

**Course Curricula**  
**for**  
**Short Term Courses based on**  
**Modular Employable Skills (MES)**  
**in**  
**INFORMATION**  
**&**  
**COMMUNICATION TECHNOLOGY SECTOR**



**DIRECTORATE GENERAL OF EMPLOYMENT AND TRAINING**  
**MINISTRY OF LABOUR & EMPLOYMENT**  
**GOVERNMENT OF INDIA**

**Course Curricula for Short Term Courses based on Modular  
Employable Skills (MES) in the Information & Communication  
Technology Sector**

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## **Skill Development based on Modular Employable Skills (MES)**

### **Background**

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The need for giving emphasis on the Skill Development, especially for the less educated, poor and out of school youth has been highlighted in various forums. The skill level and educational attainment of the work force determines the productivity, income levels as well as the adaptability of the working class in changing environment. Large percentage of population in India is living below poverty line. One of the important causes is lower percentage of skilled persons in the workforce

The skill development at present is taking place mostly in the informal way, i.e. persons acquire skill at the work-place when they help their parents, relatives and employers etc. Such persons do not have a formal certificate and thus earn lower wages and are exploited by employers. They have come through informal system due to socio-economic circumstances of the family and the compulsions of earning a livelihood rather than attending a formal course. While their productivity is low, their contribution to the national GDP cannot be ignored. If the country can create a system of certification which not only recognizes their skills but also provides education and training in a mode that suits their economic compulsions, it will not only benefit the workforce to earn a decent living but also contribute to the national economy by better productivity of this workforce.

Another related problem to be tackled is large number of students drop outs (About 63% of the school students drop out at different stages before reaching Class-X).

### **Frame work for Skill Development based on 'Modular Employable Skills (MES)'**

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Very few opportunities for skill development are available for the above referred groups (out of school youth & existing workers especially in the informal sector). Most of the existing Skill Development programmes are long term in nature. Poor and less educated persons can not afford long term training programmes due to higher entry qualifications, opportunity cost etc. Therefore, a new frame work for Skill Development for the Informal Sector has been evolved by the DGET to address to the above mentioned problems. The **key features of the new frame work for skill development** are:

- ◆ Demand driven Short term training courses based on modular employable skills decided in consultation with Industry
- ◆ Flexible delivery mechanism (part time, weekends, full time)
- ◆ Different levels of programmes (Foundation level as well as skill upgradation) to meet demands of various target groups
- ◆ Central Government will facilitate and promote training while Vocational Training (VT) Providers under the Govt. and Private Sector will provide training
- ◆ Optimum utilisation of existing infrastructure to make training cost effective.
- ◆ Testing of skills of trainees by independent assessing bodies who would not be involved in conduct of the training programme, to ensure that it is done impartially.
- ◆ Testing & certification of prior learning (skills of persons acquired informally)

The Short Term courses would be based on 'Modular Employable Skills (MES)'.

The **concept for the MES** is :

- Identification of 'minimum skills set' which is sufficient to get an employment in the labour market.
- It allows skills upgradation, multiskilling, multi entry and exit, vertical mobility and life long learning opportunities in a flexible manner.
- It also allows recognition of prior learning (certification of skills acquired informally) effectively.
- The modules in a sector when grouped together could lead to a qualification equivalent to National Trade Certificate or higher.
- Courses could be available from level 1 to level 3 in different vocations depending upon the need of the employer organisations.
- MES would benefit different target groups like :
  - Workers seeking certification of their skills acquired informally
  - workers seeking skill upgradation
  - early school drop-outs and unemployed
  - previously child labour and their family

### **Age of participants**

The minimum age limit for persons to take part in the scheme is 14 years but there is no upper age limit.

### **Curriculum Development Process**

Following procedure is used for developing course curricula

- Identification of Employable Skills set in a sector based on division of work in the labour market.
- Development of training modules corresponding to skills set identified so as to provide training for specific & fit for purpose
- Organization of modules in to a Course Matrix indicating vertical and horizontal mobility. The course matrix depicts pictorially relation among various modules, pre requisites for higher level modules and how one can progress from one level to another.
- Development of detailed curriculum and vetting by a trade committee and by the NCVT

(Close involvement of Employers Organizations, State Governments, experts, vocational training providers and other stake holders is ensured at each stages).

### **Development of Core Competencies**

Possession of proper attitudes is one of the most important attribute of a competent person. Without proper attitudes, the performance of a person gets adversely affected. Hence, systematic efforts will be made to develop attitudes during the training programme.

The trainees deal with men, materials and machines. They handle sophisticated tools and instruments. Positive attitudes have to be developed in the trainees by properly guiding them and setting up examples of good attitudes by demonstrated behaviors and by the environment provided during training.

Some important core competencies to be developed are:

1. Safety consciousness and safe working practices
2. Care of equipment and tools
3. Punctuality, discipline and honesty
4. Concern for quality
5. Respect for rules and regulations
6. Concern for health and hygiene
7. Cordial relationship and Cooperation with co-workers and team Work
8. Positive attitude and behavior
9. Responsibility and accountability
10. Learn continuously
11. Communication Skills
12. Concern for environment and waste disposal

Following competencies should also be developed during level-II and higher courses:

1. Ability for planning, organizing and coordinating
2. Creative thinking, problem solving and decision making
3. Leadership
4. Ability to bear stress
5. Negotiation

### **Duration of the Programmes**

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Time taken to gain the qualification will vary according to the pathway taken and will be kept very flexible for persons with different backgrounds and experience. Duration has been prescribed in hours in the curriculum of individual module, which are based on the content and requirements of a MES Module. However, some persons may take more time than the prescribed time. They should be provided reasonable time to complete the course.

