Telecom
Sector
Skill
Council

Facilitator Guide

Telecom Terminal Equipment Application Developer (Android)

Sector
Telecom

Sub-Sector
Handset (Terminal Applications)

Occupation
Terminal Equipment Application Dev.

Reference ID: Tel/Q2300, Version 2.0

NSQF Level: 4

> **Skilling is building a better India. If we have to move India towards development then Skill Development should be our mission.**

Shri Narendra Modi
Prime Minister of India

Acknowledgements

About this Guide

In the last five years, the growth of the Indian telecommunications sector has outpaced the overall economic growth. This sector is poised for strong growth of about 15% in short term during 2013–17, driven by growth in organised retail, technological advancements, changing consumer preferences and government support. With over 1 billion subscribers, India is the second largest telecom market in the world.

The sector currently employs over 2.08 million employees and is slated to employ more than 4.16 million employees by 2022. This implies additional creation of 2.1 million jobs in the nine-year period.

This Facilitator Guide is designed to impart theoretical and practical skill training to students for becoming an Telecom Terminal Equipment Application Developer (Android).

Individuals at this job must have good programming skills in Java, multithreading and operating system concepts. They must also possess problem solving & analytical skills.

This Facilitator Guide is based on Telecom Terminal Equipment Application Developer (Android) Qualification Pack (TEL/Q2300) & includes the following National Occupational Standards (NOSs):

- Set-up up Android framework/development environment and creating user interface (TEL/N2300)
- Developing Android VAS Application (TEL/N2301)
- Creating Applications for Android Tablets (TEL/N2302)
- Testing and Publishing Android Applications (TEL/N2303)

Post this training, the participant will be able to create applications for Android platform that can be used on smart phone and tablets. They will also be able to handle end-to-end activities for application development ranging from installing requisite frameworks, setting-up of development environment, developing apps, security frameworks, testing and deployment.

We hope that this Facilitator Guide will provide a sound learning support to our young friends who want to build an attractive career in the telecom industry.

Symbols Used

Ask	Tips	Notes	Objectives	Do	Activity

Elaborate	Facilitation Notes	Learning Outcomes	Say	Resources	Summary

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1. Introduction

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Key Learning Outcomes

At the end of this module, you will be able to:

1. Gain knowledge about the history of communication.

2. Learn about signals

3. Learn about networks

4. Explain about channel access methods.

UNIT 1.1: Introduction to the Program

Unit Objectives

At the end of this unit, students will be able to:

• Learn the basics of Telecommunication and its working

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board..

1.1.1 Note

The key learning outcomes and unit objectives have been mentioned at the beginning of the module. Make sure that these outcomes and objectives are shared with the participants at the beginning, and when the module gets over do a collective feedback to make sure all have been covered.

This is the first session of the program. Introduce yourself, the program and its purpose in detail. Explain the background, the duration of the assessment and finally how the program will help them to get a job. Ensure that the participants understand how their entire month will be structured and how they will benefit from the course. Answer their questions satisfactorily.

This is the first session of the program which introduces us to the program.

1.1.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'.

1.1.3 Do

Introduce yourself with your name and background and your role in the training program.

Give them a background of the training program. Talk about:

1. The total duration of the program
2. How the day will be divided
3. Periodic assessments
4. Final assessments
5. Your expectations from them about their conduct, laying ground rules

1.1.4 Say

Now that you have understood what the program is about let us get to know each other better.

1.1.5 Activity

Take a ball of wool and get the participants in a circle. You are also a part of the circle. Tell them here is a ball of wool, I am going to take a piece of the thread in my hand and throw the ball to anyone. So please be alert and do not let the ball fall. Whoever gets the ball, please introduce yourself (name, and one adjective that best describes you) hold a piece of the thread and throw it to anyone you want. Slowly a web of the wool will be created with everyone holding the thread..

Debrief

Ask them now that we know each other can you see what we have created. Wait for answers. Tell them, "We have created a web, a web of energy." Ask everyone to loosen their hold on the thread and say, "See if we lose energy how the web loses energy and when we hold it tight the web is strong. Similarly as we do this program and study together, each is responsible for the learning and environment in the group. So be responsible, alert and engaged."

Skill Practice	Time	Resources
Ice Breaker	1 hr	Small writing pads, pens, white board, marker and ball of wool

1.1.6 Say

Let us begin the session by discussing about the program.

1.1.7 Say

Terminal Equipment Application Development for Android is a platform where companies build the Android Operating System and its applications for the community.

1.1.8 Do

- Share with the participants about the aim of the training program.
- Share with them about the company that invented android and discuss how it has turned out to be the most used operating system till date.
- Explain them the job role of a Telecom Terminal Equipment Application Developer (Android).

1.1.9 Elaborate

This program is aimed at training candidates for the job of a "Telecom Terminal Equipment Application Developer (Android)", in the "Telecom" Sector/ Industry.

Job Role of a Telecom Terminal Equipment Application Developer (Android):

• Terminal Equipment Application Developer (Android) is responsible for creating applications for Android platform that can be used on smartphone and tablets running on Android Operating System.

• The developer handles end-to-end activities for application development ranging from installing requisite frameworks, setting-up of development environment, developing apps, security frameworks, testing and deployment.

• Must have good programming skills in Java, multithreading and operating system concepts.

• Must have problem solving & analytical skills and their translation to specified outcome.

1.1.10 Activity

Ask the participants to generate 10 to 15 words about whatever they have understood about the training program so far. Capture each response, as it comes in, on the whiteboard. You can use this opportunity to introduce essential terms, too.

Skill Practice	Time	Resources
Word Tree	2 hrs	Chalk/Marker, blackboard/Flipchart

1.1.11 Activity

Ask the participants to refer to the participant handbook and study in detail about responsibilities and attributes of a Telecom Terminal Equipment Application Developer (Android), so that when they are asked questions regarding it they are able to answer.

Skill Practice	Time	Resources
Self Study	2 hrs	Chalk/Marker, blackboard/Flipchart

1.1.12 Say

Let us now discuss about the overview of the program and the basic skills which a Telecom Terminal Equipment Application Developer (Android) must possess.

1.1.13 Do

Share with the participants about the overview of the program and the basic skills which a Telecom Terminal Equipment Application Developer (Android) must possess.

1.1.14 Elaborate

This program will facilitate an overview of:

• Understanding the Android Application Development Framework

• Setting up Android Application Development Environment

• Creating Android Projects

• Creating adaptive and responsive user interface for various devices and form factors

• Deploying app to an emulator or device

The skills that this program trains you in are:

• Communication skills

• Liaisioning and coordination skills

• Reading and writing skills for technical literature related to mobile applications.

• Technical skills

• Task management skills

• Programming skills

1.1.15 Do

Tell the participants to get ready for an activity

1.1.16 Activity

Ask the participants to refer to the participant handbook and study in detail about overview of the program and the basic skills which a Telecom Terminal Equipment Application Developer (Android) must possess, so that when they are asked questions regarding it they are able to answer them.

Skill Practice	Time	Resources
Self study	2 hrs	Small writing pads, pens and Participant Handbook

1.1.17 Notes for Facilitation

- Ask the participants if they have any questions

- Encourage other participants to answer it and to encourage peer learning in the class

- Clarify all doubts of the participants

- Ask them to answer the questions given in the participant handbook

- Ensure that all the participants answer every question

1.1.18 Summary

1. Computers are the devices that are used for doing random arithmetic calculations automatically.

2. E-mails, documents, videos, songs, etc. can be easily transformed into signal with the help of a computer and then transferred through the internet to the other computer.

3. A telecommunication system comprises of three fundamental parts :-

- Transmitter

- Transmission medium

- Receiver

UNIT 1.2: History of Telecommunication

Unit Objectives

At the end of this unit, students will be able to:

• Discuss about the history of telecommunication

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

1.2.1 Note

This is the second session of the program which talks about history of Telecommunication in India.

1.2.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

1.2.3 Do

1. Begin with revising the topics explained in the previous session. Ask the following questions

    • List down the job role of a Telecom Terminal Equipment Application Developer (Android).

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

1.2.4 Say

Now let us begin with a new session which is about the history of telecommunication in India. In the previous sessions we have had a clear understanding about the objectives of the program, now we will talk about the history of telecommunication in India.

1.2.5 Say

Communication was thought to have started very early when civilizations were set up. The electric telegraph was invented in 1816 by English inventor Francis Ronalds' using static electricity. In 1876, telephone was invented by Alexander Bell and Alisha Gray. The invention of telephone gave birth to the invention of cell phones and mobile phones in the early 18th and 19th centuries.

1.2.6 Do ☑

- Show them some pictures of telegraph, telephones, cell phones and modern day smart phones.
- Share with them about smart phone subscription in India.
- Discuss with them about different brands of smart phones.

1.2.7 Elaborate

Refer to participant handbook (Pg-4-7) to explain about history of telecommunication in India in detail.

1.2.8 Do ☑

Tell the participants to get ready for an activity

1.2.9 Activity

Ask the participants to refer to the participant handbook and study in detail about the history of communication, so that when they are asked questions regarding it they are able to answer them.

Skill Practice	Time	Resources
Self-study	2 hrs	Small writing pads, pens and Participant Handbook

1.2.10 Activity

Running the activity:

1. While showing the animations, make them understand what they are watching.
2. Ask them if they want to ask anything out of curiosity.

Skill Practice	Time	Resources
Audio/Visual Program	1 hr	Computer, slide show projector

1.2.11 Say

Let us now discuss about computers and internet.

1.2.12 Do ☑

- Share knowledge with the participants about how computers help in setting up the internet.
- Discuss with the participants about how the internet works.
- Share with the participants about the terms like transmitter, receiver and the transmission medium.

1.2.13 Elaborate ⚙

- Internet being a wireless data communication medium works because of the hardware like modem.
- Optical fibres help in transmission of the data throughout the world wirelessly.

Refer to the participant handbook (Pg-5-6) to explain in detail about computer and internet.

1.2.14 Activity 🔧

Ask the participants to get into groups and discuss and explain to each other, diagrammatically about the working of the internet and the role hardware device plays in the transmission.

Skill Practice	Time	Resources
Group Discussion	2 hrs	Small writing pads, pens and participant handbook

1.2.15 Say 💬

Let us conclude the session by revisiting what we have learnt so far.

1.2.16 Say 💬

As we all went through different fundamentals that make up the basics of telecommunication, we understood how the signals move wirelessly and how the data can be transferred world wide.

1.2.17 Notes for Facilitation 📝

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

UNIT 1.3: Signals

Unit Objectives

At the end of this unit, students will be able to:

- Understand the basics of signals in telecom

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

1.3.1 Note

This is the third session of the program which talks about signals.

1.3.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

1.3.3 Do

1. Begin with revising the things explained in previous session. Ask the following questions
   - What are the different modes of communication?
   - What is a transmitter, a receiver and the transmission medium?
   - What is internet?
2. Encourage the participants to give their response
3. Ensure that the class should not lose focus
4. Clarify if they have any doubts
5. Tell them about what they are going to learn in this session

1.3.4 Say

Now let us begin with a new session which is about Signals. In the earlier sections, we learnt about history and basics of Telecommunication; we will now see what are signals.

1.3.5 Say

A signal is a medium which helps in the transmission of data from one point to another point. Without a signal wireless electronic devices don't work. Signals are classified into two categories:

1. Analog Signal
2. Digital Signal.

1.3.6 Do

Share with the participants different diagrams of the signals.

1.3.7 Activity

Running the activity

1. While showing them the videos, make them understand what they are watching.
2. Ask them if they want to ask anything out of curiosity.

Skill Practice	Time	Resources
Audio/Visual Program	1 hr	Videos/ slides on different types of signals, projector and a computer.

1.3.8 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

1.3.9 Summary

1. Signals play a very important role in a telecommunication system since they carry the information.
2. An analog signal can be defined as the signal which changes with respect to the information.
3. A digital signal is that type of signal which carries information in binary form (in combinations of 0s and 1s).

UNIT 1.4: Networks

Unit Objectives 🎯

At the end of this unit, students will be able to:

• Understand Networks

Resources to be Used ⚙️

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

1.4.1 Note 📝

This is the fourth session of the program which talks about networks.

1.4.2 Say 💬

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

1.4.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

   • What are the different types of signals?

   • What is a transmission medium?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

1.4.4 Say 💬

Now let us begin with a new session which is about learning the networking fundamentals. We have already gone through signals and internet. Now we will learn what connects information across the world.

1.4.5 Say

Now let us understand about Networks.

1.4.6 Say

A mutual working of transmitters and receivers over large distances is termed as a network. To transmit information from one place to another in a digital communication system, a controlling unit called a router/modem is used.

1.4.7 Do

Share with the participants about different generations of networking.

1.4.8 Elaborate

The different generations of mobile networking are:

- GSM 2nd Generation
- UMTS 3rd Generation
- HSPA 3rd Generation
- LTE 4th Generation

Refer to the participant handbook (Pg-8-9) to explain in detail about various mobile operating systems.

1.4.9 Activity

Divide the participants in four groups and make them play a quiz on networking and different generations of networking. At the end of the activity repeat what has learnt so far.

Skill Practice	Time	Resources
Quiz	2 hrs	Participant Handbook

1.4.10 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

1.4.11 Summary

1. The mutual working of transmitters and receivers over large distances is termed as telecommunication networks.

2. To transmit information from one place to another in a digital communication system, a controlling unit called a router is used.

3. The mobile phone services started with the zero generation (0G) services which only supported few calls. Further advancements brought 1G, 2G, 3G and 4G services respectively.

4. Basic components of mobile phone:

   - Battery

   - Input

   - SIM Card

   - Memory Card

5. 3GPP is a collaboration between the organisational partners who belong to Asia, Europe and North America.

6. Generations of mobile communication that come under 3GPP:

   - GSM (2nd Generation)

   - UMTS (3rd Generation)

   - HSPA

   - LTE (4th Generation)

UNIT 1.5: Channel Access methods

Unit Objectives ⊚

At the end of this unit, students will be able to:

- Learn about channel access methods
- Understand about Multiplexers and Demultiplexers

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

1.5.1 Note 🗒

This is the fifth session of the program which talks about various methods involved in channel access.

1.5.2 Say 💬

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

1.5.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions
    - What are the different generations of networking?
    - What do you understand by CDMA, UMTS, GSM and LTE?
    - Who are the different modes of communications?
2. Encourage the participants to give their response
3. Ensure that the class should not lose focus
4. Clarify if they have any doubts
5. Tell them about what they are going to learn in this session

1.5.4 Say 💬

Now let us begin with a new session which is about learning channel access methods and how we connect multiple systems to a single system for transmission of data.

1.5.5 Say 💬

Now let us understand about multiplexers and de-multiplexers.

1.5.6 Say

Multiplexing is a method by which multiple signals are converted into one signal over a shared medium. The device that helps in multiplexing is called as a multiplexer or MUX and the device that helps in Demultiplexing is called as a de-multiplexer or DEMUX.

Demultiplex (DEMUX) is the reverse of the multiplex (MUX) process – it combines multiple unrelated analog or digital signal streams into one signal over a single shared medium.

1.5.7 Do

Share with the participants about CDMA

1.5.8 Elaborate

CDMA is an abbreviation for code Division Multiple Access which is one of the fundamental channel access schemes. It has a wider radio spectrum and is used in 3rd generation mobile phone systems.

Refer to the participant handbook (Pg-10-11) to explain in detail about channel access methods.

1.5.9 Activity

Divide the participants in four groups and make them map out the important points regarding multiplexers and de-multiplexers.

At the end of the activity, reiterate about the use of channel access methods in networking and communication.

Skill Practice	Time	Resources
Board activity	1 hr	Participant Handbook

1.5.10 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

1.5.11 Summary

1. Multiplexing is a method by which multiple signals are converted into one signal over a shared medium
2. In a multiplexed signal the communication channel is divided into many logical channels.
3. The device which helps in the multiplexing is called a Multiplexer or MUX

2. Mobile Operating Systems

Key Learning Outcomes

At the end of this module, you will be able to:
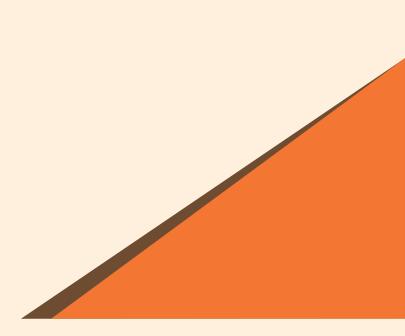
1. Learn, understand and differentiate between different mobile operating systems

UNIT 2.1: Mobile Operating Systems

Unit Objectives

At the end of this unit, students will be able to:

• Learn about Symbian OS and its core structure

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

2.1.1 Note

This is the sixth session of the program which talks about mobile operating systems.

2.1.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

2.1.3 Do

1. Begin with revising the things explained in previous session. Ask the following questions

    • What are the different generations of networking?

    • Define CDMA, UMTS, GSM and LTE.

    • What are the different modes of communications?

    • What are channel access methods?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

2.1.4 Say

Now let us begin with a new session which is about learning different mobile operating systems. In the previous sessions we have had a clear understanding about the hardware and networking fundamentals, now we will talk about different operating systems.

2.1.5 Say

Now let us understand about different mobile operating systems.

2.1.6 Say

A mobile operating system is an operating system for smart phones, tablets and other mobile devices. It combines features of a computer operating system with other features useful for mobile or handheld use like camera, music player etc.

2.1.7 Do

Share with the participants about Symbian OS.

2.1.8 Elaborate

Symbian is a mobile operating system which is designed for smartphones. It has been used by several major brands like Nokia, Samsung, Motorola and Sony Ericsson worldwide. Symbian OS is written in C++ language which is mainly done with the help of a software development kit (SDK). The Symbian UI variants/platforms are as following:

- S60
- S80
- S90
- UIQ
- MOAP (Mobile oriented applications Platform) Japan only
- OPP (Successor of MOAP)

Refer to the participant handbook (Pg-16-19) to explain about Symbian OS in detail.

2.1.9 Activity

Show the participants different versions of Symbian OS and the UI associated with it in different handsets.

At the end of the activity, reiterate what has been taught.

