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GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
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Facilitator Guide



Sector
Electronics

Sub-Sector
Communication & Broadcasting

Occupation
After Sales Service

**Mobile Phone
Hardware
Repair Technician**

Reference ID: ELE / Q 8104
NSQF Level : 4

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Shri Narendra Modi
Prime Minister of India

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



Acknowledgement

The need for having a standard curriculum for the Job Role based Qualification Packs under the National Skills Qualification Framework was felt necessary for achieving a uniform skill based training manual in the form of a participant handbook.

I would like to express my gratitude to the Sunrise Computer Software Pvt. Ltd. team for working hard and coming up with a participant Handbook for the Mobile Hardware Repair Technician Job role. The handbook is the result of tireless pursuit to develop an effective tool for imparting the Skill Based training in the most effective manner.

I would like to thank Mr. Mahendra Balasaheb Barmukh, Mr. Mohan H. Bugal and the other team members for the tireless effort in bringing the handbook in the current format. I wish them all the best for their future endeavor in similar pursuits.

CEO
Electronics Sector Skills Council of India

About this Guide

India is currently the world's second-largest telecommunications market and has registered strong growth in the past decade and half. The Indian mobile economy is growing rapidly and is expected to contribute substantially to India's Gross Domestic Product (GDP). The Indian telecommunication services market is likely grow by 10.3 per cent year-on-year. Mobile Phone subscription in India is expected to increase four-fold to 810 million users by 2021, while the total Mobile Phone traffic is expected to grow 15-fold to 4.5 exabytes (EB) per month by 2021. According to Telecom Regulatory Authority of India (TRAI), the total telecom subscriber base in December 2015 stood at 1.04 billion, out of which 1.01 billion were mobile subscribers and 25.52 million were wireline subscribers. In line with the rapid technological advancement in this field, there are exciting prospects for a fulfilling career in this industry.

This book is designed to enable a candidate to acquire skills that are required for employment. The content of this book is completely aligned to the National Occupation Standards QP/NOS and conform to the National Skills Qualification Framework (NSQF).

The Qualification pack of Mobile Phone Hardware Repair Technician, Level-4 includes the following NOS's which have all been covered across the units:

ELE / N 8106: Interact with customer and perform front end repair

ELE / N 8107: Repair and rectify faults in Mobile Phones

ELE / N 9909: Coordinate with colleagues

ELE / N 9910: Maintain safe and secure environment

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS. The symbols used in this book are described below.

Happy Learning !!

Symbols Used



Learning Outcomes



Steps



Time



Tips



Notes



Objectives



Exercise



Activity



Resources



Do



Say



Demonstrate

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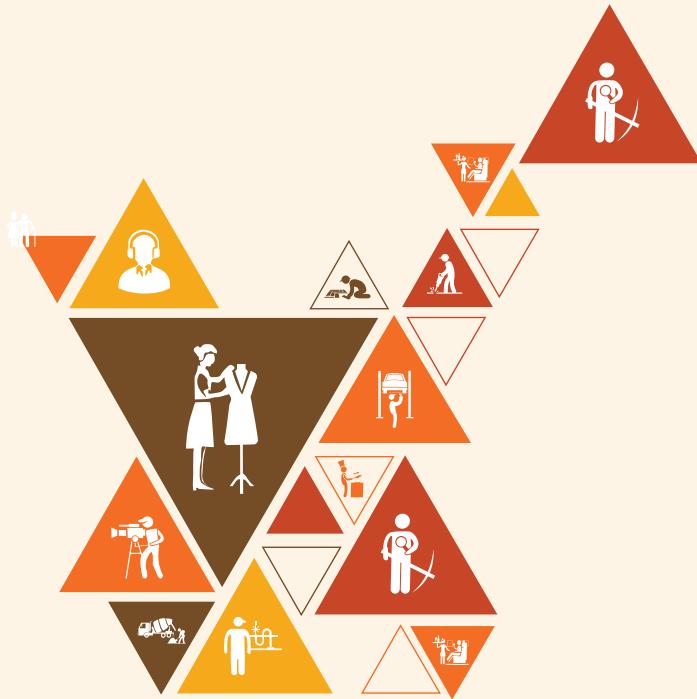
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1. Introduction

- Unit 1.1- Introduction, Scope of QP & NOS
- Unit 1.2- Role & Job Description - Mobile Phone Repair
- Unit 1.3- Personal Attributes for Mobile Phone Repair
- Unit 1.4- Mobile Phone History



