker, these skills are the basics that IT help desks look for:

1. **Troubleshooting PC problems in real life**

Can you diagnose malware incidents quickly? Are you the person your neighbours/roommates/family call when they can't get the printer to work?

2. **You know when it's time to do an OS reload**

Knowing when to cut your losses is both an art and a science.

3. **You have good research capabilities on Google and other search engines**

When your grasp of terminology helps you do great research for figuring out unusual problems, your value to an IT help desk increases.

4. **You have your A+, Microsoft-certified desktop support technician, and Network+ certifications**

Help desk workers generally have an associate's or bachelor's degree, certifications, or diplomas in information technology and a handful of basic certifications.

5. **You understand the importance of good customer service skills.**

After all, it isn't just about technology. It's about helping people do their jobs.

Great Bonus Qualifications

1. **Excellent writing skills.**

If you write clearly and grammatically and can express technical problems and solutions that the average end user can understand, then you will be a big asset to an IT help desk, particularly if it uses help desk software that builds a knowledge base from resolved tickets.

2. **Great phone skills.**

Your phone interview is extremely important, not just for discussing qualifications, but also because your potential employer can gauge your phone skills. If you make it clear that you're listening, don't interrupt, and answer in a friendly and thoughtful manner, you're gold.

3. **Good mechanical skills.**

If you have skills making mechanical and electrical things work, this can be a big plus to an IT help desk.

Skills That Say, "Hire This Person Immediately."

There are few more skills that should prompt a smart IT recruiter to hire you:

1. **Direct experience with (or certifications from) software and hardware vendors**

If these match up with the vendors the employer uses, you have a huge advantage over applicants without this experience.

2. **Freelance developer experience**

If you have freelance developer experience, not only do you have the technical skills necessary for IT help desk work, you also have the initiative and discipline to get things done without being micromanaged.

3. **Programming language certifications.**

If you have experience or certifications, you probably have the strong attention to details plus the analytical skills that any company would like to have in a help desk worker.

Great IT help desk workers and great help desk software are two of the best investments a company can make. A consistently updated knowledge base with resolved service tickets and a self-service portal that allows motivated end users to solve their own minor IT problems, help desk workers are free to tackle the more difficult IT issues that arise, allowing your business to run smoothly and prevent wasted time.

Unit 2 - Computer Fundamentals

Learning Objectives:

- History of Computers
- Advantages & Disadvantages of Computers
- Hardware & Software
- Classification of Software
- System Software & Application Software
- Utility Programs
- Library Programs

Fundamentals of Computer Systems

History of Computer: The computer as we know it today had its beginning with a 19th century English mathematics professor name **Charles Babbage**.

He designed the Analytical Engine and it was this design that the basic framework of the computers of today are based on. Generally speaking, computers can be classified into three generations. Each generation lasted for a certain period of time, and each gave us either a new and improved computer or an improvement to the existing computer.

Generations of Electronic Computers

Generation	First Gen. I	Second Gen. II	Third Gen. III	Fourth Gen. IV
Technology	Vacuum Tubes	Transistors	Integrated Circuits (multiple transistors)	Microchips (millions of transistors)
Size	Filled Whole Buildings	Filled half a room	Smaller	Tiny - Palm Pilot is as powerful as old building sized computer

How Electronic Computers Have Progressed?

	UNIVAC (1951-1970) (1968 vers.)	Kenbak 1 (1971)	IBM PC (1981)	Macintosh (1984)	Pentium III
Circuits	Tubes, Transistors, Integrated Circuits*	130 Integrated Circuits	Intel 8088 Microchip - 29,000 Transistors	**Motorola 68000**	Intel P-III Microchip - 7.5 million transistors
Generation	I-II-III*	III	IV	IV	IV
RAM Memory	512 K	265 Bytes	256 K	640 K	128 Mb
Speed	1.3 MHz	1 KHz	4.77 Mhz	8 MHz	1000 MHz
Storage	100 MB Hard Drive	none	Floppy Drive	Floppy Drives	Hard Drive, Floppy, CD-Rom
Size	Whole Room	Briefcase (no monitor)	Briefcase + Monitor	Two shoeboxes (integrated monitor)	Small Tower
Cost	$1.6 million	$750	$1595	~$4000	$1500

Advantages of Computer

Computer has made a very vital impact on society. It has changed the way of life. The use of computer technology has affected every field of life. People are using computers to perform different tasks quickly and easily. The use of computers makes different task easier. It also saves time and effort and reduces the overall cost to complete a particular task.

Many organizations are using computers for keeping the records of their customers. Banks are using computers for maintaining accounts and managing financial transactions. The banks are also providing the facility of online banking. The customers can check their account balance from using the internet. They can also make financial transaction online. The transactions are handled easily and quickly with computerized systems.

People are using computers for paying their bills, managing their home budgets or simply having some break and watching a movie, listening to songs or playing computer games. Online services like Skype or social media websites are used for communication and information sharing purposes.

Computer can be used as a great educational tool. Students can have access to all sort of information on the internet. Some great websites like Wikipedia, Khan's Academy, Code Academy, Byte-Notes provides free resources for students & professionals.
Moreover, the computer is being used in every field of life such as medical, business, industry, airline and weather forecasting.

Disadvantages of Computer

The use of computer has also created some problems in society which are as follows.

Unemployment: Different tasks are performed automatically by using computers. It reduces the need of people and increases unemployment in society.

Wastage of time and energy: Many people use computers without positive purpose. They play games and chat for a long period of time. It causes wastage of time and energy. Young generation is now spending more time on the social media websites like Facebook, Twitter etc or texting their friends all night through smartphones which is bad for both studies and their health. And it also has adverse effects on the social life.