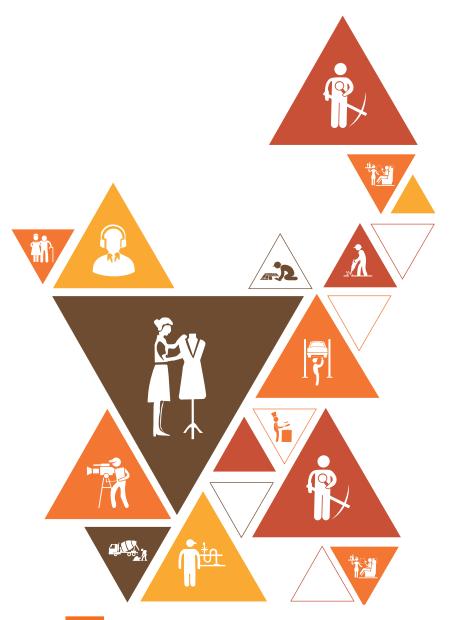| Skill Practice	Time	Resources
Audio/Visual Program	1 hr	Slides/videos

2.1.10 Notes for Facilitation

- Ask the participants if they have any questions

- Encourage other participants to answer it and to encourage peer learning in the class

- Clarify all doubts of the participants

- Ask them to answer the questions given in the participant handbook

- Ensure that all the participants answer every question

2.1.11 Summary

1. User interface is a virtual space where interactions between a human and machine take place. This interaction helps the human users to operate the machine really effectively.

2. Qt is a framework which is used for the development of applications of the operating system with the graphical user interface

3. The Symbian operating system is written in C++. Since C++ is also used in creating software in computers, therefore, C++ is used along with the Symbian standards to write the operating system

4. Eclipse is an integrated development environment which is used for programming computers. Mostly written in JAVA, Eclipse can also write programs in other computer languages which include C++, COBOL, D, C, Fortran etc.

5. The layers in which Symbian is written are:

    - User Interface Layer

    - Application Services Layer

    - . Java ME

6. Operating System Services and Layer Generic operating system services

    - Communication services

    - Multimedia and Graphics Services

    - Connectivity Services

7. Base Services Layer

8. Kernel Services and Hardware Interface Layer

UNIT 2.2: Windows Mobile

Unit Objectives

At the end of this unit, students will be able to:

• Learn about different features of a Windows OS.

• Learn about different features of Blackberry OS.

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

2.2.1 Note

This is the seventh session of the program which talks about windows mobile.

2.2.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

2.2.3 Do

1. Begin with revising the things explained in previous session. Ask the following questions

   • What is a User Interface UI?

   • What are the different versions of Symbian OS?

   • Which are the platforms where Symbian OS is written?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

2.2.4 Say

Now let us begin with a new session which is about other kinds of mobile operating system, Windows Mobile and BlackBerry OS.

2.2.5 Say

Now let us understand about Windows Mobile.

2.2.6 Say

Windows Mobile is a family of mobile operating systems which was developed by Microsoft for smart phones and pocket computers. Some of the standard features in the windows phone are multitasking, navigation etc.

2.2.7 Do

Share with the participants about Virtual Private Networking and Point-to-Point Tunnelling Protocol.

2.2.8 Elaborate

VPN is a private network which is made by the computer itself so that other computers can be connected to it via internet. Whereas, PTPP (Point-to-Point Tunnelling Protocol) is a method by which VPNs (Virtual Private Networking) are implemented.

Refer to the participant handbook (Pg-20-21) to explain in detail about Windows Mobile.

2.2.9 Say

Now let us understand about BlackBerry OS.

2.2.10 Say

BlackBerry OS is a mobile operating system which was developed by BlackBerry Ltd for the smart phones. The features that BlackBerry supports are synchronizing data with applications like Microsoft Exchange, tasks, calendar etc.

2.2.11 Do

Share with the participants about Mobile Information Device Profile (MIDP).

2.2.12 Elaborate

MIDP stands for Mobile Information Device Profile. It is a mobile specification which is published for using Java on mobile phones.

Refer to the participant handbook (Pg-21-22) to explain in detail about BlackBerry OS

2.2.13 Activity

Show the participants different videos on windows mobile handsets and blackberry OS handsets and the functions they carry.

At the end of the activity, reiterate about what has been taught

Skill Practice	Time	Resources
Audio/ Video Program	2 hrs	Slides/Videos

2.2.14 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

2.2.15 Summary

1. Windows mobile comes with some basic installed applications:
   - Internet Explorer Mobile (Default Browser)
   - Windows Media Player
   - Microsoft Office
2. Virtual Private Networking is a private network which is made by a computer itself so that other computers can be connected to it via internet.
3. The Point-to-Point Tunneling Protocol is a method by which virtual private networks (VPNs) are implemented.
4. MIDP stands for Mobile Information Device Profile. It is a mobile specification which is published for using Java on mobile phones and personal digital assistants (hand held personal computer).

UNIT 2.3: Android OS

Unit Objectives

At the end of this unit, students will be able to:

• Understand about an Android OS

• Understand the features of an Android device

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

2.3.1 Note

This is the eighth session of the program which talks about Android OS (Operating System).

2.3.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

2.3.3 Do

1. Begin with revising the things explained in previous session. Ask the following questions

    • What do you understand by terms like VPN, PTPP and MIDP?

    • What are the handsets that use Windows OS and BlackBerry OS?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

2.3.4 Say

Now let us begin with a new session which is about learning Android OS.

2.3.5 Say

Now let us understand about Android OS.

2.3.6 Do

Share with the participants about different android Features.

2.3.7 Elaborate

With Android you can view the Weather details, play games and even switch on and off different functions like Wi-Fi, mobile Bluetooth and mobile network etc.

Refer to the participant handbook (Pg-23-25) to explain about various Android Features.

2.3.8 Activity

Show the students different Android features like UI and games and how we can view a weather report by simply tapping on a button.

At the end of the activity, reiterate about what has been taught.

Skill Practice	Time	Resources
Audio/ Video Program	6 hrs	An Android Phone or a computer installed with an Android Emulator like Blue stacks

2.3.9 Do

Share with the participants about source code.

2.3.10 Elaborate

A source code can be defined as that programming language which is written in a readable computer language in the form of text.

Refer to the participant handbook (Pg-23) to explain the participants about source code.

2.3.11 Activity

Type a simple "Hello, World" program in C language and show them the output so that they can better understand how the source code works.

At the end of the activity, reiterate about what has been taught.

Skill Practice	Time	Resources
Audio/ Video Program	6 hrs	Computer installed with C language

2.3.14 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

2.3.15 Summary

1. Android is a Linux based operating system which is developed by Google. This operating system is designed for touchscreen smart-phones and tablets.

2. Source code can be defined as that programming language which is written in a readable computer language in the form of text.

3. ARM stands for Acorn RISC (Reduced instruction set computing) Machine.

4. Different versions are:

   - Froyo, Android (2.2 - 2.2.3)
   - Gingerbread, Android (2.3 - 2.3.7)
   - Ice Cream Sandwich, Android (4.0 – 4.0.4)
   - Jelly Bean, Android (4.1 – 4.3.1)
   - KitKat, Android (4.4 – 4.4.4)
   - Lollipop, Android (5.0 – 5.1.1)
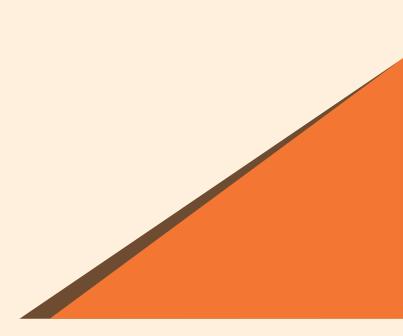
3. Installing Android

Unit 3.1 – Basic requirements for installing Android on
the Device

Unit 3.2 – Android Installation

Key Learning Outcomes

At the end of this module, you will be able to:

1. Understand the basic hardware and system requirements for installing Android.

2. Learn and do the installation of Android SDK on various platforms of a computer

3. Create an Android project.

UNIT 3.1: Basic Requirements for Installing Android on the Device

Unit Objectives ⊚

At the end of this unit, students will be able to:

- Learn the basic hardware and system requirements for installing Android

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

3.1.1 Note 🗒

This is the ninth session of the program which talks about basic requirements for installing Android on the device.

3.1.2 Say 💬

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

3.1.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions
   - What are the different versions of Android?
   - What are the different features of an Android device?
2. Encourage the participants to give their response
3. Ensure that the class should not lose focus
4. Clarify if they have any doubts
5. Tell them about what they are going to learn in this session

3.1.4 Say 💬

Now let us begin with a new session which is about learning the basic requirements of installing Android.

3.1.5 Say 💬

Now let us understand about the basic requirements.

3.1.6 Say

The basic requirements to install Android on a device are the configurations of the following hardware:

- Chipset
- Memory
- Storage
- Primary Display
- Navigation Keys
- Camera
- Bluetooth
- USB

The details of the hardware requirements and system requirements can be read in detail in the participant handbook (Pg-35-39).

3.1.7 Activity

Ask the participants to study in detail about the hardware and system configurations for installing Android on a device by referring to participant handbook, so that when they asked questions related to it, they are able to answer it.

Skill Practice	Time	Resources
Self-Study	2 hrs	Participant Handbook

3.1.8 Activity

Divide the participants in a group of 4 and make them play a quiz based on installation of android (including system requirements). At the end of the activity, reiterate about what has been discussed.

Skill Practice	Time	Resources
Quiz	2 hrs	Participant Handbook

3.1.9 Notes for Facilitation

- Ask the participants if they have any questions

- Encourage other participants to answer it and to encourage peer learning in the class

- Clarify all doubts of the participants

- Ask them to answer the questions given in the participant handbook

- Ensure that all the participants answer every question

3.1.10 Summary

1. A chipset is defined as the type of hardware which holds a collection of circuits which are required to work as one unit in order to perform a task with the system.

2. The minimum memory requirements for installing Android on the device should be 128 MB RAM (Random Access Memory) and 256 MB external flash memory or the storage memory.

3. Bluetooth is wireless technology developed for data transfer under personal area networks from one device to another.

4. USB is a way of data transfer from a personal computer to an android device and vice-versa.

UNIT 3.2: Android Installation

Unit Objectives ◎

At the end of this unit, students will be able to:

• Perform Android installation on different Operating Systems on a Computer

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

3.2.1 Note 🗒

This is the tenth session of the program which talks about Android Installation.

3.2.2 Say 💬

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

3.2.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions
   • What are the hardware requirements for installing Android?
   • What are the basic system requirements for installing Android?
2. Encourage the participants to give their response
3. Ensure that the class should not lose focus
4. Clarify if they have any doubts
5. Tell them about what they are going to learn in this session

3.2.4 Say 💬

Now let us begin with a new session which is about learning to install Android on the computer.

3.2.5 Activity

Ask the participants to divide themselves into four groups and perform android installation.

At the end of the activity go around and check whether each group has installed it or not.

Skill Practice	Time	Resources
Installation practice	7 hrs	Computer

3.2.6 Elaborate

Refer the Participant Handbook (pages- 40-52) for steps regarding the installation of Java Development kit and Android Studio. Follow the links and show the participants how to follow the links and install Android on the computer.

3.2.7 Activity

Ask the participants to divide themselves into four groups and perform android installation.

At the end of the activity go around and check whether each group has installed it or not.

Skill Practice	Time	Resources
Installation practice	7 hrs	Computer

3.2.13 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

4. Creating an Android Project

Unit 4.1 – Creating an Android Project

Key Learning Outcomes 💡

At the end of this module, you will be able to:

1. Understand and develop system flow and coding

2. Conceptualize applications

3. Create Android Virtual Device

UNIT 4.1: Creating an Android Project

Unit Objectives 🎯

At the end of this unit, students will be able to:

• Learn how to create an Android Project

• Identify components of a class definition and their functions

Resources to be Used ⚙️

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

4.1.1 Note 📝

This is the eleventh session of the program which talks about Android project.

4.1.2 Say 💬

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

4.1.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

    • What is Java Development kit?

    • What is Android Studio?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

4.1.4 Say 💬

Now let us begin with a new session which is about learning to create a simple Android Project.

4.1.5 Elaborate ⚙️

Refer to participant handbook (Pg-57-70) to explain the participants about creating android projects.

4.1.6 Activity

First show the participants how a simple Android Project is written. Then compile it and show them the output. After that divide the participants into four groups and make them practice the same programs for them to get a better working understanding of the source code.

At the end of the activity, reiterate about what has been learnt.

Skill Practice	Time	Resources
Creating an Android Project	11 hrs	Computers

4.1.7 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question
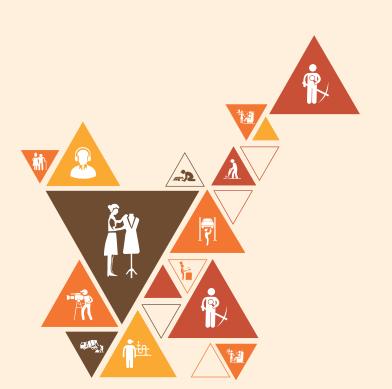
5. Developing Android VAS Application

Unit 5.1 – Basic Layout, Short messaging Services and Networking

Unit 5.2 – Data Management

Key Learning Outcomes 💡

At the end of this module, you will be able to:

1. Understand different layouts of an Android Device.

2. Write the layouts.

3. Write source code for mobile networking and short messaging services

4. Learn about data management techniques.

5. Work on SQLite

UNIT 5.1: Basic Layout, Short messaging Services and Networking

Unit Objectives 🎯

At the end of this unit, students will be able to:

- Write the source code for different layouts of an Android device
- Send an SMS using code
- Configure the networking with a source code

Resources to be Used ⚙️

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

5.1.1 Note 📝

This is the twelfth session of the program which talks about basic layout, short messaging services and networking.

5.1.2 Say 💬

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

5.1.3 Do ✓

1. Begin with revising the things explained in the previous session. Ask the following questions
   - What are emulators?
   - What is a layout?
2. Encourage the participants to give their response
3. Ensure that the class should not lose focus
4. Clarify if they have any doubts
5. Tell them about what they are going to learn in this session

5.1.4 Say 💬

Now let us begin with a new session which is about learning to create projects on User Interfaces, Short Messaging Service and networking Source codes.

5.1.5 Elaborate

Refer to participant handbook (Pg-76-115) to explain about creating projects on user interface, Short Messaging Service and networking Source codes.

5.1.6 Activity

First, create any one of the user interfaces to illustrate the participants. Then compile it and show them the output. After that divide the participants into four groups and make them practice other interfaces for them to get a better working understanding of the source code. Also, show them how to send an SMS using code and how the network can be set-up using code.

At the end of the activity, reiterate about what has been learnt.

Skill Practice	Time	Resources
Writing user interfaces, SMS and networking source codes	28 hrs	Computer

5.1.7 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

5.1.8 Summary

1. Linear layout is the simple and most basic layout. It is arranged in both horizontal direction and vertical direction. We will study the code for both the layouts and then run on the emulator to check the application.

2. Relative layout displays the child views in relative positions

3. Table layout is used to display child views in rows and columns. Image, text, button view can be shown in different child views through table layout.

UNIT 5.2: Data Management

Unit Objectives

At the end of this unit, students will be able to:

• Understand the data management techniques

• Understand the purpose of Database management systems

• Understand the working of SQLite

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

5.2.1 Note

This is the thirteenth session of the program which talks about data management.

5.2.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

5.2.3 Do

1. Begin with revising the things explained in the previous session. Ask the following questions

    • Name different user interfaces.

    • What is an XML file and what is the role of activity file?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

5.2.4 Say

Now let us begin with a new session which is about learning about data management. How the data can be stored in the internal memory, the external memory and how SQL helps in the data management in an Android device will be learnt in this session.

5.2.5 Elaborate

Refer to the participant handbook (Pg-122-128) to explain the participants in detail about data management techniques.

5.2.6 Activity

Divide the class into four groups and ask them to create source code for data management.

Skill Practice	Time	Resources
Writing source code for data management	22 hrs	Participant Handbook, Computer

5.2.7 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

5.2.8 Summary

1. A processor may be defined as an electrical circuit whose function is to perform operations on some external data source which may usually be a memory or some other data stream.

2. Types of processors:
   - Nvidia Tegra
   - Northbridge
   - Southbridge

3. Snapdragon is a product of Qualcomm which is nothing but a package of System on a Chip (SoC) semiconductor for mobile devices.

4. Two ways in which file can be saved:-

- Public Files- Public files are those files that stay on the device even if the user does any modification.
- Private Files- Private files are the files which are accessible for applications and they get deleted as soon as the application is removed.

6. Testing and Publishing

Unit 6.1 – Testing and Publishing

Unit 6.2 – Security

Key Learning Outcomes 💡

At the end of this module, you will be able to:

1. Test an App

2. Make the application secure

3. Publish the app online

UNIT 6.1: Testing and Publishing

Unit Objectives

At the end of this unit, students will be able to:

• Understand the testing techniques

• Publish the application on Google play and third party websites

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

6.1.1 Note

This is the fourteenth session of the program which talks about testing and publishing.

6.1.2 Say

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

6.1.3 Do

1. Begin with revising the things explained in the previous session. Ask the following questions

   • What is SQLite?

   • What is meant by a database?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

6.1.4 Say

Now let us begin with a new session which is about learning how to test the applications we have written and then we will learn how we can publish those applications on Google Play or on a third party Website.

6.1.5 Do

Refer to the participant handbook (Pg-134-140 and 144-145) to explain about how to test an application and then publish it on Google Play or a third party Website.

6.1.6 Activity

Provide each participant with a system and ask them to test an application and then publish it.

Go around the class to check whether the participants are testing the application correctly or not.

At the end of the activity reiterate what has been taught to end the activity successfully.

Skill Practice	Time	Resources
Testing an application and publishing	32 hrs	Participant Handbook, Computer

6.1.7 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

6.1.8 Summary

1. Some areas in the development of android which should be taken into consideration are as following:
   - Activity lifecycle
   - Database and file system operations
   - Device hardware
2. Types of testing are:
   - Unit Testing
   - Alpha Testing
   - Beta Testing
   - UI Testing
   - User Acceptance Test
   - Performance Test
   - System Test
3. Debugging may be defined as resolving defects that prevent proper function of software or a device.