### **Pathways to acquire Qualification:**

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**Access to** the qualification could be through:

- An approved training programme; **Or**
- A combination of an approved training programme plus recognition of prior learning including credit transfer; **Or**
- The recognition of prior learning that provides evidence of the achievement of the competencies for the qualification.

### **Methodology**

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The training methods to be used should be appropriate to the development of competencies. The focus of the programme is on “performing” and not on “Knowing”. Lecturing will be restricted to the minimum necessary and emphasis to be given for ‘hands on training’.

The training methods will be individual centered to make each person a competent one. Opportunities for individual work will be provided. The learning process will be continuously monitored and feedback will be provided on individual basis.

Demonstrations using different models, audio visual aids and equipment will be used intensively.

### **Instructional Media Packages**

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In order to maintain quality of training uniformly all over the country, instructional media packages (IMPs) will be developed by the National Instructional Media Institute (NIMI), Chennai.

### **Assessment**

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DGE&T will appoint assessing bodies to assess the competencies of the trained persons. The assessing body will be an independent agency, which will not be involved in conducting the training programmes. This, in turn, will ensure quality of training and credibility of the scheme. Keeping in view the target of providing training/testing of one million persons through out the country and to avoid monopoly, more than one assessing bodies will be appointed for a sector or an area.

### **Certificate**

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Successful persons will be awarded certificates issued by National Council for Vocational Training (NCVT).

**VOCATIONAL TRAINING MATRIX**  
**Information & Communication Technology (ICT) Sector**

**TALLY 9.0**  
 180 hours

**Telecom Sales**  
 60 hours

<b>Desk Top Publishing (DTP)</b>	<b>Computer Hardware</b>	<b>Computer Networking</b>	<b>Domestic BPO</b>	<b>Web Designing</b>	<b>Internet Kiosk Operator</b>	<b>Animation &amp; Multimedia (*)</b>
<b>150 hours</b>	<b>180 hours</b>	<b>180 hours</b>	<b>180 Hours</b>	<b>180 hours</b>	<b>60 Hours</b>	<b>180 Hours</b>

**Computer Fundamentals  
 MS Office & Internet**  
 Duration 120 hours

(\*) Under Development

## MODULES

### Computer Fundamentals, MS-Office, Internet & Soft Skills

1. **Name:** Computer Fundamentals, MS-Office, Internet & Soft Skills
2. **Sector:** Information & Communication Technology (ICT)
3. **Code:** ICT101
4. **Entry Qualification:** Minimum 10<sup>th</sup> Std. & 14 years and Above
5. **Terminal Competency:** After completion of the training, participants would be able to:
  - Write, Edit & Print documents using MS-WORD & EXCEL.
  - Do tabulation of data.
  - Prepare presentations using MS PowerPoint
  - Use Internet & E- mail.
6. **Duration:** 120 hrs.
7. **Contents:** Given below :

Practical Competencies	Underpinning Knowledge (Theory)
<p><b><u>Computer Fundamentals</u></b></p> <ul style="list-style-type: none"> <li>• Customize the Desktop Environment e.g Desktop, Start Menu, and Taskbar etc.</li> <li>• Configuring &amp; Migrating Files, Folders &amp; Settings – Folder Views, Accessibility Settings</li> </ul> <p><b><u>MS Word</u></b></p> <ul style="list-style-type: none"> <li>• Creating, Organizing &amp; Formatting Content</li> <li>• Collaborating – Merge, Insert, View, Edit, Track Mode etc.</li> <li>• Formatting &amp; Managing Documents</li> </ul> <p><b><u>MS Excel</u></b></p> <ul style="list-style-type: none"> <li>• Creating, Analyzing &amp; Formatting Data &amp; Content</li> <li>• Collaborating – Insert, View, Edit etc.</li> <li>• Managing Workbooks</li> </ul> <p><b><u>MS PowerPoint</u></b></p> <ul style="list-style-type: none"> <li>• Creating &amp; Formatting Content</li> <li>• Collaborating – Track, Edit, Add, Delete Comments, Merge</li> <li>• Managing &amp; Delivering Presentations</li> </ul> <p><b><u>Internet Concepts</u></b></p> <ul style="list-style-type: none"> <li>• Opening websites and downloading data from them</li> <li>• Writing, reading and sending emails</li> </ul>	<p><b><u>Computer Fundamentals, MS-Office &amp; Internet</u></b></p> <ul style="list-style-type: none"> <li>• Introduction to Computers</li> <li>• History of Computers</li> <li>• Components of Hardware Peripherals</li> <li>• Concept of Operating System - Windows XP</li> <li>• Exploring &amp; Configuring the Windows XP Desktop Environment – Customize the Desktop, Start Menu, and Taskbar etc.</li> <li>• Configuring &amp; Migrating Files, Folders &amp; Settings – Folder Views, Accessibility Settings</li> <li>• Features of Windows XP</li> <li>• Understanding concepts of Word processing using MS-Word</li> <li>• Understanding concepts of Electronic spreadsheet and various types of entries in it</li> <li>• Understanding concepts of URL</li> <li>• Creating and Opening an E-mail account.</li> <li>• Receiving and sending emails</li> <li>• Searching information on Internet</li> </ul> <p><b><u>Training on Soft Skills</u></b></p> <ul style="list-style-type: none"> <li>• Communication Skills</li> <li>• Communicative English</li> <li>• Customer Service</li> </ul>