Data Security: The data stored on a computer can be accessed by unauthorized persons through networks. It has created serious problems for the data security.

Computer Crimes: People use the computer for negative activities. They hack the credit card numbers of the people and misuse them or they can steal important data from big organizations.

Privacy violation: The computers are used to store personal data of the people. The privacy of a person can be violated if the personal and confidential records are not protected properly.

Health risks: The improper and prolonged use of computer can results in injuries or disorders of hands, wrists, elbows, eyes, necks and back. The users can avoid health risks by using the computer in proper position. They must also take regular breaks while using the computer for longer period of time. It is recommended to take a couple of minutes break after 30 minutes of computer usage.
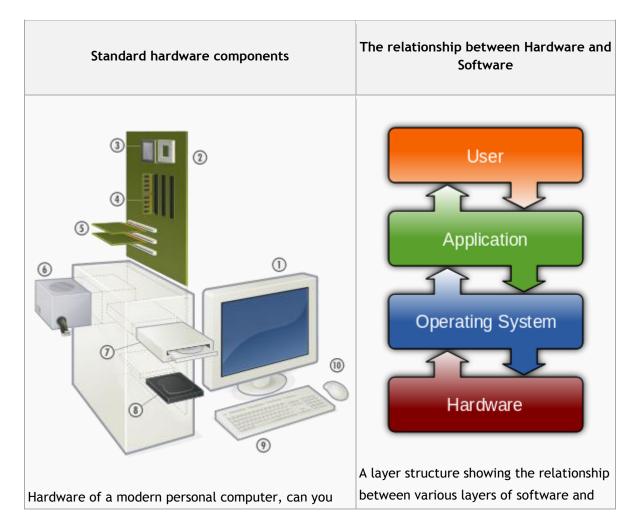
Impact on Environment: The computer manufacturing processes and computer waste are polluting the environment. The wasted parts of computer can release dangerous toxic materials. Green computer is a method to reduce the electricity consumed and environmental waste generated when using a computer. It includes recycling and regulating manufacturing processes. The used computers must be donated or disposed of properly.

Hardware and Software

Hardware - Physical components that make up a computer system.
Software - Computer programs and related data that provide the instructions for telling computer hardware what to do and how to do it.
Hardware and Software have a symbiotic relationship, this means that without software hardware is very limited; and without hardware, software wouldn't be able to run at all. They need each other to fulfill their potential.

Standard hardware components	The relationship between Hardware and Software
Hardware of a modern personal computer, can you	A layer structure showing the relationship between various layers of software and

name all the components?	hardware

Classification of Software: You have probably used a lot of software over the years, here we are going to study the different classifications (types) of software that are out there.
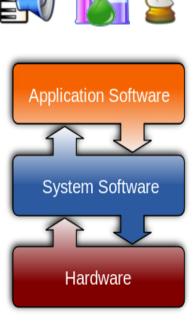
 Software can perform many different tasks:

The two main classifications of software that all programs fit under are:

- **System software**
- **Application software**

Without software, most hardware would sit there doing nothing or perform specific tasks. To make most hardware run we need to use software, and your task here is to select the correct type of software for each job.

System software: Software designed to operate the computer hardware and to provide a platform for running application software.

Modern computers are complex machines involving many different parts. To keep it running well you will need system software. System software will handle the smooth running of all the components of the computer as well as providing general functionality for other programs to use, tools to speed up the computer, tools to develop new software and programs to keep you safe from attacks. There are several different types of system software that we will look at in more detail very shortly:

- **Operating Systems** are a collection of programs that *make the computer hardware conveniently available to the user* and also *hide the complexities of the computer's operation*. The Operating System (such as Windows 7 or Linux) interprets commands issued by application software (e.g. word processor and spreadsheets). The Operating System is also *an interface between the application software and computer*. Without the operating system, the application programs would be unable to communicate with the computer.

- **Utility programs** are small, powerful programs with a limited capability, they are usually operated by the user to maintain a smooth running of the computer system. Various examples include file management, diagnosing problems and finding out information about the computer etc. Notable examples of utility programs include copy, paste, delete, file searching, disk defragmenter, disk cleanup. However, there are also other types that can be separately installable from the Operating System.

- **Library programs** are a compiled collection of subroutines
- **Translator software** (Compiler, Assembler, Interpreter)

Application Software: Software designed to help the user to perform specific tasks. GIMP is an example of photo editing general purpose application software.

Application software is designed for people like me and you to perform tasks that we consider useful. This might be the ability of a scientist to work out statistical information using a set of results or someone who wants to play the latest computer game. There are several categories of Application software that we'll look into shortly:

- General purpose application software.
- Special purpose application software.
- Bespoke application software

Operating system software: An operating system (OS) is a set of programs that manage computer hardware resources and provide common services for application software. The operating system is the most important type of system software in a computer system. Without an operating system, a user cannot run an application program on their computer (unless the application program is self booting).

Time-sharing operating systems schedule tasks for efficient use of the system and may also include accounting for cost allocation of processor time, mass storage, printing, and other resources. For hardware functions such as input/output and main memory management, the operating system acts as a middleman between application programs and the computer hardware, although the application code is usually executed directly by the hardware it will frequently call the OS or be interrupted by it. Operating systems can be found on almost any device that contains a computer, from mobile phones and video game consoles to supercomputers and web servers.

Examples of popular modern operating systems include Android, iOS, Linux, Mac OS X and Microsoft Windows.

Utility Programs: Utility software is a type of system software designed to help analyse, configure, optimize and maintain the computer. A single piece of utility software is usually called a utility or tool. Utility software should not be confused with application software, which allows users to do things like creating text documents, playing games, listening to music or surfing the web. Rather than providing these kinds of user-oriented or output-