UNIT 6.2: Security

Unit Objectives ⌖

At the end of this unit, students will be able to:

• Learn about security of an Android device

• Understand Malwares

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

6.2.1 Note 📝

This is the fifteenth session of the program which talks about security.

6.2.2 Say 💬

Good morning and a very warm welcome to this training program 'Telecom Terminal Equipment Application Developer (Android)'. Before we begin this session let us have a quick recap of the previous session.

6.2.3 Do ✓

1. Begin with revising the things explained in the previous session. Ask the following questions

   • What is testing?

   • What is meant by debugging?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

6.2.4 Say 💬

Now let us begin with a new session which is about learning how to ask for permissions and make the applications secure.

6.2.5 Do ☑

Refer to the participant handbook (Pg-141-143) to explain how to make an application secure.

6.2.8 Activity ⚙

Ask the participants to refer to Participant Handbook and study in detail about how to make an application secure, so that when they are asked question regarding it they are able to answer it.

Skill Practice	Time	Resources
Self-study	6 hrs	Participant Handbook

6.2.7 Notes for Facilitation 📝

- Ask the participants if they have any questions

- Encourage other participants to answer it and to encourage peer learning in the class

- Clarify all doubts of the participants

- Ask them to answer the questions given in the participant handbook

- Ensure that all the participants answer every question

6.2.8 Summary 🔍

1. Malware or malicious software is a type of software which is used to tamper with computer operations, gain access into private computers and gather sensitive information. Malware may be made to spy on one computer or the other without the knowledge of the user.

2. The most common malware are as under:

   - Virus

   - Trojan horse
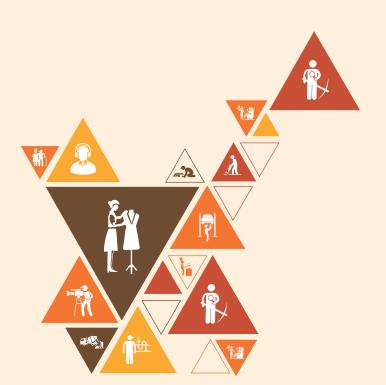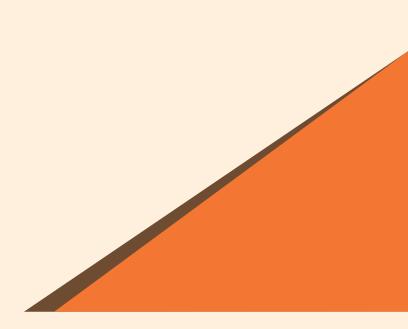
7. Support and Maintenance

Unit 7.1 – Support and Maintenance

Key Learning Outcomes 💡

At the end of this module, you will be able to:

1. Understand how to maintain an Android device

UNIT 7.1: Support and Maintenance

Unit Objectives ⦿

At the end of this unit, students will be able to:

• Maintain an Android Device

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

7.1.1 Note 📋

This is the sixteenth session of the program which talks about support and maintenance.

7.1.2 Say 💬

Good morning and a very warm welcome to this training program 'Terminal Equipment Application Developer(Android)'. Before we begin this session let us have a quick recap of the previous session.

7.1.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions
   • What are permissions?
   • What is signature protection level?
2. Encourage the participants to give their response
3. Ensure that the class should not lose focus
4. Clarify if they have any doubts
5. Tell them about what they are going to learn in this session

7.1.4 Say 💬

Now let us begin with a new session which is about learning the support and maintenance of an Android device.

7.1.5 Say

Let us understand about different mobile operating systems.

7.1.6 Say

Android Smartphones when used over tie get filled with applications, photos, cache memory and other sort of data like messages, emails etc. which are responsible for slowing down the system.

7.1.7 Do

Share with the participants about maintaining the Android Device.

Refer to the participant handbook (Pg-151-154).

7.1.8 Activity

Ask the participants to practice how to maintain the android device.

Provide each participant with a system to perform the task and then go around and see whether they are performing it correctly or not.

At the end of the activity, reiterate about what has been learnt

Skill Practice	Time	Resources
Practical	12 hrs	Slides/ mobile handset

7.1.9 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question
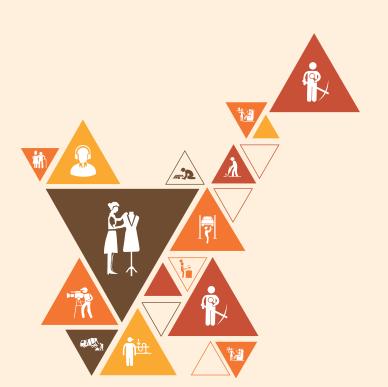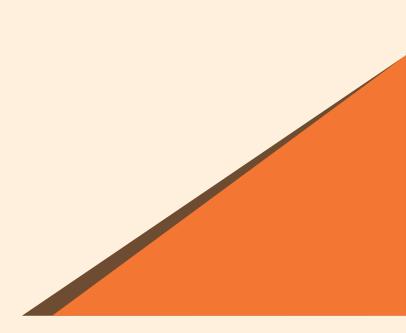
8. Professional Skills

Unit 8.1 – Professional Skills

Key Learning Outcomes 💡

At the end of this module, you will be able to:

1. Explain the importance of time management and that of being organized

2. Understand the importance of communication in the workplace

3. Practice effective communication in the workplace

4. Understand the importance of decision making and assertiveness for your role

5. Practice decision making skills as required for your role

UNIT 8.1: Professional Skills

Unit Objectives ⌖

At the end of this unit, students will be able to:

• Understand the importance of assertiveness

• Understand the importance of decision making skills

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

8.1.1 Note 📓

This is the seventeenth session of the program which talks about Professional Skills.

8.1.2 Say 💬

Good morning and a very warm welcome to this training program ''Terminal Equipment Application Developer(Android)'. Before we begin this session let us have a quick recap of the previous session.

8.1.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

   • What kind of body posture should one have while typing?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

8.1.4 Say 💬

Now let us begin with a new session which is about Professional Skills. In the previous sessions we have had a clear understanding about typing skills, now we will talk about Professional Skills.

8.1.5 Say

Let us discuss about time management in detail.

8.1.6 Do

- Share with the participants about time management
- Discuss with them about being punctual and organised

8.1.7 Elaborate

Time management refers to managing time effectively so that the right time is allocated to the right activity. Planning and time management are two sides of the same coin; they complement each other. Effective time management allows individuals to assign specific time slots to activities as per their importance. It helps you make best use of time as time is always limited. Effective Time Management includes:

- Effective Planning for setting goals and objectives
- Prioritising activities and delegation of responsibilities
- Spending the right time on the right activity and avoiding time robbers such as gossiping, extended tea breaks etc.

Refer to participant handbook (Pg-173-174) to explain about time management in detail.

8.1.8 Activity

Ask the participants to identify personal time robbers and how can they deal with them?

Skill Practice	Time	Resources
Time Wasters	1 hr	Participant handbook, PPT

8.1.9 Say

Communication is the process of sending and receiving information among people. The purpose of communication is to get your message across to others. In fact, a message is successful only when both the sender and the receiver perceive it in the same way.

Let us discuss about communication skills in detail

8.1.10 Do

- Share with the participants about clarity in communication
- Discuss with them about art of listening and art of asking questions

8.1.11 Elaborate

Art of listening:

Effective listening is an active endeavour. It is much more than just hearing what customers say. Good listeners project themselves into the customer's mind. Through effective listening, the Telecom Terminal Equipment Application Developer (Android) demonstrates concern for the customer's needs by selecting appropriate merchandise to present to the customers.

Techniques for active listening include:

- Repeating or rephrasing information
- Summarizing conversations
- Tolerating Silences

Refer to participant handbook (Pg-175-176) to explain the participants about art of listening and asking questions.

8.1.10 Do

Ask the participants to get ready for a role play.

8.1.11 Activity

Ask them to get into groups, prepare and perform role plays where an Telecom Terminal Equipment Application Developer (Android) is demonstrating effective and ineffective listening. Ask them to use all the techniques of effective listening.

Appreciate their effort. Ask the class to observe while the others are presenting and write down their learning's. Reiterate the importance of effective listening.

Debrief: The objective of this activity is to understand about effective listening technique.

The facilitator must ensure that all the participants demonstrate effective and ineffective listening technique, so that they are able to understand the importance of effective listening.

Skill Practice	Time	Resources
Role Play	2 hrs	Small writing pads, pens

8.1.12 Say

An Telecom Terminal Equipment Application Developer (Android) should be able to communicate clearly what kind of behaviour is acceptable and what is not. This doesn't mean putting a customer back in his/her place in an aggressive manner. An Telecom Terminal Equipment Application Developer (Android) is just communicating what he/she wants in a calm and assertive manner.

Assertive Individuals

- Stand up for their rights while respecting the rights of others.

- Communicate what they want in a clear manner.

- Have positive self-esteem and a good self-image.

Let us now discuss about assertiveness and decision making.

8.1.13 Do

Share with the participants about assertiveness and decision making in detail.

8.1.14 Elaborate

One good customer service skill you can have is that of taking good decisions. Let us look at the anatomy of a decision

Anatomy of a Decision:

1. Define the problem

2. Re-evaluate the situation

3. Gather information

4. Think of alternatives

5. Choose an alternative

6. Put your decision to work

Refer to participant handbook (Pg-178) to explain about assertiveness and decision making in detail.

8.1.15 Activity

- Draw a line representing the seashore and ask the participants to stand behind the line.

- When the facilitator shouts "tide's out" everyone jumps forward over the line, when the facilitator shouts "tide's in" everyone jumps backward over the line.

- If the facilitator shouts "tides out" twice in a row, participants who move will have to drop out of the game.

Skill Practice	Time	Resources
Tide's In, Tide's Out	1 hr	Participant Handbook

8.1.16 Say

Let us conclude the session by discussing about problem solving skills.

8.1.17 Do

Share with the participants about skills to be adopted to solve a problem.

8.1.18 Elaborate

For an Telecom Terminal Equipment Application Developer (Android) to work effectively and efficiently, it is necessary to identify and comprehend problems right at the first step. It helps in achieving more work in less time.

Problem-Solving:

- Recognize that there is a problem

- Identify the problem

- Generate alternative solutions

- Evaluate the solution

- Choose among the alternative solutions

- Implement the chosen solution

8.1.19 Activity

Ask the participants to get into groups and discuss common problems which an Telecom Terminal Equipment Application Developer (Android) faces. Ask each group to take one problem and identify the best solution.

Skill Practice	Time	Resources
Group Discussion	2 hrs	Participant handbook

8.1.20 Notes for Facilitation

- Ask the participants if they have any questions

- Encourage other participants to answer it and to encourage peer learning in the class

- Clarify all doubts of the participants

- Ask them to answer the questions given in the participant handbook

- Ensure that all the participants answer every question

8.1.21 Summary

1. Time management refers to managing time effectively so that the right time is allocated to the right activity.

2. Communication is the process of sending and receiving information among people.

3. Essentials of Good Communication:-

   - Understanding the customer's communication style
   - Clarity in communication
   - The art of listening
   - The art of asking questions

4. Techniques for active listening include:

   - Repeating or rephrasing requirement/information
   - Summarizing conversations
   - Tolerating silences

5. Anatomy of a Decision:-

   - Define the problem
   - Reevaluate the situation
   - Gather information
   - Think of alternatives
   - Choose an alternative
   - Put your decision to work

6. Steps involved in problem solving:

   - Recognize that there is a problem
   - Identify the problem
   - Generate alternative solutions
   - Evaluate the solution
   - Choose among the alternative solutions
   - Implement the chosen solution

9. Language Skills

Unit 9.1 – Language Skills

Key Learning Outcomes 💡

At the end of this module, you will be able to:

1. Understand the importance of listening as a skill for an Telecom Terminal Equipment Application Developer (Android)

2. Practice effective listening skills

3. Use effective speaking skills in your role

4. Demonstrate reading and keep yourself updated on latest news

5. Practice effective writing skills

UNIT 9.1: Language Skills

Unit Objectives

At the end of this unit, students will be able to:

- Understand the concept and importance of listening skills for an Telecom Terminal Equipment Application Developer (Android)

- Understand the concept and importance of speaking skills

- Understand the concept and importance of reading and comprehension skills

Resources to be Used

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

9.1.1 Note

This is the eighteenth session of the program which talks about language skills.

9.1.2 Say

Good morning and a very warm welcome to this training program 'Terminal Equipment Application Developer(Android)'. Before we begin this session let us have a quick recap of the previous session.

9.1.3 Do

1. Begin with revising the things explained in previous session. Ask the following questions

   - List any two barriers to effective problem solving.

   - What do you understand by decision making?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

9.1.4 Say

Now let us begin with a new session which is about language skills. In the previous sessions we have had a clear understanding about professional skills; now we will talk about language skills.

9.1.5 Do ☑

Share with the participants about language skills.

9.1.6 Elaborate

Refer to participant handbook to explain the participants about

- Listening skills
- Speaking skills
- Reading and writing skills

9.1.7 Do ☑

Share what is listening and its importance.

9.1.8 Elaborate

Listening is one of the most important skills we can possess, but it often gets overlooked. Listening is receiving language through the ears. Listening involves identifying the sounds of speech and processing them into words and sentences. Listening is the ability to accurately receive messages in the communication process. A good listener will listen not only to what is being said, but also to what is left unsaid or only partially said.

Refer to participant handbook (Pg-185-186) to explain the participants about listening skills and its importance

9.1.9 Do ☑

Tell the participants to get ready for an activity on listening skills.

9.1.10 Activity

Provide the participant with participant handbook and ask them to study in detail about listening skills, so that when the asked questions regarding it they are able to answer it properly.

Skill Practice	Time	Resources
Self Study	1 hr	Participant Handbook, PPT

9.1.11 Say

Speaking is the way of communicating your thoughts and opinion to the other person using your voice and words. Speaking skills are the skills that give us the ability to communicate effectively. These skills allow the speaker, to convey his message in a passionate, thoughtful, and convincing manner. Speaking skills also help to assure that one won't be misunderstood by those who are listening.

9.1.12 Elaborate

Refer to participant handbook (Pg-188-189) to explain about speaking skills in detail.

9.1.13 Do

Tell the participants, now they will perform an activity on speaking skills.

9.1.14 Activity

Ask them to do an impromptu speech on a subject of their choice. Watch out for rate of speech, vocabulary, excessive jargon etc.

Skill Practice	Time	Resources
Impromptu speech	2 hrs	Participant Handbook, PPT

9.1.15 Say

Let us now discuss about reading skill.

9.1.16 Elaborate

Reading refers to the specific abilities that enable a person to read with independence and interact with the message.

Why is reading Important

1. Reading is fundamental to function in today's society.
2. Reading is a vital skill in finding a good job.
3. Reading is important because it develops the mind.
4. It is how we discover new things.
5. Reading develops the imagination.
6. Reading develops the creative side of people.
7. Reading is fundamental in developing a good self image.

Refer to participant handbook (Pg-191-192) to explain in detail about reading skills.

9.1.17 Activity

Provide each participant with a passage. Ask them to read that particular passage and answer the questions given below that passage.

Skill Practice	Time	Resources
Self Study	1 hr	Participant Handbook, PPT

9.1.18 Say

Let us now discuss about writing skills.

9.1.19 Elaborate

Writing is a medium of communication that represents language through the inscription of signs and symbols. When writing anything you must keep in mind

- Its relevance – sticking to the point

- Its structure – it must be organised

- Its style – easy to read and suited to the job

Refer to participant handbook (Pg-194-195) to explain the participants in detail about writing skills.

9.1.20 Notes for Facilitation
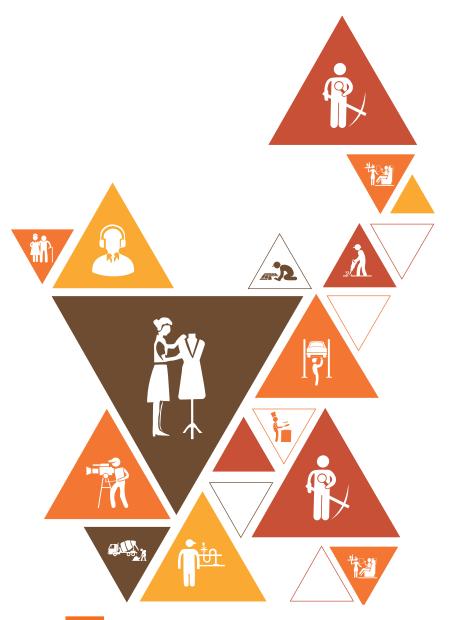
- Ask the participants if they have any questions.
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants.
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

9.1.21 Summary

1. Listening skills allow one to make sense of and understand what another person is saying.
2. Some positive body language tips:
   - Express interest with eye contact
   - Avoid non-verbal barriers

- Demonstrate that you're listening to customers

- Your hands and feet reveal true feelings

- Personal space is important

- Adopt a Posture of confidence

- Be Sincere

3. Speaking is the way of communicating your thoughts and opinion to the other person using your voice and words.

4. Reading refers to the specific abilities that enable a person to read with independence and interact with the message.

5. Three Components of Reading are:

- Decoding

- Comprehension

- Retention

6. Three techniques for effective reading:

- Scanning

- Skimming

- Reading for Detail

7. Writing is a medium of communication that represents language through the inscription of signs and symbols.

10. Computer Knowledge and Practice

Key Learning Outcomes 💡

At the end of this module, you will be able to:

1. Know what is a computer and its different parts

2. Understand about Internet and network

3. Understand how to type effectively

UNIT 10.1: Introduction to computers

Unit Objectives ⊚

At the end of this unit, students will be able to:

• Understand what is a computer and its different parts

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

10.1.1 Note 📝

This is the nineteenth session of the program which talks about computer hardware and software.

10.1.2 Say 💬

Good morning and a very warm welcome to this training program 'Terminal Equipment Application Developer(Android)'. Before we begin this session let us have a quick recap of the previous session.

10.1.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

   • How to maintain users android device?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

10.1.4 Say 💬

Now let us begin with a new session which is about computer hardware and software. In the previous sessions we have had a clear understanding about support and maintenance, now we will talk about computer hardware and software.