## **Tools & Equipment:**

- **Hardware:**

1. Server Computer (Latest configuration)
2. Multimedia Nodes (Pre-loaded Windows 2000 or latest)
3. Inkjet/Laser Printer
4. UPS

- **Software:**

1. Windows 2000
2. Microsoft Office 2003 Professional
3. Anti Virus Software (TVD/ Norton/Any popular brand)
4. Internet connection

## Desk Top Publishing

1. **Name:** Desk Top Publishing
2. **Sector:** Information & Communication Technology (ICT)
3. **Code:** ICT203
4. **Entry Qualification:** Minimum 8th Std. & 14 years and Above &
  - MES Module on Computer Fundamentals, MS-Office, Internet & Soft Skills
5. **Terminal Competency:** After completion of the training, participants would be able to:
  - Understand various software used for Desktop Publishing and would be able to create documents with text and graphics like news paper ad, wedding cards, visiting cards, greeting cards etc. using PageMaker, CorelDraw & Photoshop.
6. **Duration:** 150 hrs.
7. **Contents:** Given below :

Practical Competencies	Underpinning Knowledge (Theory)
<p style="text-align: center;"><b><u>PageMaker</u></b></p> <ul style="list-style-type: none"> <li>• Working with tool bar</li> <li>• Setting defaults</li> <li>• Opening, saving and closing publications</li> <li>• Inserting and removing pages</li> <li>• Flowing text, resizing the object</li> <li>• Adjusting graphics or text objects</li> <li>• Select multiple elements</li> <li>• Selecting elements behind the others</li> <li>• Mask and group, unmask and ungroup.</li> <li>• Constrain move vertically/horizontally</li> <li>• Paste items, editing objects, rotating text box</li> <li>• Layout window, viewing pages, changing previous and next pages, zooming and hyperlinks Font style, size, case</li> <li>• Subscript and superscript</li> <li>• Inserting Special characters, bullets, page numbering Spacing of character, line, word and paragraph</li> <li>• Breaking and non breaking</li> <li>• Text editing – selecting word, paragraph and a range of text</li> <li>• Indenting/Tabs</li> <li>• Find and change dialogue box</li> <li>• Text recomposition</li> <li>• Compress paint, JPG and GIF files</li> <li>• Using Palletes control, colour palletes, styles palet and master pages pallet</li> <li>• Removing master page objects from pages, control pallets</li> <li>• Making tables, editing data in tables.</li> <li>• Filing, stroking, frames, arranging, text</li> <li>• Wrapping, grouping and ungrouping, locking and unlocking, mask/unmask image, polygon</li> <li>• setting, rounded corners</li> </ul>	<p style="text-align: center;"><b><u>PageMaker</u></b></p> <ul style="list-style-type: none"> <li>• introduction to various versions, concepts and applications of PageMaker</li> </ul>

<p><b><u>CorelDraw</u></b></p> <ul style="list-style-type: none"> <li>• Use of various tools such as Pick tools, Zoom tools, Free hand tool, square tool, rectangle tool, Text tool, Fill tool etc. and all fonts used in designing of monograms, logos, posters, stickers, greeting cards, wedding cards, visiting cards, etc.</li> </ul> <p><b><u>Photo Shop</u></b></p> <p>Photo editing /inserting starting with</p> <ul style="list-style-type: none"> <li>• Setting Up</li> <li>• The Interface</li> <li>• Managing Palettes</li> <li>• Working With Photoshop Tools</li> <li>• Working With Layers</li> </ul>	<p><b><u>CorelDraw:</u></b></p> <ul style="list-style-type: none"> <li>• Introduction to various versions, concepts and applications of Corel Draw</li> </ul> <p><b><u>Photo Shop:</u></b></p> <ul style="list-style-type: none"> <li>• Introduction to various versions, concepts and applications of Photoshop</li> </ul>
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## **Tools & Equipment**

### **Hardware**

- PCs With latest configuration
- Laser Printer

### **Software**

- Microsoft Windows
- PageMaker Latest Version
- Adobe Photoshop latest version
- Corel Draw

## Telecom Sales

1. **Name:** Telecom Sales
2. **Sector:** Information & Communication Technology (ICT)
3. **Code:** ICT104
4. **Entry Qualification:** Minimum 10<sup>th</sup> Std. & 14 years and Above
5. **Terminal Competency:** After completion of the training, participants would be able to:
  - Understand basics of Sales, Customer and would be able to use them effectively in Telecom sales career
6. **Duration:** 60 hrs.
7. **Contents:** Given below:

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> <li>• Individual practice on public speaking</li> <li>• Demonstrate Customer Interaction in a stimulated environment</li>   <li>• Demonstrate Smile, Wish, greeting &amp; appreciating customers in a stimulated environment</li> <li>• Role play on types of customers</li> <li>• Role play on good customer relationship</li>   <li>• Identifying categories &amp; products available in a Retail store</li> <li>• Visit to nearby retail outlets/showrooms/malls.</li>   <li>• Demonstrate high end product selling skills in simulated environment</li> <li>• Demonstrate skills in handling complex sale situations in a simulated environment</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Self grooming for a sales career :</b> importance of a good Personality, development in career growth, introduction to communication ,to communicate with customers efficiently Fluency in spoken English</li>   <li>• <b>Customer Handling Skills</b> <ul style="list-style-type: none"> <li>- Basics of customer behaviour</li> <li>- Dynamics of customers: how to build relations with customers</li> </ul> </li>   <li>• <b>Basics of sales</b> <ul style="list-style-type: none"> <li>- Orientation to sales &amp; products</li> <li>- Familiarization with the day to day activity of the store, importance of customer orientation while interacting with customers in the store, familiarization with various products useful for telecommunication.</li> </ul> </li>   <li>• <b>Basics of Telecommunications &amp; Telemarketing Skills</b></li>   <li>• <b>Advanced selling skills</b> Selling high end products, elements of marketing concepts ,marketing mix &amp; strategies.</li>   <li>• <b>Team Spirit</b></li> </ul>