ELE/ N 8106

Key Learning Outcomes



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

1. Know your fellow participating team members
2. Form a formidable Team for an exciting Learning Exercise
3. Describe the scope NOS for mobile hardware repair technician
4. Explain role of mobile hardware repair technician
5. Explain Job description of the mobile hardware repair technician
6. Prepare for the personal attributes required for mobile hardware repair technician
7. Acquire the knowledge of mobile phone history

UNIT 1.1: Introduction - Scope of QP & NOS

Unit Objectives

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

- Explain the scope of work for mobile hardware repair technician
- Describe NOS for mobile hardware repair technician

Resources to be Used

- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable

Do

- Make the participants stand in a circle, close enough to the person each side of them so that they can pass the parcel quickly.
- Say 'Stop' when the when students least expect it. The person who has the parcel at that time should get out.
- Those who get out should introduce themselves by providing their names and a little additional information such as favorite hobbies, likes, dislikes etc.
- The winner of the game should stand and introduce himself/herself at the end of the game.

Say

- Thank the participants for their involvement.
- Enthuse the participants by telling them, what is planned next

Notes for Facilitation



- You could ask the participants who get out during the game to be the music keepers. They can start and stop the music as the game progresses.
- Encourage shy students to provide information about themselves by prompting them with questions such as 'what do you enjoy doing the most', 'what is your favorite movie or book' etc.
- Ask the participants to describe why they like their mobile handsets

Qualifications Pack
Mobile Phone Repairs Technician
Level 4
Scope

SECTOR	Electronics
SUB-SECTOR	Communication & Broadcasting
OCCUPATION	After Sales Service
JOB ROLE	Mobile Phone Repair Technician
REFERENCE ID	ELE / Q 8104
ALIGNED TO	NCO-2004/NIL

UNIT 1.2: Role & Job Description - Mobile Phone Repair Technician

Unit Objectives

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

1. Explain the role of mobile hardware repair technician
2. Explain the job description of mobile hardware repair technician

Resources to be Used

- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do

- Ask the participants about their expectations from the program.
- Write their expectations on the Board.
- Elaborate on what the program is going to deliver to them.
- Ask them to explain the role & responsibilities of the handset repair technician.
- Explain the handset repair technician's role & responsibilities as the QP & NOS
- Ask them whether they can fulfil the role & responsibilities adequately

Say

- Thank the participants for their involvement.
- Enthuse the participants by telling them, what is planned next

Notes for Facilitation

- You could ask the participants whether they are facing any difficulties with their handsets.
- Ask their ideas on the resolution of the difficulties faced by them.
- Ask the participants to describe what they like the most in their mobile handsets
- ...

Brief Job Description: Responsible for rectifying faults in the mobile phone brought in by the customer.

Receive the faulty mobile phone, diagnose the problems, perform front end or hardware level repair as required, resolve software issues and ensures effective functioning before delivering back to customer

Mobile Phone Repair Technician Role: The Mobile Phone Repair Technician diagnoses problems and repairs the faulty module of the mobile phone

UNIT 1.3: Personal Attributes of Mobile Phone Repair Technician

Unit Objectives



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

1. Prepare for the personal attributes required for mobile hardware repair technician

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Ask the participants about their expectations from the handset repair technician.
- Write their expectations on the Board.
- Elaborate on what are attributes required of the handset repair technician as per the QP & NOS.
- Ask them whether they possess these attributes.
- Explain to understand & achieve these attributes
- Conduct role play exercise to help them understand the required attributes

Say



- Explain common mistakes made by the technician in dealing with the approaching customer, which may turn him off from giving his handset for the repairs.
- Thank the participants for their involvement.
- Enthuse the participants by telling them, what is planned next

Notes for Facilitation



- In the role play ask one of the participants to play the role of customer.
- Another participant becomes the technician.
- All the participants observe & learn from the role playing exercise.