10.1.5 Say

A computer is an electronic device invented by Charles Babbage. It receives data as input, processes it, and generates result as an output. It is a general purpose device that can be programmed to carry out a set of arithmetic or logical operations automatically. Since a sequence of operations can be readily changed, the computer can solve more than one kind of problem. A computer generally uses English language for INPUT and OUTPUT.

10.1.6 Do

Share with the participants about computer hardware.

10.1.7 Elaborate

Computer hardware comprises physical components that make up the computer system. These are physical and mechanical components of a computer system, such as the electronic circuit, chips, monitor, disks, disk drives, keyboard, modem, and printer. All computer equipment can be grouped into one of the following 5 categories of hardware devices:

- Input Devices

- Processing Device

- Output Device

- Storage Devices

Refer to participant handbook (Pg-157-158) to explain about hardware devices in detail.

10.1.8 Say

Let us now discuss about computer software.

10.1.9 Elaborate

Software is a collection of instructions that can be 'run' on a computer. These instructions tell the computer what to do. Software is instructions that tell computer hardware what to do. Software is divided into two parts:

1. System Software

2. Application Software

Refer to participant handbook (Pg-158- 161) to explain about computer software in detail.

10.1.10 Activity

Ask the participants to refer to Participant Handbook and study in detail about the computer hardware and software, so that when they are asked question regarding it they are able to answer it.

| Skill Practice	Time	Resources
Self Study	1 hr	Participant handbook, PPT

10.1.11 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

10.1.12 Summary

1. A computer is an electronic device invented by Charles Babbage. It receives data as input, processes it, and generates result as an output.

2. All computer equipment can be grouped into one of the following categories of hardware devices:

   - Input Devices
   - Processing Devices
   - Output Devices
   - Storage Devices

3. Software is divided into two parts:

   - System Software
   - Application Software

UNIT 10.2: Internet and Networking

Unit Objectives 🎯

At the end of this unit, students will be able to:

• Explain about computer and its different parts

Resources to be Used ⚙️

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

10.2.1 Note 📝

This is the twentyth session of the program which talks about computer internet and networking.

10.2.2 Say 💬

Good morning and a very warm welcome to this training program 'Terminal Equipment Application Developer(Android)'. Before we begin this session let us have a quick recap of the previous session.

10.2.3 Do ☑️

1. Begin with revising the things explained in previous session. Ask the following questions

   • Define computer hardware and software.

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

10.2.4 Say 💬

Now let us begin with a new session which is about internet and networking. In the previous sessions we have had a clear understanding about computer hardware and software, now we will talk about internet and networking.

10.2.5 Do ☑️

Share with the participants about Internet and Network.

10.2.6 Elaborate

Network Includes:

A network is a system of interconnected computers. A network is a group of two or more computer systems linked together. There are many types of computer networks, including:

Local Area Networks (LANs): The computers are geographically close together (that is, in the same building).

Wide Area Networks (WANs): The computers are farther apart and are connected by telephone lines or radio waves.

Metropolitan Area Networks (MANs): A data network designed for a town or city.

Refer to Participant Handbook (Pg 163-164) to explain the participants in detail about different applications of internet.

10.2.7 Activity

Divide the participants in four groups and make them play a quiz on internet and network. The winning group will be awarded with a gift hamper.

At the end of the activity reiterate about internet and network, in order to conclude the activity in a proper manner.

Skill Practice	Time	Resources
Self Study	2 hrs	Participant handbook, PPT

10.2.8 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

6.2.8 Summary

1. Local Area Networks (LANs): The computers are geographically close together (that is, in the same building).
2. Wide Area Networks (WANs): The computers are farther apart and are connected by telephone lines or radio waves.
3. Metropolitan Area Networks (MANs): A data network designed for a town or city.
4. A web search engine is a software system that is designed to search for information on the World Wide Web.
5. Top 5 search engines are
   - Google
   - Yahoo
   - Bing
   - Ask.com
   - AOL

UNIT 10.3: Typing Practice

Unit Objectives ⊚

At the end of this unit, students will be able to:

• Understand about the keyboard

• Learn how to type efficiently

Resources to be Used ⚙

Participant Handbook, Pens / pencils, Sticky Notes, Notepad, Computer, Projector, White board.

10.3.1 Note 🗒

This is the twenty-first session of the program which talks about typing.

10.3.2 Say 💬

Good morning and a very warm welcome to this training program 'Terminal Equipment Application Developer(Android)'. Before we begin this session let us have a quick recap of the previous session.

10.3.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

   • What are the types of social media?

   • What is profile and inbox button?

   • What do you understand by media sharing network?

   • What do you understand by internet based network?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

10.3.4 Say 💬

Now let us begin with a new session which is about typing. In the previous sessions we have had a clear understanding about computer internet and networking, now we will talk about typing.

10.3.5 Do

Share with the participants about keyboard and special key and their uses.

10.3.6 Elaborate

Refer to Participant Handbook (Pg 166-167) to explain the participants about keyboard and special key and their uses.

10.3.7 Activity

Divide the participants in four groups and make them play a quiz on special key and their uses .The winning group will be awarded with a gift hamper.

At the end of the activity reiterate about special key and their uses, in order to conclude the activity in a proper manner.

Skill Practice	Time	Resources
Quiz	2 hrs	Participant handbook, PPT

10.3.8 Say

Let us talk about body posture.

10.3.9 Elaborate

Refer to Participant Handbook (Pg-167) to explain the participants in detail about body posture.

10.3.10 Activity

Ask the participants to refer to Participant Handbook and study in detail about body posture so that when they are asked question regarding it they are able to answer it.

Skill Practice	Time	Resources
Self Study	1 hr	Participant handbook, PPT

10.3.11 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and to encourage peer learning in the class
- Clarify all doubts of the participants
- Ask them to answer the questions given in the participant handbook
- Ensure that all the participants answer every question

10.3.12 Summary

1. A keyboard is the set of keys that enables you to enter data into a computer.
2. Special keys and their usage on keyboard:
   - Home: Move to start of the current line
   - End: Move to end of the current line.
   - Up: Move up single line.
   - Down: Move Down single line.
   - Left: Move left one character (letter).
   - Right: Move right one character (letter).
   - Ctrl+Up: Scroll up one paragraph.
   - Ctrl+Down: Scroll down one paragraph.
   - Ctrl+Left: Move left one word.
   - Ctrl+Right: Move right one word.
   - Enter: Start a new paragraph.
   - Delete: Erase the character to the right of the cursor.
   - Backspace: Erase the character to the left of the cursor.
   - Insert: Replace the text.
   - Tab: Move the cursor to the next tab stop.
   - Shift: Shift the character form from small to capital and vice versa

11. Employability and Entrepreneurship Skills
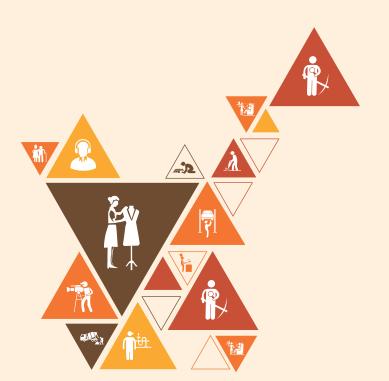
Key Learning Outcomes
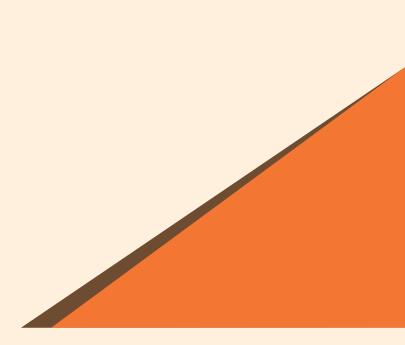
At the end of this module, you will be able to:

1. Explain the meaning of health

2. List common health issues

3. Discuss tips to prevent common health issues

4. Explain the meaning of hygiene

5. Discuss the purpose of Swacch Bharat Abhiyan

6. Explain the meaning of habit

7. Discuss ways to set up a safe work environment

8. Discuss critical safety habits to be followed by employees

9. Explain the importance of self-analysis

10. Discuss motivation with the help of Maslow's Hierarchy of Needs

11. Discuss the meaning of achievement motivation

12. List the characteristics of entrepreneurs with achievement motivation

13. List the different factors that motivate you

14. Discuss the role of attitude in self-analysis

15. Discuss how to maintain a positive attitude

16. List your strengths and weaknesses

17. Discuss the qualities of honest people

18. Describe the importance of honesty in entrepreneurs

19. Discuss the elements of a strong work ethic

20. Discuss how to foster a good work ethic

21. List the characteristics of highly creative people

22. List the characteristics of highly innovative people

23. Discuss the benefits of time management

24. List the traits of effective time managers

25. Describe effective time management technique

26. Discuss the importance of anger management

27. Describe anger management strategies

28. Discuss tips for anger management

29. Discuss the causes of stress

30. Discuss the symptoms of stress

31. Discuss tips for stress management

32. Identify the basic parts of a computer

33. Identify the basic parts of a keyboard

34. Recall basic computer terminology

35. Recall basic computer terminology

36. Recall the functions of basic computer keys

37. Discuss the main applications of MS Office

38. Discuss the benefits of Microsoft Outlook

39. Discuss the different types of e-commerce

40. List the benefits of e-commerce for retailers and customers

41. Discuss how the Digital India campaign will help boost e-commerce in India

42. Describe how you will sell a product or service on an e-commerce platform

43. Discuss the importance of saving money

44. Discuss the benefits of saving money

45. Discuss the main types of bank accounts

46. Describe the process of opening a bank account

47. Differentiate between fixed and variable costs

48. Describe the main types of investment options

49. Describe the different types of insurance products

50. Describe the different types of taxes

51. Discuss the uses of online banking

52. Discuss the main types of electronic funds transfers

53. Discuss the steps to prepare for an interview

54. Discuss the steps to create an effective Resume

55. Discuss the most frequently asked interview questions

56. Discuss how to answer the most frequently asked interview questions

57. Discuss basic workplace terminology

58. Discuss the concept of entrepreneurship

59. Discuss the importance of entrepreneurship

60. Describe the characteristics of an entrepreneur

61. Describe the different types of enterprises

62. List the qualities of an effective leader

63. Discuss the benefits of effective leadership

64. List the traits of an effective team

65. Discuss the importance of listening effectively

66. Discuss how to listen effectively

67. Discuss the importance of speaking effectively

68. Discuss how to speak effectively

69. Discuss how to solve problems

70. List important problem solving traits

71. Discuss ways to assess problem solving skills

72. Discuss the importance of negotiation

73. Discuss how to negotiate

74. Discuss how to identify new business opportunities

75. Discuss how to identify business opportunities within your business

76. Explain the meaning of entrepreneur

77. Describe the different types of entrepreneurs

78. List the characteristics of entrepreneurs

79. Recall entrepreneur success stories

80. Discuss the entrepreneurial process

81. Describe the entrepreneurship ecosystem

82. Discuss the purpose of the Make in India campaign

83. Discuss key schemes to promote entrepreneurs

84. Discuss the relationship between entrepreneurship and risk appetite

85. Discuss the relationship between entrepreneurship and resilience

86. Describe the characteristics of a resilient entrepreneur

87. Discuss how to deal with failure

88. Discuss how market research is carried out

89. Describe the 4 Ps of marketing

90. Discuss the importance of idea generation

91. Recall basic business terminology

92. Discuss the need for CRM

93. Discuss the benefits of CRM

94. Discuss the need for networking

95. Discuss the benefits of networking

96. Discuss the importance of setting goals

97. Differentiate between short-term, medium-term and long-term goals

98. Discuss how to write a business plan

99. Explain the financial planning process

100. Discuss ways to manage your risk

101. Describe the procedure and formalities for applying for bank finance

102. Discuss how to manage your own enterprise

103. List important questions that every entrepreneur should ask before starting an enterprise

UNIT 11.1: Personal Strengths & Value Systems

Unit Objectives ⌖

At the end of this unit, students will be able to:

- Explain the meaning of health
- List common health issues
- Discuss tips to prevent common health issues
- Explain the meaning of hygiene
- Discuss the purpose of Swacch Bharat Abhiyan
- Explain the meaning of habit
- Discuss ways to set up a safe work environment
- Discuss critical safety habits to be followed by employees
- Explain the importance of self-analysis
- Discuss motivation with the help of Maslow's Hierarchy of Needs
- Discuss the meaning of achievement motivation
- List the characteristics of entrepreneurs with achievement motivation
- List the different factors that motivate you
- Discuss the role of attitude in self-analysis
- Discuss how to maintain a positive attitude
- List your strengths and weaknesses
- Discuss the qualities of honest people
- Describe the importance of honesty in entrepreneurs
- Discuss the elements of a strong work ethic
- Discuss how to foster a good work ethic
- List the characteristics of highly creative people
- List the characteristics of highly innovative people
- Discuss the benefits of time management
- List the traits of effective time managers
- Describe effective time management technique
- Discuss the importance of anger management
- Describe anger management strategies
- Discuss tips for anger management
- Discuss the causes of stress
- Discuss the symptoms of stress
- Discuss tips for stress management

Resources ⚙

Participant handbook, small writing pad, pen, chart, pencil, sketch pens, scale and eraser.

11.1.1 Note 📝
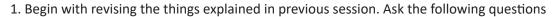
This is the twenty-second session of the program which talks about personal strengths & value systems.

11.1.2 Say 💬

Good morning and a very warm welcome to this training program. Before we begin this session let us have a quick recap of the previous session.

11.1.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

    • What are the Benefits of good typing practices?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

11.1.4 Say 💬

Now let us begin with a new session which is about personal strengths & value systems. In the previous sessions we have had a clear understanding about working at heights, now we will talk about personal strengths & value systems.

11.1.5 Say 💬

As per the World Health Organization (WHO), health is a "State of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." This means being healthy does not simply mean not being unhealthy – it also means you need to be at peace emotionally, and feel fit physically. For example, you cannot say you are healthy simply because you do not have any physical ailments like a cold or cough.

Let us start the session by discussing about common health issues.

11.1.6 Do ✓

• Share with the participants about common health issues

• Discuss with them the tips to prevent heath issues

11.1.7 Elaborate

Some common health issues are:

- Allergies
- Asthma
- Skin Disorders
- Depression and Anxiety
- Diabetes
- Cough, Cold, Sore Throat
- Difficulty Sleeping
- Obesity

Tips to prevent heath issues:

- Eating healthy foods like fruits, vegetables and nuts
- Cutting back on unhealthy and sugary foods
- Drinking enough water everyday
- Not smoking or drinking alcohol
- Exercising for at least 30 minutes a day, 4-5 times a week
- Taking vaccinations when required
- Practicing yoga exercises and meditation

11.1.8 Say

As per the World Health Organization (WHO), "Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases." In other words, hygiene means ensuring that you do whatever is required to keep your surroundings clean, so that you reduce the chances of spreading germs and diseases.

11.1.9 Do

Share with the participants about 'Swachh Bharat Abhiyan'.

11.1.10 Elaborate

The 'Swachh Bharat Abhiyan' (Clean India Mission) launched by Prime Minister Shri Narendra

Modi on 2nd October 2014, believes in extending good hygiene and health practices to our homes, our immediate surroundings and to our country as a whole.

The aim of this mission is to clean the streets and roads of India and raise the overall level of cleanliness. Currently this mission covers 4,041 cities and towns across the country. Millions of our people have taken the pledge for a clean India.

11.1.11 Say

A habit is a behaviour that is repeated frequently. All of us have good habits and bad habits.

Keep in mind the phrase by John Dryden: "We first make our habits, and then our habits make us." This is why it is so important that you make good habits a way of life, and consciously avoid practicing bad habits.

Let us now move further and discuss about good and bad habits

11.1.12 Elaborate

Some good habits that you should make part of your daily routine are:

- Always having a positive attitude
- Making exercise a part of your daily routine
- Reading motivational and inspirational stories
- Some bad habits that you should quit immediately are:
- Skipping breakfast
- Snacking frequently even when you are not hungry
- Eating too much fattening and sugary food

Refer to participant handbook (Pg-218) to explain about good and bad habits, in detail.

11.1.13 Activity

Divide the class in four groups and ask the participants to make a chart on good and bad habits. The best chart will be pinned on the board in order to encourage passive learning.

At the end of the activity reiterate the good and bad habits, in order to conclude the activity in a proper way.

Skill Practice	Time	Resources
Chart Making	10 min	Participant handbook, chart, pencil, sketch pens , scale and eraser

11.1.14 Say

Let us discuss about tips for a safe workplace and non-negotiable employee safety habits.

11.1.15 Elaborate

Every employer is obligated to ensure that his workplace follows the highest possible safety protocol. When setting up a business, owners must make it a point to:

- Use ergonomically designed furniture and equipment to avoid stooping and twisting
- Provide mechanical aids to avoid lifting or carrying heavy objects
- Have protective equipment on hand for hazardous jobs
- Designate emergency exits and ensure they are easily accessible
- Set down health codes and ensure they are implemented
- Follow the practice of regular safety inspections in and around the workplace
- Ensure regular building inspections are conducted
- Get expert advice on workplace safety and follow it

Refer to participant handbook (Pg-219) to explain about non-negotiable employee safety habits, in detail.

11.1.16 Say

Motivation is your reason for acting or behaving in a certain manner. It is important to understand that not everyone is motivated by the same desires – people are motivated by different things. We can understand this better by looking at Maslow's Hierarchy of Needs.

11.3.17 Ask

Ask the participants to list down five things that really motivates them.

Write down their points on a flip chart/ black board and link it with the points given in the participant handbook, in order to create an interactive and interesting learning session.

11.1.18 Do

Share with the participants about Maslow's Hierarchy of Needs.

11.1.19 Elaborate

Famous American psychologist Abraham Maslow wanted to understand what motivates people. He believed that people have five types of needs, ranging from very basic needs (called physiological needs) to more important needs that are required for self-growth (called self actualization needs). Between the physiological and self-actualization needs are three other needs – safety needs, belongingness and love needs, and esteem needs.

Refer to the pyramid given participant handbook (Pg-220-221) to explain about Maslow's Hierarchy of Needs.