## Computer Hardware

1. **Name:** Computer Hardware
2. **Sector:** Information & Communication Technology (ICT)
3. **Code:** ICT205
4. **Entry Qualification:** Minimum 10<sup>th</sup> Std. & 14 years and Above &
  - MES Module on Computer Fundamentals, MS-Office, Internet & Soft Skills
5. **Terminal Competency:** After completion of the training, participants would be able to:
  - Assembling computers & installing the peripheral devices
  - Repair computers up to card level.
  - Install different software on computers
6. **Duration:** 180 hrs.
7. **Contents:** Given below:

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> <li>• Identification and using different input-output devices ,cords, cables,connectors and input-output devices.</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Computer Basics</u></li> <li>• Block Diagram of a Computer System.</li> </ul>
<ul style="list-style-type: none"> <li>• Practice of using Keyboard and mouse.</li> <li>• Booting computer in DOS and Windows environment.</li> <li>• Identifying different error messages.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Storage Devices</u></b> - Magnetic tape, Floppy Disk, Hard Disk &amp; CD ROM.</li> <li>• Booting the computer</li> <li>• Storage &amp; retrieval of data</li> <li>• Types of software System software &amp; Application software. Functions of operating system, interpreter compiler and_assembler</li> </ul>
<ul style="list-style-type: none"> <li>• Identifying and Practising all the hardware tools.</li> <li>• <b>Using FDD &amp; CD Lens cleaning kits. Using cleaning solutions like isopropyl alcohol &amp; carbon tetra chloride.</b></li> <li>• Using all the relevant tools. Soldering and de-soldering.</li> <li>• Hands-on practice of using the utility programs.</li> <li>• Using hardware-troubleshooting software.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Basic Tools (Hardware &amp; Software)</u></b></li> <li>• Straight slot screwdrivers,. Phillips &amp; Torx screwdrivers, Hex nut driver, combination pliers, nose-pliers, chip inserters and extractors, flash light, tweezers, wire cutter and stripper, soldering iron, de-soldering pump, vacuum cleaner, brush ,crimping tool etc.</li> <li>• FDD cleaning kits, CD drives lens cleaning kit, isopropyl alcohol, etc.</li> <li>• DOS &amp; Windows bootable, FDISK, FORMAT, SYS, SCAN DISK, MSD, MSCDEX, Disk Manager, Norton Utilities, DOS &amp; Windows installable, hardware troubleshooting software.</li> </ul>
<ul style="list-style-type: none"> <li>• Identification (type, value, package, polarity) and testing of resistors, capacitors, diodes, transistors/</li> <li>• Study of suitability of place for computer installation and preparing the site as per specification.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Basic electronic components.</b></li> <li>• Significance of current, voltage, power, resistance and capacitance. Principle of resistors, capacitors, diode, zener diode, LEDs and transistors.</li> <li>• <b>Site Preparation.</b></li> <li>• Layout of PCs, printers etc., Air-conditioning requirements, Power supply requirements &amp; layout, false roofing, flooring, Line-conditioning equipment and positioning of exhaust fans</li> </ul>