Job Role	Mobile Phone Repair Technician
Role Description	Receive the faulty mobile phone, diagnose the problem, decide on corrective action, repair the faulty mobile phone, rectify the software issues and ensure effective functioning of the mobile phone
NSQF level	4
Minimum Educational Qualifications	10th standard
Maximum Educational Qualifications	B. E.
Training	N.A.
Experience	1 year in hardware repair for 10th standard passed
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> 1. ELE / N 8106 : Interact with customer and perform front end repair 2. ELE / N 8107 : Repair and rectify faults in mobile phones 3. ELE / N 9909 : Coordinate with colleagues 4. ELE / N 9910 : Maintain safe and secure environment <p>Optional: N.A.</p>
Performance Criteria	As described in the relevant OS units

UNIT 1.4: Mobile Phone History

Unit Objectives



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

1. Explain the history of mobile phone

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Ask the participants about the history of mobile cell phone revolution.
- Let them describe how the mobile has changed their daily life.
- Ask them to describe their day without a mobile handset in their hands.
- Explain the historical events in mobile history.

Say



- Analog & digital clocks almost became redundant with the advent of cell phones.
- Google watch with mobile features may resurrect the wrist watches
- Enthuse the participants by telling them, what is planned next
- Thank the participants for their involvement.

Notes for Facilitation



- Show some interesting videos to enhance the participants' learning experience.
- Get feedback on their learning during course.

1.4.1: History of Mobile Phone

The history of mobile phones, covers mobile communication devices which connect wirelessly to the public switched telephone network.



Fig: 1.4.1.1 Mobile Phones Samples

While the transmission of speech by radio has a long history, the first devices that were wireless, mobile, and also capable of connecting to the standard telephone network is much more recent. The first such devices were barely portable compared to today's compact hand-held devices, and their use was clumsy. Origin of this gadget is quite interesting. Starting from bulky mobile phones which were as long and heavy as one's forearms, to ultra thin and techno savvy handsets, mobile phones have covered a long way so far. It all started with the basic telephony.

Along with the process of developing more portable technology, and better interconnections system, drastic changes have taken place in both the networking of wireless communication and the prevalence of its use, with mobile phone becoming common globally and a growing proportion of Internet access is now done via mobile broadband.

A mobile phone is a portable telephone that can make and receive calls over a radio frequency carrier while the user is moving within a telephone service area. The radio frequency link establishes a connection to the switching systems of a mobile phone operator, which provides access to the public switched telephone network (PSTN). Most modern mobile telephone services use cellular network architecture, and therefore mobile telephones are often also called cellular telephones or cell phones. In addition to telephony, 2000s-era mobile phones support a variety of other services, such as text messaging, MMS, email, Internet access, short-range wireless communications (infrared, Bluetooth), business applications, gaming, and digital photography. Mobile phones which offer these and more general computing capabilities are referred to as mobile phone.



*Fig: 1.4.1.2
Mobile in 1973*

The first handheld mobile phone was demonstrated by John F. Mitchell and Martin Cooper of Motorola in 1973, using a handset weighing 2 kg, carried around 30 circuit boards in it with recharge time of around 10 hours, talk time of 35 minutes, this phone gave comfortable talking experience to the users. In 1983, the DynaTAC 8000x was the first commercially available handheld mobile phone. From 1983 to 2014, worldwide mobile phone subscriptions grew to over seven billion, penetrating 100% of the global population and reaching even the bottom of the economic pyramid. In first quarter of 2016, the top mobile phone manufacturers were Samsung, Apple, LG, Micromax, Lenovo etc...

Mobile Phones have proved themselves to be one of the greatest gifts to the mankind. They have become an indispensable part of our lives. But going back in time, owning a mobile phone was confined to members of rich class. All thanks to cost cutting techniques and innovations over a period of time; mobile phones are now affordable for everyone. With a surplus of mobile phones sets flooding the market, they are not just catering to the needs but are acting as status symbols for many.



Fig: 1.4.1.3 Mobile Phone

The mobile phone market in India is expected to grow by 4% to 250 million units in 2016 and can see more handsets available for less than Rs 5,000, as per research report.



Fig: 1.4.1.4 Mobile Phone

"An examination of the present scenario, coupled with an analysis of historical trends tells us that the market for India mobile handsets will settle around 250 million units in 2016, a 4 per cent growth compared to 2015," the report, India Mobile Handsets Market, by CyberMedia Research (CMR) said.

The mobile phone segment grew at an annual average rate of 32% to about 95 million in 2015 from 77 million a year ago. The report said it expects 4G shipments to cross 50 million units in 2016.

Summary:

Mobile is an electronics instrument used to communicate between two or more persons.

Mobile technology connects call between two persons in nano seconds.

Wireless medium is used to connect mobile phones which is measured in frequency (Mhz).