11.1.20 Activity

Divide the class in four groups and ask the participants to make a chart on Maslow's Hierarchy of Needs. The best chart will be pinned on the board in order to encourage passive learning.

At the end of the activity reiterate about Maslow's Hierarchy of Needs, in order to conclude the activity in a proper way.

Skill Practice	Time	Resources
Chart Making	10 min	Participant handbook, chart, pencil, sketch pens , scale and eraser

11.1.21 Do

Share with the participants about characteristics of entrepreneurs with achievement motivation by referring to participant handbook (Pg-221).

11.1.22 Say

Attitude can be described as your tendency (positive or negative), to think and feel about someone or something. Attitude is the foundation for success in every aspect of life. Our attitude can be our best friend or our worst enemy. In other words "The only disability in life is a bad attitude."

Let us discuss about attitude in detail.

11.1.23 Do

• Share with the participants about attitude

• Discuss with them about how to cultivate a positive attitude

11.1.24 Elaborate

The following tips help foster a positive mindset:

• Remember that you control your attitude, not the other way around

• Devote at least 15 minutes a day towards reading, watching or listening to something positive

• Avoid negative people who only complain and stop complaining yourself

• Expand your vocabulary with positive words and delete negative phrases from your mind

• Be appreciative and focus on what's good in yourself, in your life, and in others

Refer to participant handbook (Pg-222) to explain about how to cultivate a positive attitude, in detail.

11.1.25 Say

Honesty is the quality of being fair and truthful. It means speaking and acting in a manner that inspires trust. A person who is described as honest is seen as truthful and sincere, and as someone who isn't deceitful or devious and doesn't steal or cheat. There are two dimensions of honesty – one is honesty in communication and the other is honesty in conduct.

Honesty is an extremely important trait because it results in peace of mind and builds relationships that are based on trust. Being dishonest, on the other hand, results in anxiety and leads to relationships full of distrust and conflict.

Let us discuss about this in detail.

11.1.26 Do

Share with the participants about:

- Qualities of honest people
- Importance of honesty in entrepreneurs

11.1.27 Elaborate

Some common qualities among honest people are:

- They don't worry about what others think of them. They believe in being themselves – they don't bother about whether they are liked or disliked for their personalities.
- They stand up for their beliefs. They won't think twice about giving their honest opinion, even if they are aware that their point of view lies with the minority.
- They are thick skinned. This means they are not affected by others judging them harshly for their honest opinions.
- They forge trusting, meaningful and healthy friendships. Honest people usually surround themselves with honest friends. They have faith that their friends will be truthful and upfront with them at all times.
- They are trusted by their peers. They are seen as people who can be counted on for truthful and objective feedback and advice.

Refer to participant handbook (Pg-224) to explain about importance of honesty in entrepreneurs, in detail.

11.1.28 Activity

Ask the participants to analyze themselves by honestly identifying their strengths and weaknesses. This will help them use your strengths to the best advantage and reduce weaknesses.

Ask the participants to note down all their strengths and weaknesses in the two columns. Ask them to perform this task honestly.

Skill Practice	Time	Resources
Analysing yourself	10 min	Participant handbook, pen , small note pad

11.1.29 Say

Being ethical in the workplace means displaying values like honesty, integrity and respect in all your decisions and communications. It means not displaying negative qualities like lying, cheating and stealing.

Workplace ethics play a big role in the profitability of a company. It is as crucial to an enterprise as high morale and teamwork. This is why most companies lay down specific workplace ethic guidelines that must compulsorily be followed by their employees. These guidelines are typically outlined in a company's employee handbook.

Let us discuss about work ethics in detail.

11.1.30 Do

- Share with the participants about elements of strong work ethics
- Discuss with them about fostering a good work ethics

11.1.31 Elaborate

Some elements of a strong work ethic are:

- Professionalism
- Respectfulness
- Dependability
- Dedication
- Determination
- Accountability
- Humility

Good work ethics includes:

- Honesty
- Good attitude
- Reliability
- Good work habits
- Initiative
- Trustworthiness
- Respect
- Integrity
- Efficiency

Refer to participant handbook (Pg-225-226) to explain about the following:

- Elements of strong work ethics
- Fostering good work ethics

11.1.32 Activity

Divide the participants in four groups and make them play a quiz on the following:

- Elements of strong work ethics
- Fostering good work ethics

The winning group will be awarded with a gift hamper.

At the end of the activity reiterate about the same, in order to conclude the activity in a proper manner.

Skill Practice	Time	Resources
Quiz	10 min	Participant handbook, pen, small note pad

11.1.33 Ask

Ask the participants what is their understanding of the word creativity. Note down the points they share on a flip chart/ black board and link it with the points given in the Participant Handbook in order to create an interactive and interesting learning session.

11.1.34 Say

Creativity means thinking outside the box. It means viewing things in new ways or from different perspectives, and then converting these ideas into reality. Creativity involves two parts: thinking and producing. Simply having an idea makes you imaginative, not creative. However, having an idea and acting on it makes you creative.

Let us discuss about characteristics of highly creative person.

11.1.35 Do

Share with the participants about characteristics of a creative person.

11.1.35 Elaborate

Some characteristics of creative people are:

- They are imaginative and playful
- They detest rules and routine
- They see issues from different angles

- They love to daydream
- They notice small details
- They are very curious
- They have very little tolerance for boredom

11.1.36 Say 💬

Innovation means turning an idea into a solution that adds value. It can also mean adding value by implementing a new product, service or process, or significantly improving on an existing product, service or process.

11.1.37 Do ☑

Share with the participants about characteristics of highly innovative person.

11.1.38 Elaborate ⚙

Some characteristics of highly innovative people are:

- They embrace doing things differently
- They don't believe in taking shortcuts
- They are not afraid to be unconventional
- They are highly proactive and persistent
- They are organized, cautious and risk-averse

11.1.39 Say 💬

Time management is the process organizing your time, and deciding how to allocate your time between different activities. Good time management is the difference between working smart (getting more done in less time) and working hard (working for more time to get more done).

Effective time management leads to an efficient work output, even when you are faced with tight deadlines and high pressure situations. On the other hand, not managing your time effectively results in inefficient output and increases stress and anxiety.

Let us discuss about benefits of time management.

11.1.40 Do ☑

Share with the participants about benefits of time management.

11.1.41 Elaborate

Time management can lead to huge benefits like:

- Greater productivity
- Higher efficiency
- Better professional reputation
- Reduced stress
- Higher chances for career advancement
- Greater opportunities to achieve goals

Not managing time effectively can result in undesirable consequences like:

- Missing deadlines
- Inefficient work output
- Substandard work quality
- Poor professional reputation
- Stalled career
- Increase in stress and anxiety

11.1.42 Activity

Ask the participants to identify personal time robbers and how can they deal with them?

Skill Practice	Time	Resources
Time Wasters	10 min	Participant handbook, PPT

11.1.43 Do

- Share with the participants about traits of effective time managers
- Discuss with them about effective time management techniques

11.1.44 Elaborate
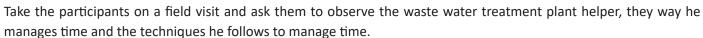
Some traits of effective time managers are:

- They begin projects early
- They break tasks into steps with specific deadlines
- They set daily objectives
- They continually review long term goals
- They modify plans if required, to achieve better results

- They think of alternate solutions if and when required
- They are flexible and open-minded
- They ask for help when required
- They inform people in advance if their help will be required
- They create backup plans
- They know how to say no

Refer to participant handbook (Pg-228) to explain about effective time management techniques.

11.1.45 Activity

Take the participants on a field visit and ask them to observe the waste water treatment plant helper, they way he manages time and the techniques he follows to manage time.

Ask them to make points and share it with the class.

Skill Practice	Time	Resources
Field Visit	10 min	Participant handbook, pen, small note pad

11.1.46 Say

Anger management is the process of:

- Learning to recognize the signs that you or someone else is becoming angry
- Taking the best course of action to calm down the situation in a positive way

Anger management does not mean suppressing anger.

Let us discuss about importance of anger management.

11.1.47 Do

Share with the participants about importance of anger management.

11.1.48 Elaborate

Anger is a perfectly normal human emotion. In fact, when managed the right way, anger can be considered a healthy emotion. However, if it is not kept in check, anger can make us act inappropriately and can lead to us saying or doing things that we will likely later regret.

Extreme anger can:

Hurt you physically: It leads to heart disease, diabetes, a weakened immune system, insomnia, and high blood pressure.

Hurt you mentally: It can cloud your thinking and lead to stress, depression and mental health issues.

Hurt your career: It can result in alienating your colleagues, bosses, clients and lead to the loss of respect.

Hurt your relationships: It makes it hard for your family and friends to trust you, be honest with you and feel comfortable around you.

This is why anger management, or managing anger appropriately, is so important.

11.1.49 Do

- Discuss with the participants about anger management strategies
- Share with them about tips for anger management

11.1.50 Elaborate

Here are some strategies that can help you control your anger:

- Strategy 1: Relaxation
- Strategy 2: Cognitive Restructuring
- Strategy 3: Problem Solving
- Strategy 4: Better Communication
- Strategy 5: Changing Your Environment

The following tips will help you keep your anger in check:

- Take some time to collect your thoughts before you speak out in anger.
- Express the reason for your anger in an assertive, but non-confrontational manner once you have calmed down.

Refer to participant handbook (Pg-230-231) to explain about anger management strategies and tips for anger management.

11.1.51 Say

Anything that challenges or threatens our well-being can be defined as a stress. It is important to note that stress can be good and bad. While good stress keeps us going, negative stress undermines our mental and physical health. This is why it is so important to manage negative stress effectively.

Let us discuss about stress in detail.

11.1.52 Do

- Share with the participants about causes of stress
- Discuss with them about symptoms of stress
- Share with them the tips to manage stress

11.1.53 Elaborate

Stress can be caused by internal and external factors.

Internal causes of stress

- Constant worry
- Pessimism
- Rigid thinking
- Negative self-talk
- Unrealistic expectations
- All in or all out attitude

Eternal causes of stress

- Major life changes
- Difficulties at work or in school
- Difficulties with relationships
- Financial difficulties
- Having too much to do
- Worrying about one's children and/or family

The following tips can help you manage your stress better:

- Note down the different ways in which you can handle the various sources of your stress.
- Remember that you cannot control everything, but you can control how you respond.
- Discuss your feelings, opinions and beliefs rather than reacting angrily, defensively or passively.
- Practice relaxation techniques like meditation, yoga or tai chi when you start feeling stressed.
- Devote a part of your day towards exercise.
- Eat healthy foods like fruits and vegetables. Avoid unhealthy foods especially those containing large amounts of sugar.

Refer to participant handbook (Pg-232) to explain about the following:

- Causes of stress
- Symptoms of stress
- Tips to manage stress

11.1.54 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and encourage peer learning in the class
- Answer all the doubts in case any to the participants
- Ask them to answer the questions given in the participant manual
- Ensure that all the participants answer every question

UNIT 11.2: Digital Literacy: A Recap

Unit Objectives 🎯

At the end of this unit, students will be able to:

- Identify the basic parts of a computer
- Identify the basic parts of a keyboard
- Recall basic computer terminology
- Recall basic computer terminology
- Recall the functions of basic computer keys
- Discuss the main applications of MS Office
- Discuss the benefits of Microsoft Outlook
- Discuss the different types of e-commerce
- List the benefits of e-commerce for retailers and customers
- Discuss how the Digital India campaign will help boost e-commerce in India
- Describe how you will sell a product or service on an e-commerce platform

Resources ⚙️

Participant handbook, small writing pad, pen.

11.2.1 Note 📓

This is the twenty-third session of the program which talks about digital literacy.

11.2.2 Say 💬

Good morning and a very warm welcome to this training program. Before we begin this session let us have a quick recap of the previous session.

11.2.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

- What is hygiene?
- Explain the Maslow's Hierarchy of need.
- How to cultivate a positive attitude.
- List down the qualities of honest people.
- What are the characteristics of highly creative person?
- What is innovation?
- What are the benefits of time management?

- List down the traits of effective time management.
- List down the symptoms of stress.

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

11.2.4 Say

Now let us begin with a new session which is about digital literacy. In the previous sessions we have had a clear understanding about personal strengths & value systems, now we will talk about digital literacy.

11.2.5 Say

Let us begin the session by discussing about:

- Basic parts of computer
- Basic parts of keyboard
- Basic Internet terms

11.2.6 Do

Share with the participants about the following:

- Basic parts of computer
- Basic parts of keyboard
- Basic Internet terms

11.2.7 Elaborate

Basic parts of computer:

- Central Processing Unit (CPU)
- Hard Drive
- Monitor
- Mouse
- Speakers
- Printer

Basic parts of keyboard:

- Arrow Keys
- Space bar
- Enter/Return
- Shift
- Caps Lock
- Backspace

Basic Internet terms:

- The Internet
- The World Wide Web
- Website
- Homepage
- Link/Hyperlink
- Web Address/URL
- Address Box

Refer to participant handbook (Pg-235) to explain about the parts of computer, keyboard and internet terms, in detail.

11.2.8 Say

MS Office or Microsoft Office is a suite of computer programs developed by Microsoft. Although meant for all users, it offers different versions that cater specifically to students, home users and business users. All the programs are compatible with both, Windows and Macintosh.

Let us discuss about popular office products.

11.2.9 Do

Share with the participants about popular office products.

11.2.10 Elaborate
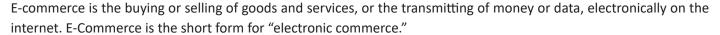
Some of the most popular and universally used MS Office applications are:

- **Microsoft Word:** Allows users to type text and add images to a document.
- **Microsoft Excel:** Allows users to enter data into a spreadsheet and create calculations and graphs.

- **Microsoft PowerPoint:** Allows users to add text, pictures and media and create slideshows and presentations.
- **Microsoft Outlook:** Allows users to send and receive email.
- **Microsoft OneNote:** Allows users to make drawings and notes with the feel of a pen on paper.
- **Microsoft Access:** Allows users to store data over many tables.

11.2.11 Say 💬

E-commerce is the buying or selling of goods and services, or the transmitting of money or data, electronically on the internet. E-Commerce is the short form for "electronic commerce."

Let us discuss about E-Commerce in detail.

11.2.12 Do ✓

- Share with the participants about examples of E-Commerce
- Discuss with them about types of E-Commerce
- Share with them about benefits of E-Commerce

11.2.13 Elaborate ⚙

Examples of e-commerce are:

- Online shopping
- Electronic payments
- Online auctions
- Internet banking
- Online ticketing

Types of E-Commerce:

The main types of e-commerce are:

- **Business to Business (B2B):** Both the transacting parties are businesses.
- **Business to Consumer (B2C):** Businesses sell electronically to end-consumers.
- **Consumer to Consumer (C2C):** Consumers come together to buy, sell or trade items to other consumers.
- **Consumer-to-Business (C2B):** Consumers make products or services available for purchase to companies looking for exactly those services or products.
- **Business-to-Administration (B2A):** Online transactions conducted between companies and public administration.
- **Consumer-to-Administration (C2A):** Online transactions conducted between individuals and public administration.

Refer to participant handbook (Pg-237) to explain about benefits of E-Commerce, in detail.

11.2.14 Activity

Ask the participants to choose a product or service that they want to sell online. Write a brief note explaining how they will use existing e-commerce platforms, or create a new e-commerce platform, to sell their product or service.

Note:

- Before launching your e-commerce platform, test everything.
- Pay close and personal attention to your social media.

Skill Practice	Time	Resources
Skill Practical	1 hr	Participant handbook, pen, small note pad

11.2.15 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and encourage peer learning in the class
- Answer all the doubts in case any to the participants
- Ask them to answer the questions given in the participant manual
- Ensure that all the participants answer every question

UNIT 11.3: Money Matters

Unit Objectives 🎯

At the end of this unit, students will be able to:

• Discuss the importance of saving money

• Discuss the benefits of saving money

• Discuss the main types of bank accounts

• Describe the process of opening a bank account

• Differentiate between fixed and variable costs

• Describe the main types of investment options

• Describe the different types of insurance products

• Describe the different types of taxes

• Discuss the uses of online banking

• Discuss the main types of electronic funds transfers

Resources ⚙️

Participant handbook, small writing pad, pen, chart, pencil, sketch pens, scale and eraser.

11.3.1 Note 📝

This is the twenty- fourth session of the program which talks about money matters.

11.3.2 Say 💬

Good morning and a very warm welcome to this training program. Before we begin this session let us have a quick recap of the previous session.

11.3.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions

   • List down the basic parts of computer.

   • List down the most popular office products.

   • What is E-Commerce? Give few examples.

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

11.3.4 Say

Now let us begin with a new session which is about money matters. In the previous sessions we have had a clear understanding about digital literacy, now we will talk about money matters.

11.3.5 Say

We all know that the future is unpredictable. You never know what will happen tomorrow, next week or next year. That's why saving money steadily through the years is so important. Saving money will help improve your financial situation over time. But more importantly, knowing that you have money stashed away for an emergency will give you peace of mind. Saving money also opens the door to many more options and possibilities.

11.3.6 Do

Let us discuss about benefits of saving.

11.3.7 Elaborate

Saving helps you:

- Become financially independent
- Invest in yourself through education
- Get out of debt
- Be prepared for surprise expenses
- Pay for emergencies
- Retire

Refer to participant handbook (Pg-239-240) to explain about benefits of saving, in detail.

11.3.8 Do

- Share with the participants about types of bank account
- Discuss with them how to open a bank account

11.3.9 Elaborate

Four main types of bank accounts are:

- Current Accounts
- Savings Accounts

- Recurring Deposit Accounts
- Fixed Deposit Accounts

Steps involved in opening a bank account:
- Step 1: Fill in the Account Opening Form
- Step 2: Affix your Photograph
- Step 3: Provide your Know Your Customer (KYC) Details
- Step 4: Submit All your Documents

Refer to participant handbook (Pg-241-242) to explain about types of bank account and steps involved in opening a bank account, in detail.

11.3.10 Activity

Take the participants on a field visit to a bank, ask them to talk to the bank manager their and understand about different types of account and how to open a bank account.