<p>To identify different Motherboards, Controller Cards, Display cards and Sound cards, AGPs, Fax/Modem card, TV Tuner card, Ethernet card</p>	<ul style="list-style-type: none"> <li>• <b>Types of cards used in computer system.</b> Motherboards, Controller Cards, Display cards and Sound cards, AGPs, Fax/Modem card, TV Tuner card, Ethernet card</li> </ul>
<ul style="list-style-type: none"> <li>• Identification of different processors, their pins. Testing and replacing the processors. Understanding coding on the processors</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Types of Interfaces/Connectors.</b></li> <li>• FDD connectors, IDE &amp; SCSI Interface, Serial (COM) ports, Parallel (LPT) ports, USB connector, Keyboard and PS/2 connectors.</li> <li>• <b>Types of Processors.</b></li> <li>• Main features, package, voltage, clock speed, Study of different types of Pentium processors.</li> </ul>
<ul style="list-style-type: none"> <li>• Installing and upgrading memory. Identification of memory slots and memory chips. Testing the memory slots and chips</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Types of Memory.</b></li> <li>• Different types of Memory used in PCs. Installing and upgrading memory. L1 and L2 cache memory</li> </ul>
<ul style="list-style-type: none"> <li>• Checking and replacing motherboards. Installing CPU and memory on Motherboards. Checking and replacing BIOS and Battery.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Motherboard (Installation, Configuration &amp; Troubleshooting)</b></li> <li>• Types of Motherboards, Motherboards with different sockets and slots. Jumper settings, DIP switch settings. Installing the processors and memory on MB. Checking MB BIOS. Checking and connecting external battery. On-board features. Installing, checking and replacing Motherboards.</li> </ul>
<ul style="list-style-type: none"> <li>• Checking the fuse, checking output voltage, connecting to Motherboard and other devices. Installing and replacing the power supply.</li> <li>• Installation of Display cards, Super IDE card, SCSI card etc. Installation and configuration of Sound card, Modem, TV tuner card and Ethernet card. Checking and configuring ports.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Power Supply (Installation &amp; Troubleshooting)</b></li> <li>• Different types of SMPS (AT &amp; ATX),</li> <li>• <i>Expansion cards (Installation, configuration &amp; troubleshooting).</i></li> <li>• Study of different types of Cards.</li> </ul>
<ul style="list-style-type: none"> <li>• Installing and connecting the HDD, configuring as master and slave.</li> <li>• Using software tools like Scandisk, FDISK, Norton Utilities, Disk Manager etc. to partition, format surface scan and to mark the bad blocks. Low-level formatting.</li> <li>• Connecting and configuring drives, checking. and replacing cables, cleaning the heads, changing the sensors, identifying and rectifying floppy drive problems</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Hard Disk drives (Installation and configuration).</u></b></li> <li>• Types of HDD (IDE &amp; SCSI), Installing and connecting HDD, configuring HDD as master and slave, checking media, partitioning, formatting and making HDD bootable.</li> <li>• <b><u>Floppy Drives (Installation and Maintenance).</u></b></li> <li>• Types of FDDs, connections of floppy drives, cleaning drive heads.</li> </ul>
<ul style="list-style-type: none"> <li>• Installing and loading the drivers. Configuring as master and slaves. Cleaning lens of CD Drives writer, DVDs and cleaning head of CTDs.</li> <li>• Hands-on practice of checking and replacing the keyboard cable and KB switches. Servicing the keyboard.</li> <li>• Configuring and optimizing the CMOS set-up.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>CD ROM Drive, DVD &amp; CTD (Installation and Maintenance)</u></b></li> <li>• Types of CD Drives, DVDs, data storage and retrieval on CDs, DVDs &amp; CTDs. Connecting and configuring the drives. Maintenance of CDs, DVDs &amp; CTDs. Installation and working of CD Writer</li> <li>• <b><u>Keyboard servicing and CMOS Setup</u></b></li> <li>• Types and working of keyboards. Checking and replacing the keyboard cable and KB switches. Servicing the keyboard.</li> </ul>

<ul style="list-style-type: none"> <li>• Servicing of monitors, changing fuses, adjusting colors, brightness and contrast. Setting resolution, loading drivers. Checking and replacing components on the PCB. Checking and adjusting LCD Monitors.</li> <li>• Configuring and servicing the printers, Self-test, checking printer cables and ports. Loading the drivers and managing the output.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Monitors (Servicing &amp; Maintenance).</u></b></li> <li>• Types of monitors (Mono &amp; Color), Block diagram, CRT, checking the fuses, Adjusting contrast and brightness. LCD Monitors.</li> <li>• <b><u>Printers (Troubleshooting &amp; Maintenance)</u></b></li> <li>• Types and working of different printers (DMP, DeskJet and LaserJet). Checking the interface and cables, setting the DIP switches, self test &amp; servicing the printers. Loading the drivers.</li> </ul>
<ul style="list-style-type: none"> <li>• Installation of DOS &amp; Windows operating systems. Loading and configuring the device drivers. Identifying viruses and using anti-virus programmes to scan and remove different type of viruses <ul style="list-style-type: none"> <li>• Identify components of a simple LAN environment, to identify different types of cables used for networking, to Identify the protocols installed in an existing LAN setup, m, Identify the NIC installed &amp; MAC address, installation of NIC card.</li> <li>• Make UTP cross cable and testing using continuity tester. Establish connection between two computers using a cross cable</li> <li>• Make a UTP straight patch cord and testing using continuity tester. Connect and test a straight cable using a N-port switch and computers. Establish a peer-to-peer connection. Configure a router Add/ Delete entries in configuration task. Create work groups.</li> </ul> </li> <li>• Set IP address and subnet mask. Establish connection. Use of Ping command. Establish sub networks using subnet mask. Share resources in LAN. Fault find and troubleshoot network problems</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Assembling &amp; Dismantling of PCs and Front panel connections.</u></b></li> <li>• <b><u>Software Installation &amp; Virus Protection</u></b></li> <li>• Installation and configuration of DOS and Windows operating systems. Installation of Device drivers. Types of viruses, their symptoms, identification, protection and removal.</li> <li>• Serial data communication, principle, standards /protocols and devices/ applications.</li> <li>• Parallel data communication, principle, standards/protocols and devices/ applications.</li> <li>• Features of Networked computers, Components required for networking, Network Topologies. Comparison. Network Protocols, applications, Physical components planning for a small LAN.</li> <li>• Network operating systems and features.</li> <li>• Network cables, types, specifications, standards, application. Peer – to – peer connection. Client –server connection, comparison, applications.</li> <li>• What is router, its function, configuration table, Concept of work groups and uses. UTP Cross cable for testing connection between two computers</li> </ul>
<ul style="list-style-type: none"> <li>• Making of preventive maintenance plan, taking backups using MSBACKUP and other third party tools. Fine-tuning and optimizing the system.</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Preventive Maintenance.</u></b></li> <li>• Cleaning the equipment, servicing the equipment, Types of Backup, taking backups and fine-tuning the system,</li> </ul>

## **Tools & Equipment**

### **Hardware:**

- Multimedia Computer System with internal Modem
- External Modem
- Laser Printer
- Desk Jet Printer
- Dot Matrix Printer 132 Cols.
- CD Writer (1 – Internal; 1 – External)
- Computer repairing tool kits
- Vacuum Cleaner (small size)
- Soldering Station
- Spare Motherboards, Processor & Memory Modules
- Expansion Cards used in computers (SCSI, TV Tuner, Ethernet)
- Networking tools such as Hub, Switch, Modem, Router, crimping tool, etc

### **Software:**

- Microsoft Windows 2000 (Professional) or Linux OS Latest
- Microsoft Windows XP or any other Word Processor software
- MS DOS (Ver. 6.2 or latest)
- Windows 2003 Server.
- Antivirus Software (Popular Brand)
- Norton Utilities
- Hardware Diagnostics software (Advanced MS Diag. / QA Plus)

### **Material**

- FDD Head –cleaning kits
- CD Lens cleaning kits
- Carbon tetra chloride
- Isopropyl alcohol

## Computer Networking

1. Name : Computer Networking.  
 2. Sector : Information & Communication Technology (ICT)  
 3. Code : ICT206  
 4. Entry Qualification : Minimum 10th Std. & 14 years and above.  
 MES Module on Computer Fundamentals, MS-Office, Internet & Soft Skills
5. Terminal Competency : After completion of the training, participants would be able to:  
 Interconnect computers using switch and establish peer-to- peer, client-server connection Create user's groups and allocate rights and privileges
6. Duration : 180 hrs.  
 7. Contents :

Practical Competencies	Underpinning Knowledge (Theory)
<p><b>Computer parts and peripherals</b> - Identify the controls of each of these devices including the system (CPU) unit.            Practice windows operating system. Identify system specifications.            Identify physically devices interfaces installed with a PC, Check status of installed devices using system information and device manager.            Practice facilities provided by the device manager.            Install a new device (internal/external) to the PC and carryout necessary setting.            Identify components of a simple LAN environment.            Identify different types of cables used for networking.            Identify the protocols installed in an existing LAN setup, Draw LAN diagram, Identify the NIC installed &amp; MAC address ,Install of NIC card.            Make UTP cross cable and testing using continuity tester. Establish connection between two computers using a cross cable            Make a UTP straight patch cord and testing using continuity tester. Connect and test a straight cable using a N-port switch and computers. Establish a peer-to-peer connection. Configure a router Add/Delete entries in configuration task. Create work groups.            Set IP address and subnet mask. Establish connection. Use of Ping command. Establish sub networks using subnet mask. Share resources in LAN. Fault find and troubleshoot network problems.            Trace a network route. Create users, allocate rights and testing. Implement security in LAN. Use Linux commands. Install and uninstall devices using Linux command. Set-up LAN under Linux.</p>	<p>Basic blocks of a digital computer. Function of each block. Personal computer organization. Introduction to various generations of PC's. Brief working and usage of I/O and memory devices used in a PC.            Working with computer using windows operating system, Interfacing I/O device to motherboard. Need and function of driver. Identifying devices installed in the PC. Enabling, disabling, refreshing, checking properties of devices installed. Installing new devices, setting and testing            Serial data communication, principle, standards/protocols and devices/ applications.            Parallel data communication, principle, standards/protocols and devices/ applications.            Features of Networked computers, Components required for networking, Network Topologies. Comparison. Network Protocols, applications, Physical components planning for a small LAN.            Network operating systems and features.            Network cables, types, specifications, standards, application. Peer – to – peer connection. Client – server connection, comparison, applications.            What is router, its function, configuration table.            Concept of work groups and uses. UTP Cross cable for testing connection between two computers.            UTP straight cable and connecting through N-port Switch. Allocation of IP address and Subnet mask.            Cabling procedures and introduction to structured cabling. Resource sharing in LAN environment.            Creating users in Widows server. Resource sharing and Security. Sharing a single internet connection in LAN, with or without the use of Proxy. Multi user OS.</p>

### Tools & Equipment

#### **Hardware**

- PCs – Server and Clients with latest configuration
- Networking tools ie. Hub, Switch, Cables, Modem, Router etc.
- Internet Connection

#### **Software**

- Microsoft Windows 2003 Server, Windows 95/98/2000/XP, Linux Server
- Antivirus and Network trouble shooting utilities.

## Tally 9.0

1. Name : Tally 9.0  
 2. Sector : Information & Communication Technology (ICT)  
 3. Code : ICT102  
 4. Entry Qualification : Minimum 10th Std. & 14 years and above &  
 5. Terminal Competency : After completion of the training, participants would be able to:
- Data Entry of transactions in Tally
  - Create Financial Statements
  - Analyse Financial Performance
  - Generate Financial Reports for MIS
6. Duration : 180 hrs.  
 7. Contents :

Practical Competencies	Underpinning Knowledge (Theory)
<p>Tally Fundamentals (Learning how to use of Tally) Processing Transactions in Tally.</p> <p>Report Generation (Creating statements like Invoice, Bill, Profit &amp; Loss account etc.).</p> <p>Features of Tally (Company creation etc.) Recording Transactions.</p> <p>Budgeting Systems, Scenario management and Variance Analysis, Use Tally for Costing, Ratio Analysis.</p> <p>Cash Flow Statement and Funds Flow Statement Analyzing and Managing Inventory.</p> <p>Point of Sale, Taxation, Multilingual Functionality Payroll Accounting, Systems Administration and Other Utilities</p>	<p><b><i>Basics of Accounting,</i></b> <b><i>Accounting on Computers,</i></b> Introduction – Reports.</p> <p>Business Organizations (Different areas like Schools, Colleges, Shops, Factory etc) Double entry system of bookkeeping.</p> <p>Budgeting Systems, Scenario management and Variance Analysis.</p> <p>Costing Systems, Understanding Ratios, Analysis of financial statements</p> <p>Inventory Basics, POS Invoicing, TDS, TCS, FBT, VAT &amp; Service Tax Processing in Tally. Interface in Different Languages, Processing Payroll Functions in Tally What is Management Control Systems</p>