Skill Practice	Time	Resources
Field Visit	30 mins	Participant handbook, pen , small note pad

11.3.11 Say

Fixed costs and variable costs together make up a company's total cost. These are the two types of costs that companies have to bear when producing goods and services.

A fixed cost does not change with the volume of goods or services a company produces. It always remains the same.

A variable cost, on the other hand, increases and decreases depending on the volume of goods and services produced. In other words, it varies with the amount produced.

Let us discuss about fixed and variable cost in detail.

11.3.12 Do

Share with the participants about difference between fixed and variable cost.

11.3.13 Elaborate

Refer to participant handbook (Pg-243) to explain about difference between fixed and variable cost.

11.3.14 Say

Let us discuss about insurance.

11.3.15 Elaborate

Investment means that money is spent today with the aim of reaping financial gains at a future time. The main types of investment options are as follows:

- Bonds
- Stocks
- Small Savings Schemes
- Mutual Funds
- Fixed Deposits
- Real Estate
- Hedge Funds
- Private Equity
- Venture Capital

Refer to participant handbook (Pg-244) to explain about types of investment.

11.3.16 Say

There are two types of insurance – Life Insurance and Non-Life or General Insurance.

11.3.17 Do

Share with the participants about Life Insurance and Non-Life or General Insurance.

11.3.18 Elaborate

Life Insurance

Life Insurance deals with all insurance covering human life.

The main life insurance products are:

- Term Insurance
- Endowment Policy

- Unit-Linked Insurance Plan (ULIP)
- Money Back Life Insurance
- Whole Life Insurance

General Insurance

General Insurance deals with all insurance covering assets like animals, agricultural crops, goods, factories, cars and so on.

The main general insurance products are:

- Motor Insurance
- Health Insurance
- Travel Insurance
- Home Insurance
- Marine Insurance

Refer to participant handbook (Pg-245) to explain about Life and General Insurance, in detail.

11.3.19 Activity

Ask the participants to refer to participant handbook and study in detail about Life and General Insurance, so that when they are asked question regarding it they are able to answer it.

Skill Practice	Time	Resources
Self Study	15 mins	Participant handbook, pen , small note pad

11.3.20 Say

There are two types of taxes – Direct Taxes and Indirect Taxes. Let us discuss about them in detail.

11.3.21 Do

Share with the participants about direct and indirect tax.

11.3.22 Elaborate

Direct Tax

Direct taxes are levied directly on an entity or a person and are non-transferrable.

Some examples of Direct Taxes are:

- Income Tax
- Capital Gains Tax
- Securities Transaction Tax
- Perquisite Tax
- Corporate Tax

Indirect Tax

Indirect taxes are levied on goods or services.

Some examples of Indirect Taxes are:

- Sales Tax
- Service Tax
- Value Added Tax
- Customs Duty & Octroi
- Excise Duty:

Refer to participant handbook (Pg-246) to explain about direct and indirect tax, in detail.

11.3.23 Say

Internet or online banking allows account holders to access their account from a laptop at any location. In this way, instructions can be issued. To access an account, account holders simply need to use their unique customer ID number and password.

Internet banking can be used to:

- Find out an account balance
- Transfer amounts from one account to another
- Arrange for the issuance of cheques
- Instruct payments to be made
- Request for a cheque book
- Request for a statement of accounts
- Make a fixed deposit

11.3.24 Do

Share with the participants about the following:

- NEFT
- RTGS
- IMPS

11.3.25 Elaborate

NEFT:

NEFT stands for National Electronic Funds Transfer. This money transfer system allows you to electronically transfer funds from your respective bank accounts to any other account, either in the same bank or belonging to any other bank. NEFT can be used by individuals, firms and corporate organizations to transfer funds between accounts.

RTGS:

RTGS stands for Real Time Gross Settlement. This is a real time funds transfer system which enables you to transfer funds from one bank to another, in real time or on a gross basis. The transferred amount is immediately deducted from the account of one bank, and instantly credited to the other bank's account. The RTGS payment gateway is maintained by the Reserve Bank of India. The transactions between banks are made electronically.

IMPS:

IMPS stands for Immediate Payment Service. This is a real-time, inter-bank, electronic funds transfer system used to transfer money instantly within banks across India. IMPS enables users to make instant electronic transfer payments using mobile phones through both, Mobile Banking and SMS. It can also be used through ATMs and online banking. IMPS is available 24 hours a day and 7 days a week. The system features a secure transfer gateway and immediately confirms orders that have been fulfilled.

Refer to participant handbook (Pg-247-248) to explain about the following in detail:

- NEFT
- RTGS
- IMPS

11.3.26 Activity

Take the participants on a field visit to a bank, ask them to talk to the bank manager their and understand about NEFT, RTGS and IMPS.

Ask them to make notes and share it with the class.

Skill Practice	Time	Resources
Field Visit	15 mins	Participant handbook, pen, small note pad

11.3.27 Do ☑

Share with the participants the difference between NEFT, RTGS and IMPS by referring to participant handbook (Pg-249).

11.3.28 Notes for Facilitation 📝

- Ask the participants if they have any questions
- Encourage other participants to answer it and encourage peer learning in the class
- Answer all the doubts in case any to the participants
- Ask them to answer the questions given in the participant manual
- Ensure that all the participants answer every question

UNIT 11.4: Preparing for Employment & Self Employment

Unit Objectives 🎯

At the end of this unit, students will be able to:

- Discuss the steps to prepare for an interview
- Discuss the steps to create an effective Resume
- Discuss the most frequently asked interview questions
- Discuss how to answer the most frequently asked interview questions
- Discuss basic workplace terminology

Resources ⚙️

Participant handbook, small writing pad, pen.

11.4.1 Note 📋

This is the twenty- fifth session of the program which talks about preparing for employment & self employment.

11.4.2 Say 💬

Good morning and a very warm welcome to this training program. Before we begin this session let us have a quick recap of the previous session.

11.4.3 Do ✓

1. Begin with revising the things explained in previous session. Ask the following questions
   - List down the benefits of saving.
   - Name the types of bank accounts.
   - What are the steps involved in opening a bank account?
   - What is the difference between fixed and variable cost?
   - What is the difference between NEFT, RTGS and IMPS?
2. Encourage the participants to give their response
3. Ensure that the class should not lose focus
4. Clarify if they have any doubts
5. Tell them about what they are going to learn in this session

11.4.4 Say

Now let us begin with a new session which is about preparing for employment & self employment. In the previous sessions we have had a clear understanding about money matters, now we will talk about preparing for employment & self employment.

11.4.5 Say

Let us discuss about how to prepare for an interview.

11.4.6 Do

Share with the participants about how to prepare for an interview.

11.4.7 Elaborate

The success of your getting the job that you want depends largely on how well your interview for that job goes. Therefore, before you go in for your interview, it is important that you prepare for it with a fair amount of research and planning. Take a look at the steps to follow in order to be well prepared for an interview:

- Research the organization that you are having the interview with
- Think about whether your skills and qualifications match the job requirements
- Go through the most typical interview questions asked, and prepare your responses
- Plan your attire for the interview
- Ensure that you have packed everything that you may require during the interview
- Remember the importance of non-verbal communication
- Make a list of questions to end the interview with

Refer to participant handbook (Pg-250-251) to explain about steps to follow in order to be well prepared for an interview, in detail.

11.4.8 Say

A resume is a formal document that lists a candidate's work experience, education and skills.

A good resume gives a potential employer enough information to believe the applicant is worth interviewing. That's why it is so important to create a resume that is effective.

Let us discuss about preparing a resume

11.4.9 Do ☑

Share with the participants about how to prepare an effective resume.

11.4.10 Elaborate ⚙

Steps to create an effective resume:

- Write the Address Section
- Add the Profile Summary Section
- Include Your Educational Qualifications
- List Your Technical Skills
- Insert Your Academic Project Experience
- List Your Strengths
- List Your Extracurricular Activities
- Write Your Personal Details

Refer to participant handbook (Pg-252-253) to explain about steps involved in preparing an effective resume, in detail.

11.4.11 Activity ⚙

Ask the participants to do some research and prepare a resume for themselves.
At the end check the resume of each participant and make the modifications, if required.

Skill Practice	Time	Resources
Preparing resume	1 hr	Participant handbook, pen , small note pad

11.4.12 Do ☑

Refer to participant handbook (Pg-255-256) to explain the participants about the following:

- Questions asked in an interview
- Basic workplace terminologies

11.4.13 Notes for Facilitation 📝

- Ask the participants if they have any questions
- Encourage other participants to answer it and encourage peer learning in the class
- Answer all the doubts in case any to the participants
- Ask them to answer the questions given in the participant manual
- Ensure that all the participants answer every question

UNIT 11.5: Understanding Entrepreneurship

Unit Objectives ⌖

At the end of this unit, students will be able to:

- Discuss the concept of entrepreneurship
- Discuss the importance of entrepreneurship
- Describe the characteristics of an entrepreneur
- Describe the different types of enterprises
- List the qualities of an effective leader
- Discuss the benefits of effective leadership
- List the traits of an effective team
- Discuss the importance of listening effectively
- Discuss how to listen effectively
- Discuss the importance of speaking effectively
- Discuss how to speak effectively
- Discuss how to solve problems
- List important problem solving traits
- Discuss ways to assess problem solving skills
- Discuss the importance of negotiation
- Discuss how to negotiate
- Discuss how to identify new business opportunities
- Discuss how to identify business opportunities within your business
- Explain the meaning of entrepreneur
- Describe the different types of entrepreneurs
- List the characteristics of entrepreneurs
- Recall entrepreneur success stories
- Discuss the entrepreneurial process
- Describe the entrepreneurship ecosystem
- Discuss the purpose of the Make in India campaign
- Discuss key schemes to promote entrepreneurs
- Discuss the relationship between entrepreneurship and risk appetite
- Discuss the relationship between entrepreneurship and resilience
- Describe the characteristics of a resilient entrepreneur
- Discuss how to deal with failure

Resources

Participant handbook, small writing pad, pen, chart paper, colour pencils, eraser, scale, rope, pieces of paper.

11.5.1 Note

This is the twenty- sixth session of the program which talks about entrepreneurship.

11.5.2 Say

Good morning and a very warm welcome to this training program. Before we begin this session let us have a quick recap of the previous session.

11.5.3 Do

1. Begin with revising the things explained in previous session. Ask the following questions

   - How to prepare for an interview?
   - What are the steps involved in creating a resume?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

11.5.4 Say

Now let us begin with a new session which is about entrepreneurship. In the previous sessions we have had a clear understanding about preparing for employment & self employment, now we will talk about entrepreneurship.

11.5.5 Say

Anyone who is determined to start a business, no matter what the risk, is an entrepreneur.

Entrepreneurs run their own start-up, take responsibility for the financial risks and use creativity, innovation and vast reserves of self-motivation to achieve success. They dream big and are determined to do whatever it takes to turn their idea into a viable offering. The aim of an entrepreneur is to create an enterprise. The process of creating this enterprise is known as entrepreneurship.

Let us discuss about entrepreneurship in detail.

11.5.6 Do

- Share with the participants about importance of entrepreneurship
- Discuss with them the characteristics of entrepreneurs

11.5.7 Elaborate

Entrepreneurship is very important for the following reasons:

- It results in the creation of new organizations
- It brings creativity into the marketplace
- It leads to improved standards of living
- It helps develop the economy of a country

Refer to participant handbook (Pg-260) to explain about characteristics of entrepreneurs.

11.5.8 Activity

Take the participants on a field visit and make them meet a person who is an entrepreneur, ask them to notice the way he talks and his characteristics. Tell them to prepare few questions well in advance which they want to ask the entrepreneur.

The participants must make notes about his characteristics and attitude towards life and share it with the class.

Skill Practice	Time	Resources
Field Visit	10 mins	Participant handbook, pen , small note pad

11.5.9 Say

Let us discuss about types of enterprises.

11.5.10 Do

Share with the participants about different types of enterprises.

11.5.11 Elaborate

As an entrepreneur in India, you can own and run any of the following types of enterprises:

- Sole Proprietorship
- Partnership
- Limited Liability Partnership (LLP)

Refer to participant handbook (Pg-261) to explain about different types of enterprises to the participants.

11.5.12 Say

Leadership means setting an example for others to follow. Setting a good example means not asking someone to do something that you wouldn't willingly want to do yourself. Leadership is about figuring out what to do in order to win as a team, and as a company.

Leaders believe in doing the right things. They also believe in helping others to do the right things.

An effective leader is someone who:

- Creates an inspiring vision of the future.
- Motivates and inspires his team to pursue that vision.

Let us discuss about leadership in detail.

11.5.13 Do

- Share with the participants about benefits of effective leadership
- Discuss with them about leadership qualities

11.5.14 Elaborate

Effective leadership results in numerous benefits. Great leadership leads to the leader successfully:

- Gaining the loyalty and commitment of the team members
- Motivating the team to work towards achieving the company's goals and objectives
- Building morale and instilling confidence in the team members
- Fostering mutual understanding and team-spirit among team members
- Convincing team members about the need to change when a situation requires adaptability

Some critical leadership skills that every entrepreneur must have are:

- Pragmatism
- Humility
- Flexibility
- Authenticity
- Reinvention
- Awareness

Refer to participant handbook (Pg-262) to explain about leadership skills, in detail.

11.5.15 Do ☑

Tell the participants that teamwork occurs when the people in a workplace combine their individual skills to pursue a common goal. Effective teams are made up of individuals who work together to achieve this common goal. A great team is one who holds themselves accountable for the end result.

11.5.16 Elaborate ⚙

For an entrepreneurial leader, building an effective team is critical to the success of a venture. An entrepreneur must ensure that the team he builds possesses certain crucial qualities, traits and characteristics. An effective team is one which has:

- Unity of purpose
- Great communication skills
- The ability to collaborate
- Initiative
- Visionary members
- Great adaptability skills
- Excellent organizational skills

Refer to participant handbook (Pg-263) to explain about team work, in detail.

11.5.17 Say 💬

Listening is the ability to correctly receive and understand messages during the process of communication. Listening is critical for effective communication. Without effective listening skills, messages can easily be misunderstood. This results in a communication breakdown and can lead to the sender and the receiver of the message becoming frustrated or irritated.

11.5.18 Do ☑

Share with the participants about listening and speaking skills.

11.5.19 Elaborate ⚙

To listen effectively you should:

- Stop talking
- Stop interrupting
- Focus completely on what is being said
- Nod and use encouraging words and gestures
- Be open-minded
- Think about the speaker's perspective
- Be very, very patient
- Pay attention to the tone that is being used
- Pay attention to the speaker's gestures, facial expressions and eye movements
- Not try and rush the person
- Not let the speaker's mannerisms or habits irritate or distract you

Refer to participant handbook (Pg-264-265) to explain about speaking skills, in detail.

11.5.20 Do ☑

Tell the participants that now they will have to perform an activity on speaking skills.

11.5.21 Activity ⚙

Ask them to do an impromptu speech on a subject of their choice. Watch out for rate of speech, vocabulary, excessive jargon etc.

Skill Practice	Time	Resources
Impromptu speech	30 mins	PM PPT

11.5.22 Say 💬

All problems contain two elements:

1. Goals

2. Obstacles

The aim of problem solving is to recognize the obstacles and remove them in order to achieve the goals.

Let us discuss about problem solving in detail.

11.5.23 Do ☑

- Share with the participants about important traits of problem solving
- Discuss with them how to access for problem solving skills

11.5.24 Elaborate ⬚

Steps to solve a problem:

Step 1: Identify the problem

Step 2: Study the problem in detail

Step 3: List all possible solutions

Step 4: Select the best solution

Step 5: Implement the chosen solution

Step 6: Check that the problem has really been solved

Important traits of solving problem:

The following personality traits play a big role in how effectively problems are solved:

- Being open minded
- Asking the right questions
- Being proactive
- Not panicking
- Having a positive attitude
- Focusing on the right problem

Refer to participant handbook (Pg-266) to explain how to access problem solving skills, in detail.

11.5.25 Activity

Ask the participants to get into groups and discuss common problems which a waste water treatment plant helper faces and ways to solve them. Ask each group to take one problem and identify the best solution by following the steps (for problem solving) given in participant handbook.

Skill Practice	Time	Resources
Group Discussion	1 hr	Participant handbook, small writing pad, pen

11.5.26 Say

Negotiation is a method used to settle differences. The aim of negotiation is to resolve differences through a compromise or agreement while avoiding disputes. Without negotiation, conflicts are likely to lead to resentment between people. Good negotiation skills help satisfy both parties and go a long way towards developing strong relationships.

Let us discuss about negotiation in detail.

11.5.27 Do

• Share with the participants about steps involved in negotiation.

11.5.28 Elaborate

Steps involved in negotiation:

Step 1: Pre-negotiation preparation

Step 2: Discuss the problem

Step 3: Clarify the objective

Step 4: Aim for a win-win outcome

Step 5: Clearly define the agreement

Step 6: Implement the agreed upon solution

Refer to participant handbook (Pg-267) to explain about steps involved in negotiation, in detail.

11.5.29 Activity

Ask the participants to refer to participant handbook and study in detail about steps involved in negotiation, so that when they are asked question regarding it they are able to answer it.

Skill Practice	Time	Resources
Self Study	10 mins	Participant handbook, pen, small note pad

11.5.30 Say

The word opportunity suggests a good chance or a favourable situation to do something offered by circumstances.

A business opportunity means a good or favourable change available to run a specific business in a given environment, at a given point of time.

11.5.31 Do

- Share with the participants about factors to be considered when looking for opportunity
- Discuss with them the ways to identity new business opportunities

11.5.32 Elaborate

Following things should be considered when looking for business opportunities:

- Economic trends
- Market trends
- Changes in funding
- Changes in political support
- Changing relationships between vendors, partners and suppliers
- Shift in target audience

Refer to participant handbook (Pg-268-269) to explain about ways to identity new business opportunities, in detail.

11.5.33 Do

Tell the participants to get ready for an activity which would energize them.

11.5.34 Activity

Split the participants into two teams. Each team takes one end of the rope. The teams have to pull the rope to bring the opposite team towards them.

Skill Practice	Time	Resources
Tug of war	10 mins	Rope

11.5.35 Do ☑

Share with the participants about ways to identify business opportunities within the business.