### Tools & Equipment

#### **Hardware:**

- Server Computer (Latest configuration)
- Laser Printer
- UPS

#### **Software:**

- 1 Windows 2000 Server / Linux Server or latest
- Microsoft Office 2003 Professional or any other Office Product or latest
- Tally 9 Single / Multi User Package or latest

## Domestic BPO

1. **Name:** Domestic BPO
2. **Sector:** Information & Communication Technology (ICT)
3. **Code:** ICT207
4. **Entry Qualification:** Minimum 10<sup>th</sup> Std. & 14 years and Above &
  - MES Module on Computer Fundamentals, MS-Office, Internet & Soft Skills
5. **Terminal Competency:** After completion of the training, participants would be able to:
  - Understand the concept of BPO operations and to use them effectively as Customer Relationship Exec in a domestic BPO
6. **Duration:** 180 hrs.
7. **Contents:** Given below:

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> <li>• <b>Practice sessions with stress on</b> <ul style="list-style-type: none"> <li>- Voice &amp; accent : Voice clarity &amp; global accent</li> <li>- Voice modulation &amp; intonation</li> <li>- Word stress, syllabi stress</li> <li>- Punctuation ,vowel &amp; consonant sounds</li> <li>- Practice of sentences</li> <li>- Fast speech</li> <li>- Pronunciation</li> </ul> </li> <li>• Group Discussion Sessions</li> <li>• Individual interactions</li> <li>• Interview preparation</li> <li>• Personal grooming with stress on skills such as appearance, behavior , voice,etc.</li> <li>• Regular practice of newspaper reading &amp; updating knowledge about day to day happenings.</li> </ul>	<ul style="list-style-type: none"> <li>• Concept of Business Process Outsourcing           <ul style="list-style-type: none"> <li>• <b>Back office management</b> What is Outsourcing. Administrative ,Financial &amp; HR               <ul style="list-style-type: none"> <li>- <b>Administrative outsourcing</b> : Text processing, claim processing, assets management ,Transcription &amp; translation, document management.</li> <li>- <b>Financial outsourcing:</b> billing services, accounting, transactions, general accounting, tax consultancy &amp; compliance, risk management.</li> <li>- <b>HR outsourcing:</b> benefits at the station, recruiting &amp; staffing, parole services, hiring administration, records management, team building ,etc.</li> </ul> </li> <li>• <b>Front office management</b>  What is a Call Center.               <ul style="list-style-type: none"> <li>- According to location of process- <b>International &amp; Domestic .</b></li> <li>- According to process : <b>Inbound ,outbound &amp; Blended.</b></li> <li>- According to characteristic : <b>Voice Based &amp; Web Based</b></li> <li>- According to functionality : <b>Real Call Center &amp; Virtual Call center</b></li> </ul> </li> <li>• <b>Key Technical Support</b> Provide technical support to customers within And outside organization: troubleshooting for Customers using products &amp; services like PC's, Printers ,internet ,etc.</li> </ul> </li> <li><b>Soft Skills</b> <ul style="list-style-type: none"> <li>• Listening Skills</li> <li>• Stress / Change Management</li> <li>• Telemarketing Skills</li> <li>• Typing Skills</li> </ul> </li> </ul>

## **Tools & Equipment**

### Tools & Equipment Required (**Hardware**)

- Old PCs
- Old UPS
- Old Laser Printer
- Screwdriver
  
- Spare H/W components

### **Software**

- Microsoft Windows
- Antivirus Software

## Internet Kiosk Operators

1. **Name:** Internet Kiosk Operators
2. **Sector:** Information & Communication Technology (ICT)
3. **Code:** ICT208
4. **Entry Qualification:** Minimum 10<sup>th</sup> Std. & 14 years and Above &
  - MES Module on Computer Fundamentals, MS-Office, Internet & Soft Skills
5. **Terminal Competency:** After completion of the training, participant would be able to:
  - setup & run/ manage a small venture like Cyber Café
  - Trouble shoot day-to-day minor problems in Cyber café
6. **Duration:** 60 hrs
7. **Contents:** Given below:

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> <li>• <b>Setting up and operation of an Internet Kiosk</b></li> <li>• WiFi Gateways</li> <li>• Antennas, Access Points, Bridges</li> <li>• Wireless Kit for RV or Boat</li> <li>• WiFi Repeaters</li> <li>• WiFi Bridge Kit</li> <li>• Battery Backup Power Protection</li> <li>• Cable LAN and Power line Adapters</li> <li>• Internet Cafe Software</li> <li>• Internet Filtering Software</li> <li>• Kiosk Management Software</li> </ul>	<ul style="list-style-type: none"> <li>• How to Set up Internet Kiosk</li> <li>• Familiarity with Internet Kiosk Infrastructure</li> </ul>

### Tools & Equipment

Tools & Equipment Required (Only for Technical Component)

#### Hardware

- PCs with latest configuration
- Internet connection
- WiFi antenna, some cables for Demonstration

#### Software

- Any Internet Kiosk Simulator
- Microsoft Windows
- Antivirus Software

## Web Designing

1. **Name:** Web Designing
2. **Sector:** Information & Communication Technology (ICT)
3. **Code:** ICT209
4. **Entry Qualification:** Minimum 10<sup>th</sup> Std. & 14 years and Above &
  - MES Modules on Computer Fundamentals, MS-Office, Internet & Soft Skills and Desk Top Publishing
5. **Terminal Competency:** After completion of the training, participants would be able to:
  - Open different Internet sites using Search Engine
  - Use different Browsers
  - Create Web Pages using HTML
  - Insert animations using DHTML
6. **Duration:** 180 hrs.
7. **Contents:** Given below:

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> <li>• Connecting to Internet.</li> <li>• Browsing popular sites and using search engines.</li> <li>• Using HTML editor, creating simple HTML documents, containing heading, body text and comments</li> <li>• Creating web pages with all the features and effects.</li> <li>• Converting MS Office documents to HTML.</li> <li>• Creation of web pages containing tables of different formats.</li> <li>• Practice on modification of tables.</li> <li>• Creating Lists using Bullets and Numbers.</li> <li>• Using HTML for creating web pages with links to other pages different points of a page and link to tables and list.</li> <li>• Creating web pages containing images,</li> <li>• Animation graphics using GIF animator or some other software.</li> <li>• Inserting Images, Video &amp; Sound effects. Marquees of Scrolling text.</li> <li>• Setting and releasing different types of Frames.</li> <li>• Using HTML to design different types of forms, incorporating different type of boxes, buttons, menus and fields.</li> <li>• Processing the form.</li> <li>• Designing web pages with taught elements along with style elements for different characteristics.</li> <li>• Practice cascading style sheets.</li> <li>• Creating animation in the web pages using layers.</li> <li>• Using Apache Software</li> </ul>	<p><b><u>Introduction to Web</u></b></p> <ul style="list-style-type: none"> <li>• Overview of Internet and W W W. Web pages, home page, Web browsers, search Engines, web sites and servers.</li> </ul> <p><b><u>Introduction to HTML</u></b></p> <ul style="list-style-type: none"> <li>• HTML features and uses, structure of an HTML document, creating HTML document, adding body text and comments.</li> <li>• Using all the features, colours and other effects of HTML. Converting MS Office documents to HTML.</li> <li>• Tables &amp; Lists – Creating Tables and Lists in HTML documents.</li> <li>• Links - Creating links to local range, other pages, specific part of page, electronic mail.</li> <li>• Images - Including icon and picture in HTML document. Creation of animated GIF. Sizing the pictures.</li> </ul> <p><b><u>Multimedia Objects:</u></b></p> <ul style="list-style-type: none"> <li>• Adding external images, video, and sound file including device independent (DVI) files. Add marquees of scrolling text.</li> </ul> <p><b><u>'Frames –</u></b></p> <ul style="list-style-type: none"> <li>• Setting and releasing frames. Using one frame to index another. Creating floating frames, borderless frames and frames with borders.</li> </ul> <p><b><u>Forms –</u></b></p> <ul style="list-style-type: none"> <li>• Creating basic forms. Adding text box, check box, radio buttons, pull-down menus, single-line text field and password field. Processing the forms.</li> </ul> <p><b><u>Style sheets –</u></b></p> <ul style="list-style-type: none"> <li>• Creating style sheets to other HTML element, altering different characteristics and features. Cascading HTML style sheets.</li> </ul> <p><b><u>DHTML –</u></b></p> <ul style="list-style-type: none"> <li>• Creating layers using style sheet syntax. Create animation.</li> <li>• Theory related to practical</li> </ul>

## **Tools & Equipment**

### **Hardware:**

- Server Computer (Latest configuration)
- Scanner
- Laser Printer
- UPS

### **Software:**

- 1.Windows 2000 Server / Linux Server or latest
- Microsoft Office 2003 Professional or any other Office Product
- latest version
- Netscape Navigator 4.0 or latest
- GIF Animator & Editor
- Adobe Photoshop
- HTML Editor
- Internet Connection

### List of Trade Committee members of ICT Sector

1. Rajiv Mathur	CMC	rajiv.mathur@cmcltd.com
2. Rajdeep Sardesai	NASSCOM	<a href="mailto:rajdeep@nasscom.in">rajdeep@nasscom.in</a>
3. Shivani	NASSCOM	shivani@nasscom.in
4. Alok	CMC	alok.bajpai@cmcltd.com
5. Anil Varghese	MICROSOFT	anilv@microsoft.com
6. D Selvan	WIPRO	selvan.dorairaj@wipro.com
7. I S Gahlaut	CII	i.s.gahlaut@ciionline.org
8. Manoj Bhagat	TELETECH	manoj.bhagat@teletech.com
9. nishith saxena	ISTD	saxenanb@yahoo.co.uk
10. Pankaj Mahajan	HCL	pankajm@hcl.in
11. Puneet Kumar	WIPRO	kumar.puneet@wipro.com
12. SJ Amalan	APEX HI-TECH INSTT.	sjamalan@yahoo.co.in
13. Soma Sundaram	Director, ATI-EPI, Hyderabad	som108@gmail.com
14. Vikas Goswami	MICROSOFT	vikasg@microsoft.com
15. Vivek Punekar	HCL	vivek@hcl.in
16. Ashok Kumar	DGET	ashok1947@nic.in
17. Ashwani Aggarwal	DGET	ashwani02@gmail.com
18. Dinesh Nijhawan	DGET	dinesh_nij@gmail.com
19. J.D. Bhutange	STATE DIRECTOR, MAHARASHTRA	dvet_mumbai@yahoo.co.in
20. Principal ITI	Aundh, Maharashtra	itiaundh1109@yahoo.co.in