11.5.36 Elaborate ⚙

Ways to identify business opportunities within the business includes:

- SWOT Analysis
- Establishing Your USP

Refer to participant handbook (Pg-269) to explain about ways to identity business opportunities within the business, in detail.

11.5.37 Say 💬

An entrepreneur is a person who:

- Does not work for an employee
- Runs a small enterprise
- Assumes all the risks and rewards of the enterprise, idea, good or service

Let us discuss about it in detail.

11.5.38 Do ☑

- Share with the participants the type of entrepreneurs
- Discuss with them the characteristics of entrepreneurs

11.5.39 Elaborate ⚙

Successful entrepreneurs have the following characteristics:

- They are highly motivated
- They are creative and persuasive
- They are mentally prepared to handle each and every task
- They have excellent business skills – they know how to evaluate their cash flow, sales and revenue
- They are willing to take great risks
- They are very proactive – this means they are willing to do the work themselves, rather than wait for someone else to do it

- They have a vision – they are able to see the big picture
- They are flexible and open-minded
- They are good at making decisions

Refer to participant handbook (Pg-271) to explain about type of entrepreneurs.

11.5.40 Activity

Divide the class in four groups and ask the participants to make a chart on types of entrepreneurs. The best chart will be pinned on the board in order to encourage passive learning.

At the end of the activity reiterate the types of entrepreneurs, in order to conclude the activity in a proper way.

Skill Practice	Time	Resources
Chart Making	10 mins	Participant handbook, chart, pencil, sketch pens , scale and eraser

11.5.41 Do

Share with the participants about entrepreneurial process.

11.5.42 Elaborate

Let's take a look at the stages of the entrepreneurial process.

Stage 1: Idea Generation. The entrepreneurial process begins with an idea that has been thought of by the entrepreneur. The idea is a problem that has the potential to be solved.

Stage 2: Germination or Recognition. In this stage a possible solution to the identified problem is thought of.

Stage 3: Preparation or Rationalization. The problem is studied further and research is done to find out how others have tried to solve the same problem.

Stage 4: Incubation or Fantasizing. This stage involves creative thinking for the purpose of coming up with more ideas. Less thought is given to the problem areas.

Stage 5: Feasibility Study: The next step is the creation of a feasibility study to determine if the idea will make a profit and if it should be seen through.

Stage 6: Illumination or Realization. This is when all uncertain areas suddenly become clear. The entrepreneur feels confident that his idea has merit.

Stage 7: Verification or Validation. In this final stage, the idea is verified to see if it works and if it is useful.

Refer to the diagram given in participant handbook (Pg-272) to explain about entrepreneurial process.

11.5.43 Say

The entrepreneurship support ecosystem signifies the collective and complete nature of entrepreneurship. New companies emerge and flourish not only because of the courageous, visionary entrepreneurs who launch them, but they thrive as they are set in an environment or 'ecosystem' made of private and public participants. These players nurture and sustain the new ventures, facilitating the entrepreneurs' efforts.

Let us discuss about entrepreneurship ecosystem in detail.

11.5.44 Do

Share with the participants about six domains of entrepreneurship ecosystem.

11.5.45 Elaborate

An entrepreneurship ecosystem comprises of the following six domains:

- Favourable Culture: This includes elements such as tolerance of risk and errors, valuable networking and positive social standing of the entrepreneur.
- Facilitating Policies & Leadership: This includes regulatory framework incentives and existence of public research institutes.
- Financing Options: Angel financing, venture capitalists and micro loans would be good examples of this.
- Human Capital: This refers to trained and untrained labour, entrepreneurs and entrepreneurship training programmes, etc.
- Conducive Markets for Products & Services: This refers to an existence or scope of existence of a market for the product/service.
- Institutional & Infrastructural Support: This includes legal and financing advisers, telecommunications, digital and transportation infrastructure, and entrepreneurship networking programmes.

11.5.46 Do

Share with the participants about key schemes to promote entrepreneurs.

11.5.47 Elaborate

Key schemes to promote entrepreneurs

1. Pradhan Mantri MUDRA Yojana - Micro Units Development and Refinance Agency (MUDRA),
2. Stand Up India
3. Prime Minister Employment Generation Programme (PMEGP)
4. International Cooperation

5. Performance and Credit Rating

6. Marketing Assistance Scheme

7. Reimbursement of Registration Fee for Bar Coding

8. Enable Participation of MSMEs in State/District level Trade Fairs and Provide Funding Support

9. Capital Subsidy Support on Credit for Technology up gradation

10. Credit Guarantee Fund for Micro and Small Enterprise (CGFMSE)

11. Reimbursement of Certification Fees for Acquiring ISO Standards

12. Agricultural Marketing

13. Small Agricultural Marketing

14. Mega Food Park

15. Adivasi Mahila Sashaktikaran Yojana

Refer to participant handbook (Pg-275-276) to explain about key schemes to promote entrepreneurs, in detail.

11.5.48 Activity

Divide the participants in four groups and make them play a quiz on key schemes to promote entrepreneurs.

The winning group will be awarded with a gift hamper.

At the end of the activity reiterate about the same, in order to conclude the activity in a proper manner.

Skill Practice	Time	Resources
Quiz	10 mins	Participant handbook, pen, small note pad

11.5.49 Say

Entrepreneurs are inherently risk takers. They are path-makers not path-takers. Unlike a normal, cautious person, an entrepreneur would not think twice about quitting his job (his sole income) and taking a risk on himself and his idea.

An entrepreneur is aware that while pursuing his dreams, assumptions can be proven wrong and unforeseen events may arise. He knows that after dealing with numerous problems, success is still not guaranteed. Entrepreneurship is synonymous with the ability to take risks. This ability, called risk-appetite, is an entrepreneurial trait that is partly genetic and partly acquired.

11.5.50 Do

• Share with the participants about risk appetite

• Discuss with them about risk appetite statement

11.5.51 Elaborate

What is risk appetite?

Risk appetite is defined as the extent to which a company is equipped to take risk, in order to achieve its objectives. Essentially, it refers to the balance, struck by the company, between possible profits and the hazards caused by changes in the environment (economic ecosystem, policies, etc.). Taking on more risk may lead to higher rewards but have a high probability of losses as well. However, being too conservative may go against the company as it can miss out on good opportunities to grow and reach their objectives.

Risk appetite statement:

Risk appetite statement should convey the following:

- The nature of risks the business faces.
- Which risks the company is comfortable taking on and which risks are unacceptable.
- How much risk to accept in all the risk categories.
- The desired trade off between risk and reward.
- Measures of risk and methods of examining and regulating risk exposures.

Refer to participant handbook (Pg-282) to explain about risk appetite, in detail.

11.5.52 Do

Tell the participants to get ready for an activity which would energize them.

11.5.53 Activity

- Ask the facilitator to choose a few well-known phrases and write half of each phrase on pieces of paper and the other half on other pieces.
- For example- "Happy" on one piece of paper and "Birthday" on another
- The number of chits should match the number of participants in the group
- Fold the pieces of paper and put them in a bowl
- Ask each participant to pick a chit from the bowl and try to find the member of the group with the matching half of the same phrase

Skill Practice	Time	Resources
Match the Card	10 mins	Small writing pads, pens, Participant Handbook, Pieces of paper

11.5.54 Say

Entrepreneurs are characterized by a set of qualities known as resilience. These qualities play an especially large role in the early stages of developing an enterprise. Risk resilience is an extremely valuable characteristic as it is believed to protect entrepreneurs against the threat of challenges and changes in the business environment.

Let us discuss about entrepreneurship and resilience in detail.

11.5.55 Do

Share with the participants about characteristics of resilient entrepreneur

11.5.56 Elaborate

What is Entrepreneurial Resilience?

Resilience is used to describe individuals who have the ability to overcome setbacks related to their life and career aspirations. A resilient person is someone who is capable of easily and quickly recovering from setbacks. For the entrepreneur, resilience is a critical trait.

Entrepreneurial resilience can be enhanced in the following ways:

- By developing a professional network of coaches and mentors
- By accepting that change is a part of life
- By viewing obstacles as something that can be overcome

Refer to participant handbook (Pg-283) to explain about characteristics of resilient entrepreneur, in detail.

11.5.57 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and encourage peer learning in the class
- Answer all the doubts in case any to the participants
- Ask them to answer the questions given in the participant manual
- Ensure that all the participants answer every question

UNIT 11.6: Preparing to be an Entrepreneur

Unit Objectives ⊘

At the end of this unit, students will be able to:

- Discuss how market research is carried out
- Describe the 4 Ps of marketing
- Discuss the importance of idea generation
- Recall basic business terminology
- Discuss the need for CRM
- Discuss the benefits of CRM
- Discuss the need for networking
- Discuss the benefits of networking
- Discuss the importance of setting goals
- Differentiate between short-term, medium-term and long-term goals
- Discuss how to write a business plan
- Explain the financial planning process
- Discuss ways to manage your risk
- Describe the procedure and formalities for applying for bank finance
- Discuss how to manage your own enterprise
- List important questions that every entrepreneur should ask before starting an enterprise

Resources ⚙

Participant handbook, small writing pad, pen, balloons, threads/rubber bands.

11.6.1 Note 🗒

This is the twenty- seventh session of the program which talks about preparing to be an entrepreneur.

11.6.2 Say 💬

Good morning and a very warm welcome to this training program. Before we begin this session let us have a quick recap of the previous session.

11.6.3 Do

1. Begin with revising the things explained in previous session. Ask the following questions

   • List down the types of enterprises.

   • What are the benefits of effective leadership?

   • How to listen effectively?

   • What do you understand by problem solving?

   • List down the important traits of problem solving.

   • What are the ways to identify new business opportunities?

   • What is risk appetite?

2. Encourage the participants to give their response

3. Ensure that the class should not lose focus

4. Clarify if they have any doubts

5. Tell them about what they are going to learn in this session

11.6.4 Say

Now let us begin with a new session which is about preparing to be an entrepreneur. In the previous sessions we have had a clear understanding about entrepreneurship, now we will talk about preparing to be an entrepreneur.

11.6.5 Say

Market research is the process of gathering, analyzing and interpreting market information on a product or service that is being sold in that market. It also includes information on:

   • Past, present and prospective customers

   • Customer characteristics and spending habits

   • The location and needs of the target market

   • The overall industry

   • Relevant competitors

Market research involves two types of data:

   • Primary information. This is research collected by yourself or by someone hired by you.

   • Secondary information. This is research that already exists and is out there for you to find and use.

Primary research

Primary research can be of two types:

   • Exploratory: This is open-ended and usually involves detailed, unstructured interviews.

   • Specific: This is precise and involves structured, formal interviews. Conducting specific research is the more expensive than conducting exploratory research.

Secondary research

Secondary research uses outside information. Some common secondary sources are:

- Public sources: These are usually free and have a lot of good information. Examples are government departments, business departments of public libraries etc.
- Commercial sources: These offer valuable information but usually require a fee to be paid.
- Examples are research and trade associations, banks and other financial institutions etc.
- Educational institutions: These offer a wealth of information. Examples are colleges, universities, technical institutes etc.

11.6.6 Do

Share with the participants about 4 Ps of marketing.

11.6.7 Elaborate

4 Ps of marketing is:

- Product
- Price
- Promotion
- Place

Refer to participant handbook (Pg-286-289) to explain about 4 Ps of marketing, in detail.

11.6.8 Activity

Divide the participants into four groups and ask one group to discuss about product, other about price and so on. Ask all the groups to make notes and share their views with the class.

Skill Practice	Time	Resources
Group Discussion	15 mins	Participant handbook, small writing pad, pen

11.6.9 Do

Share with the participants about basic business terminologies by referring to participant handbook (Pg-290-291).

11.6.10 Activity

Divide the participants in four groups and make them play a quiz on basic business terminologies.

The winning group will be awarded with a gift hamper.

At the end of the activity reiterate about the same, in order to conclude the activity in a proper manner.

Skill Practice	Time	Resources
Quiz	15 mins	Participant handbook, pen , small note pad

11.6.11 Say

CRM stands for Customer Relationship Management. Originally the expression Customer

Relationship Management meant managing one's relationship with customers. However, today it refers to IT systems and software designed to help companies manage their relationships.

Let us discuss about CRM in detail.

11.6.12 Do

Share with the participants about needs and benefits of CRM.

11.6.13 Elaborate

Need for CRM:

The better a company can manage its relationships with its customers, the higher the chances of the company's success. For any entrepreneur, the ability to successfully retain existing customers and expand the enterprise is paramount. This is why IT systems that focus on addressing the problems of dealing with customers on a daily basis are becoming more and more in demand.

Customer needs change over time, and technology can make it easier to understand what customers really want. This insight helps companies to be more responsive to the needs of their customers. It enables them to modify their business operations when required, so that their customers are always served in the best manner possible. Simply put, CRM helps companies recognize the value of their clients and enables them to capitalize on improved customer relations.

Refer to participant handbook (Pg-293) to explain about benefits of CRM.

11.6.14 Say

In business, networking means leveraging your business and personal connections in order to bring in a regular supply of new business. This marketing method is effective as well as low cost. It is a great way to develop sales opportunities and contacts. Networking can be based on referrals and introductions, or can take place via phone, email, and social and business networking websites.

11.6.15 Do

Share with the participants about the need and benefits of networking.

11.6.16 Elaborate

Need for Networking:

Networking is an essential personal skill for business people, but it is even more important for entrepreneurs. The process of networking has its roots in relationship building. Networking results in greater communication and a stronger presence in the entrepreneurial ecosystem.

This helps build strong relationships with other entrepreneurs.

Business networking events held across the globe play a huge role in connecting like-minded entrepreneurs who share the same fundamental beliefs in communication, exchanging ideas and converting ideas into realities. Such networking events also play a crucial role in connecting entrepreneurs with potential investors. Entrepreneurs may have vastly different experiences and backgrounds but they all have a common goal in mind – they all seek connection, inspiration, advice, opportunities and mentors. Networking offers them a platform to do just that.

Refer to participant handbook (Pg-293-294) to explain about benefits of networking.

11.6.17 Say

A business plan is a tool for understanding how your business is put together. It can be used to monitor progress, foster accountable and control the fate of the business. It usually offers a 3-5 year projection and outlines the plan that the company intends to follow to grow its revenues.

A business plan is also a very important tool for getting the interest of key employees or future investors.

A business plan typically comprises of eight elements.

11.6.18 Do

Share with the participants the elements of business plan.

11.6.19 Elaborate

Refer to participant handbook (Pg-295-296) to explain about elements of business plan.

11.6.20 Say

For entrepreneurs, one of the most difficult challenges faced involves securing funds for start-ups. With numerous funding options available, entrepreneurs need to take a close look at which funding methodology works best for them. In India, banks are one of the largest funders of start-ups, offering funding to thousands of start-ups every year.

11.6.21 Do

Share with the participants about information which should be offered to bank for funding.

11.6.22 Elaborate

When approaching a bank, entrepreneurs must have a clear idea of the different criteria that banks use to screen, rate and process loan applications. Entrepreneurs must also be aware of the importance of providing banks with accurate and correct information. It is now easier than ever for financial institutions to track any default behaviour of loan applicants. Entrepreneurs looking for funding from banks must provide banks with information relating to their general credentials, financial situation and guarantees or collaterals that can be offered.

Refer to participant handbook (Pg-299) to explain about information which should be offered to bank for funding, in detail.

11.6.23 Activity

Ask the participants to pair themselves, ask one of them to become a bank manager and the other the person who wants to apply for funds.

Ask the person who is applying for funds to submit your application form and all other required documents to the bank.

The person enacting as bank manger should carefully assess your credit worthiness and assign ratings by analyzing the business information with respect to parameters like management, financial, operational and industry information as well as past loan performance.

The bank manger will then make a decision as to whether or not you should be given funding.

Skill Practice	Time	Resources
Role Play	30 mins	Documents required for funding

11.6.24 Do

Share with the participants as to how to manage an enterpriser.

11.6.25 Elaborate

Steps to manage an enterprise:

Step 1: Use your leadership skills and ask for advice when required.

Step 2: Divide your work amongst others – realize that you cannot handle everything yourself.

Step 3: Hire the right people for the job.

Step 4: Motivate your employees and train them well.

Step 5: Train your people to handle your customers well.

Step 6: Market your enterprise effectively.

Refer to participant handbook (Pg-301-302) to explain about steps to manage an enterprise, in detail.

11.6.26 Notes for Facilitation

- Ask the participants if they have any questions
- Encourage other participants to answer it and encourage peer learning in the class
- Answer all the doubts in case any to the participants
- Ask them to answer the questions given in the participant manual
- Ensure that all the participants answer every question
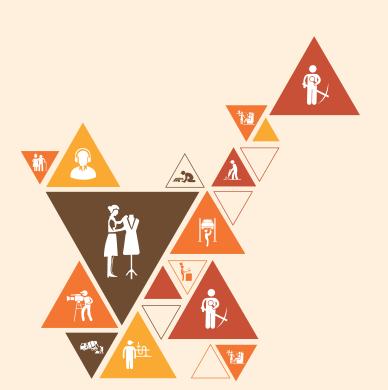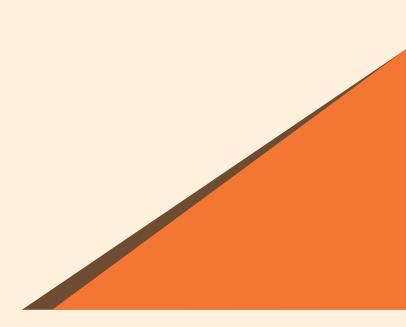
12. Annexures

Annexure I: Training Delivery Plan

Annexure II: Assessment Criteria

Annexure I
Training Delivery Plan

Training Delivery Plan	
Program Name:	Certificate Course in Telecom Terminal Equipment Application Developer (Android)
Qualification Pack Name & Ref. ID	Telecom Terminal Equipment Application Developer (Android) - TEL/Q2300
Version No.	2.0

Version Update Date	26-12-2016

Training Delivery Plan	
Pre-requisites to Training (if any)	Creating customized applications for iOS, Android, Blackberry and Windows 8x operating systems and Processing data and information
Training Outcomes	**By the end of this program, the participants will be able to:** 1. Implement and manipulate document structures and objects. 2. Create the document structure using HTML tags((Section, Article, Nav, Header, Footer, and Aside and other tags), Establish the scope of objects and variables. 3. Create and implement objects and methods 4. Implement program flow: Working with Control Statements, Handle common events exposed by DOM, Create a web worker process 5. Access and secure data: Validate user input by using HTML5 element, Validate user input by using JavaScript. 6. Use CSS3 in Application Development: Create a flexible content layout & animated and adaptive UI, Structure a CSS file by using CSS selectors. 7. Use Java Script and advanced operations in Application: Creating Objects and Methods by Using JavaScript, Refining Code for Maintainability and Extensibility.

Sl. No	Module Name	Session Name	Session Objectives	NOS	Methodology	Training Tools/ Aids	Duration (Theory/ Practical)
1	Introduction	Introduction	• Identify the importance of communi-cation	TEL/N2300	PPT, Lecture and Discussion	Participant Handbook, notepad, pen, pencil, small writing pads, Computer, Projector, White	T-2 hrs P-7 hrs

2	Introduction	History of telecomunica-tion	• Learn about the history of telecom-munication and how the technology has evolved over time.	TEL/N2300	PPT, Lecture and Discussion A/V Program	Participant Handbook, notepad, pen, pencil, small writing pads, slides, videos	T-1 hr P-5 hrs
3	Introduction	Signals	• Understand signals	TEL/N2300	Audio/ Video Program	Participant Handbook, notepad, pen, pencil, small writing pads, chart paper, eraser, scale, colour pencils, slides, videos Computer, Projector, White board	T-3 hrs P-1 hr
4	Introduction	Networks	• Understand-ing networks and the difference between them	TEL/N2300	PPT, Lecture and Discussion Quiz	Participant Handbook, notepad, pen, pencil, small writing pads Computer, Pro-jector, White board	T-3 hrs P-2 hrs
5	Introduction	Channel Access Methods	• Discuss with the participants about differ-ent channel access methods	TEL/N2300	• Board Activity	Participant Handbook, notepad, pen, pencil, small writing pads Computer, Pro-jector, White board	T-1 hr P-2 hrs

6	Mobile Operating Systems	Mobile Operating System	• Learn about operating systems, Symbian OS and its application	TEL/N2300 PC1, KB3 SA1, SA2 SA3, SA4 SA5, SB7	• Audio/ Video Program	Participant Handbook, notepad, pen, pencil, small writing pads, Projector, Slides, Videos	T-2 hrs P-1 hr
7	Mobile Operating Systems	Windows Mobile	• Learn about operating systems, Symbian OS and its application	TEL/N2300 PC1, KB3 KB4, SA1 SA2, SA3 SA4, SA5 SB7	• Audio/ Video Program	Participant Handbook, notepad, pen, pencil, small writing pads, Projector, Slides, Videos	T- 4 hrs P-2 hrs
8	Mobile Operating Systems	Android OS	• Learning about windows operating system and Blackberry OS	TEL/N2300 PC1, PC2 SA1, SA2 SA3, SA4 SA5, SB7	• Audio/ Video Program	Participant Handbook, notepad, pen, pencil, small writing pads, Projector, Slides, Videos	T- 6 hrs P -12 hrs
9	Installing Android	Basic requirements for Installing Android	• Learning aboutvarious system requirements for installing Android, Java SDK's on a device	TEL/N2300 PC2, PC3 SA1, SA2 SA3, SA4 SA5, SB7	• Quiz, Self-Study	Participant Handbook, notepad, pen, pencil, small writing pads, computer	T- 5 hrs P- 4 hrs
10	Installing Android	Installation	• Installing Android SDK and Java SDK on a different devices	TEL/N2300 PC4, PC5 PC6, PC7 KB1, KB2 SA1, SA2 SA3, SA4 SA5, SB1 SB5, SB7	Audio/ Video Program	Participant Handbook, notepad, pen, pencil, small writing pads, computer	T-5 hrs P-14 hrs

11	Creating An Android Project	Creating An Android Project	• Learning how to create an Android project and how we can change different values to get different outcomes	TEL/N2300 PC8, PC9 PC10, PC11 PC12, PC13 PC14, PC15 PC16, PC17 PC18, PC19 PC20, PC21 PC22, PC23 KB4, KB5 SA1, SA2 SA3, SA4 SA5, SA6 SB7	Creating Projects	Participant Handbook, notepad, pen, pencil, small writing pads, computers	T-3 hrs P-11 hrs
12	Developing Android VAS Application	Basic layout: writing user interface	• Learning about UIs. • Learning how to write different layouts.	TEL/N2301 PC10, PC11 PC12, PC13 PC14, PC15 KB4, SA1 SA2, SA3 SA4, SB4	Writing different UIs	Participant Handbook, notepad, pen, pencil, small writing pads, computers	T- 6 hrs P-9 hrs
13	Developing Android VAS Application	Basic layout: SMS and Networking Source code Communication Skills	• Understanding the working of short messaging services. • Learning networking fundamentals	TEL/N2301 PC10, PC11 PC12, PC13 PC14, PC15 KB4, SA1 SA2, SA3 SA4, SB4	Writing source codes for sending SMS and connecting the handset to networks	Participant Handbook, notepad, pen, pencil, small writing pads, computers	T-8 hrs P-19 hrs
14	Developing Android VAS Application - Data Management	Working with databases	• Understanding Databases and how they help in the storage of data	TEL/ N2301PC1 PC2, PC3 PC4, PC5 PC6, PC7 PC8, PC9 KB2, KB3 SA1, SA2 SA3, SA4	PPT, Lecture and Discussion Writing Source Code	Participant Handbook, notepad, pen, pencil, small writing pads	T- 6 hrs P- 9 hrs

15	Developing Android VAS Application - Data Management	Working with SQLite	• Understanding the working mechanism of SQLITE. • Creating databases with the help of SQLITE	TEL/ N2301PC1 PC2, PC3, PC4. PC5, PC6, PC7, PC8, PC9, KB2, KB3, SA1, SA2, SA3, SA4	Writing Source Code	Participant Handbook, notepad, pen, pencil, small writing pads	T-5 hrs P- 13 hrs
16	Testing and Publishing	Security Comprehension and Problem Solving Skills	• Learning about basic security fundamentals	TEL/N2303 PC8, PC9, PC10, KA7, KA8, KB9, SA17, A18, SA20, SA21	PPT, Lecture and Discussion, Practice	Participant Handbook, notepad, pen, pencil, small writing pads	T- 3 hrs P-6 hrs
17	Testing and Publishing	Testing and Publishing	• Writing tests and testing the applications for bugs and errors	TEL/N2303 PC1, PC2 PC3, PC4 PC5, PC6 PC7, KA7 KA8, KB6 KB7, KB8 SA17, A18 SB20, SB21, SB11, SB12 SB13, SB14 SB15	PPT, Lecture and Discussion Writing Tests	Participant Handbook, notepad, pen, pencil, small writing pads	T-1 hr P-14 hrs
18	Testing and Publishing	Testing and Publishing Understanding CRM	• Publishing the application on Play Store and third part websites	TEL/N2303 PC11, PC12 PC13, PC14 SA20, SA21 SB16, KA7 KA8, SA17 SA18, SA20 SA21	PPT, Lecture and Discussion Publishing	Participant Handbook, notepad, pen, pencil, small writing pads, computer	T- 6 hrs P-18 hrs

19	Support and maintenance	Support and maintenance	• Identify personal time robbers & learn to deal with them	TEL/N2303 SA17, SA18 SA20, SA21	PPT, Lecture and Discussion Practice	Participant Handbook, notepad, pen, pencil, small writing pads, mobile hand-sets	T-6 hrs P-12 hrs
20	Professional Skills	Professional Skills	• Identify personal time robbers & learn to deal with them	TEL/N2300 SA-4, SA-5, SA-6, SA-7 TEL/N2301 SA-4, SA-5, SA-6,SA-7 TEL/N2302 SA-11, SA-12, SA-13 TEL/N2303 SA-20, SA-21, SA-22	Time Wasters	Participant Handbook, PPT	T-1 hr P-1 hr
21	Professional Skills	Professional Skills	• Identify & learn techniques for effective listening	TEL/N2300 SA-4, SA-5, SA-6,SA-7 TEL/N2301 SA-4, SA-5, SA-6,SA-7 TEL/N2302 SA-11, SA-12, SA-13 TEL/N2303 SA-20, SA-21, SA-22	Role Play	Small writing pads, pens	T-1 hr P-2 hrs

22	Professional Skills	Professional Skills	• Learn assertiveness & decision making	TEL/N2300 SA-4, SA-5, SA-6, SA-7 TEL/N2301 SA-4, SA-5, SA-6,SA-7 TEL/N2302 SA-11, SA-12, SA-13 TEL/N2303 SA-20, SA-21, SA-22	Energiser - Tide's in Tide's out		T-1 hr P-1 hr
23	Professional Skills	Professional Skills	• Discuss problems faced by an Android Developer and identify solutions	TEL/N2300 SA-4, SA-5, SA-6, SA-7 TEL/N2301 SA-4, SA-5, SA-6,SA-7 TEL/N2302 SA-11, SA-12, SA-13 TEL/N2303 SA-20, SA-21, SA-22	Group Discussion	Participant's Handbook	T-1 hr P-2 hrs
24	Language Skills	Language Skills	• Studying about Listening Skills	TEL/N2300 SA-1, SA-2, SA-3 TEL/N2301 SA-1, SA-2, SA-3 TEL/N2302 SA-8, SA-9, SA-10, SA-	Self-Study	Participant Handbook, PPT, writing pads	T-1 hr P-1 hr

				14, SA-15, SA-16			
				TEL/N2303 SA-17, SA-18, SA-19, SA-23, SA-24, SA-25			
25	Language Skills	Language Skills	• Learning the correct rate of speech, improve vocabulary, check on the usage of jargons, etc.	TEL/N2300 SA-1, SA-2, SA-3 TEL/N2301 SA-1, SA-2, SA-3 TEL/N2302 SA-8, SA-9, SA-10, SA-14, SA-15, SA-16 TEL/N2303 SA-17, SA-18, SA-19, SA-23, SA-24, SA-25	Impromptu speech	Participant Handbook, PPT, writing pads	T-1 hr P-2 hrs
26	Language Skills	Language Skills	• Improving Reading Skills – passage reading and comprehension	TEL/N2300 SA-1, SA-2, SA-3 TEL/N2301 SA-1, SA-2, SA-3 TEL/N2302 SA-8, SA-9, SA-10, SA-14, SA-15, SA-16	Self-Study	Participant Handbook, PPT, writing pads	T-1 hr P-1 hr

				TEL/N2303 SA-17, SA-18, SA-19, SA-23, SA-24, SA-25			
27	Introduction to Computers	Introduction to Computers	• Learn about computer hardware and software	Bridge Module	Self- Study	Computer, projector, white board, participants manual, markers, flip charts	T - 1 hr P - 2 hrs
28	Internet and Networking	Internet and Networking	• Learn about Internet and Networking	Bridge Module	Quiz	Participant Handbook, notepad, pen, pencil, small writing pads	T-1 hr P-2 hrs
29	Typing Practice	Typing Practice	• Learn about special keys on the keyboard	Bridge Module	Quiz	Participant Handbook, notepad, pen, pencil, small writing pads	T-1 hr P-2 hrs
30	Typing Practice	Typing Practice	• Learn about correct body posture while typing	Bridge Module	Self- Study	Participant Handbook, notepad, pen, pencil, small writing pads	T-1 hr P-1 hr

Annexure II
Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES

Assessment Criteria for Telecom Terminal Equipment Application Developer(Android)	
Job Role	Telecom Terminal Equipment Application Developer (Android)
Qualification Pack	TEL/Q2300
Sector Skill Council	Telecom

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3	Individual assessment agencies will create unique question papers for theory and skill practical part for each candidate at each examination/training center.
4	To pass the Qualification Pack , every trainee should score a minimum of 40% in every NOS and overall 50% Pass percentage
5	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessment outcome	Assessment criteria	Total Mark (400+100)	Out Of	Theory	Skills Practical
				Marks Allocation	
TEL/N2300 Understanding the Android Application Development Framework	PC1. create the document structure using HTML tags (Section, Article, Nav, Header, Footer, and Aside and other tags)	100	4	4	0
	PC2. Identify key features for various versions of Android		4	4	0
	PC3. Identify the various tools and softwares required for developing an Android Application		4	4	0
Setting up Android Application Development Environment	PC4. Install Java and Android SDK		3	2	1
	PC5. Install Eclipse IDE		3	1	2
	PC6. Configure Android Development Tool		3	1	2

	PC7. Create Android Virtual Devices		3	1	2
	PC8. Identifying the components of an Android Project		3	2	1
	PC9. Creating an Android Project		4	3	1
Creating Android Projects	PC10. Identifying the role of .src, Android Library, gen, assets, res, AndroidManifest.xml		4	2	2
	PC11. Understanding activities and Intents		3	3	0
	PC12. Applying Styles and theames to activities		5	2	3
	PC13. Creating Dialog window and Process Dialog		3	1	2
	PC14. Linking Activities using Intents		3	1	2
	PC15. Creating built in Application using Intents		4	1	3
	PC16. Using Intent Object, Intent Filters and Categories		3	1	2
	PC17. Displaying Notifications		4	1	3
	PC18. Understanding the components of a Screen, Views and viewGroups		4	2	2
	PC19. Understanding Absolut Layout, Linear Layout, Table Layout, Relative Layout, Fram Layout and Scroll Layout		5	2	3
	PC20. Adapting to Display orientation using anchoring views , resizing and repositioning. Managing Screen Orientation		5	2	3
	PC21. Creating User Interfaces programmatically		4	1	3
	PC22. Listening for UI Notifications		3	1	2
	PC23. Creating Basic Views (TestView, Button, Image-Button, EditText, CheckBox, ToggleButton, RadioButton, RadioGroup, ProgressBar, AutoCompleteTestView, Time-PickerView, DatePickerView, ListView, SpinnerView		5	2	3
	PC24. Displaying Pictures using Imageview, ImageSwitcher and GridView		5	2	3
	PC25. Using Menus , Helper Methods, Options Menu and Context Menu		5	2	3
	PC26. Working with Android camer		4	1	3
TEL/N2301 Data Handling	PC1. Implementing Data Persistence	**100**	5	2	3
	PC2. Sharing and Loading user Preferences		4	2	2
	PC3. Storing Data to internal Storage, External Storage (SD Card) and static resources		3	2	1
	PC4. Storing Data in Cloud		3	1	2
	PC5. Using Database SQL Lite		3	2	1

	PC6. Applying SQL commands		6	3	3
	PC7. Using Contacts with Database		5	2	3
	PC9. Using Content Providers		2	1	1
	PC8. Bundling Database with Application		3	1	2
	PC9. Using Content Providers		3	1	2
	PC10. Sending SMS messages programmically		3	1	2
	PC11. Sending SMS using Intent		3	1	2
	PC12. Receiving SMS and Processing SMS		3	1	2
	PC13. Sending Email		2	1	1
	PC14. Understanding Networking Fundamentals		6	3	3
	PC15. Working with Bluetooth		3	1	2
	PC16. Downloading Text Files, Binary Data, Accessing Web Services		2	1	1
	PC17.Performing Asynchronous Call		3	1	2
Location Based Services	PC18. Understanding the MAP concept for Android and Creating a MAP Project		4	3	1
	PC19. Obtaining the Maps API Keys, Displaying the Map		3	1	2
	PC20. Controlling the Zoom abd changing the Views		3	1	2
	PC21. Navigating to specific locations		3	1	2
	PC22. Adding Markers		3	1	2
	PC23. Getting a locations that was touched		3	1	2
	PC24. Geo coding and reverse Geocoding		4	1	3
	PC25. Monitoring Locations		3	1	2
Developing Android Services	PC26. Creating your Own Android Services		3	2	1
	PC27. Performing Long-Running tasks, Repeated Tasks, Asynchronous Tasks in a Service		3	1	2
	PC28. Using Multi Threading		3	2	1
	PC29. Communicating between a Service and Activity		3	1	2
	PC30. Building Activities into Services		3	1	2
TEL/N2302 Creating Android User Interfaces for Tablet App	PC1. Differentiate between creating an App for Smartphone and Tablet	100	10	5	5

	PC2. Understanding the components of an Android App for Tablet		10	7	3
	PC3. Workign with Activities, Fragments, Action Bars		15	7	8
	PC4. Creating Android User Interface Elements (Views, ViewGroupss, Layouts, Basic Views, Fragments, Buttons, Menu, Boxes)		15	7	8
	PC5. Working with Events		10	5	5
Creating VAS Applications for Android Tablets	PC6. Working with Database and Data storage		10	5	5
	PC7. Working with Emails		5	2	3
	PC8. Working with SMS		5	2	3
	PC9. Working with Networking and Bluetooth Devices		5	2	3
	PC10. Working with MAPS and creating Location Based Services		10	4	6
	PC11. Creating custom Services		5	3	2
TEL/N2303 Android Application Testing	PC1. Testing fundamentals, Types of Testing		8	5	3
	PC2. Testing Android Application using Unit Testing		8	3	5
	PC3. Functional /Usability Testing Android Applications		8	3	5
	PC4. UI Testing		8	3	5
	PC5. Performance Testing		8	3	5
	PC6. Localization issues & Battery Impact		8	5	3
Securing Android Applications	PC7. Application Security Testing	100	10	5	5
	PC8. Security Best Practices for Android VAS Applications		10	7	3
Publishing Android Applications	PC9. bundle application for release on app store		10	6	4
	PC10. Google licensing		4	4	0
	PC11. Using Admob SDK for ad		10	5	5
	PC12. Backward compatibilty strategies		8	4	4
		Total	**400**	**194**	**206**

Do ☑

1. Explain each Guideline for Assessment in detail

2. Explain the score that each trainee needs to obtain

3. Recapitulate each NOS one-by-one and take participants through the allocation of marks for Theory and Skills Practical.

4. Explain the Allocation of Marks. Explain that they will be assessed on Theory and Skills Practical.

5. Explain that for the first NOS, 194 marks are allotted for Theory and & 206 for Skills Practical.

Notes

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