Mobile network operates on 700 MHz to 2.6 GHz waves

Radio operates in the range of 100KHz to 110 MHz

Mobile was invented in 1973 by Martin Kooper of Motorola Company in Chicago city of America.

In 1983 DynaTAC 8000x mobile was introduced to the world. Weight of this mobile was 2 Kg, battery backup was 20 minutes only and was costing around Rs. 5 Crore.

First commercial automated cellular network was launched by Nippon Telegraph and Telephone (NTT) in the year 1979 in Japan. This network was later on used by all other mobile operators . This Network, known as First generation (1G) used Analogue Technology.

In 1991, Second Generation (2G) digital cellular technology, based on GSM standard was launched by Radiolinja in Pineland.?

Post 10 years of launching 2G, in the year 2001 Third Generation (3G) was launched by NTT DoCoMo in Japan based on WCDMA standard. GSM EDGE, UMTS, CDMA 2000 and DECT and WiMAX are also included in 3G. This gave boost in mobile services by enabling feature such as Video Calls, Wireless Data, Wire-less Voice Telephone etc.

Now a days the latest technology we use is called Fourth Generation (4G), this includes WiMAX standard and LTE standard technology.

(4G) Mobile technology was developed post 1993 and new mobiles were introduced in the market.

In the year 2014 top manufacturers of Mobile phones were Samsung, , Apple and LG.

Notes

Exercise-1: Fill in the Blanks



1. PSTN stands for
A. Public switched telephone network
B. Public system telephone network
C. Public switched telecom network
D. Public system telecom network

2. Most modern mobile telephone services use network architecture
A. Broadband
B. Baseband
C. Cellular
D. None

3. The first handheld mobile phone was demonstrated by John F. Mitchell and Martin Cooper of Motorola in
A. 1973 B. 1975 C. 1982 D. 1985

4. was the first commercially available handheld mobile phone
A. DynaTAC 8000x B. DynaTAC 6000x C. DynaTAC 4000x D. DynaTAC 2000x

5. The mobile phone market in India is expected to grow by in 2016
A. 6% B. 4% C. 8% D. 10%





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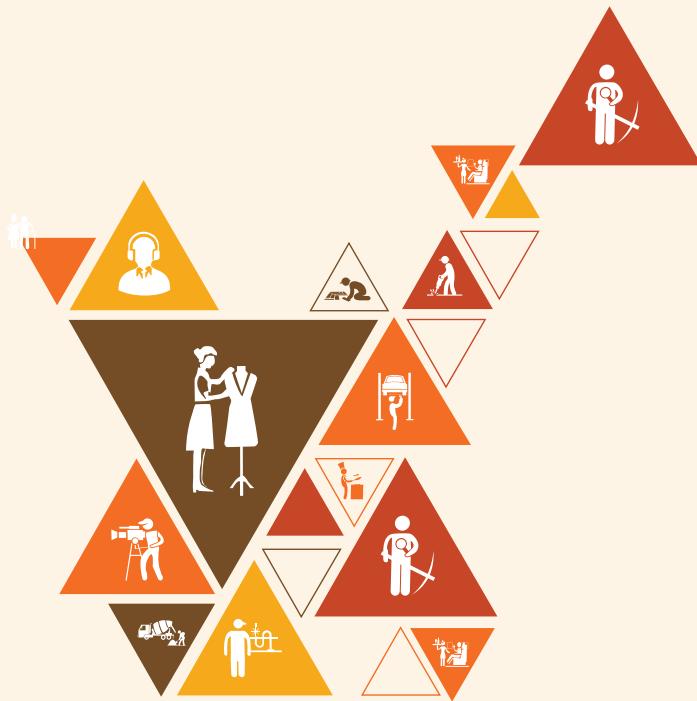
2. Interact With Customer and Perform Front end Repair

Unit 2.1- Role & Job Description - Interact with Customer & Front end Repairs

Unit 2.2- Scope of Work - Front end Operations

Unit 2.3- Performance Criteria for Front end Operations

Unit 2.3- Knowledge & Understanding - Front end Operations



ELE/ N 8106

Key Learning Outcomes

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

1. Apply best practices for customer interaction
2. Handle different types of customer
3. Perform front end repair operation of the mobile phone
4. Explain the performance criteria for front end operations of mobile hardware repair
5. Explain the organization context for the front end operations
6. Prepare job card

UNIT 2.1: Role & Job Description - Interact with Customer & Front end Repairs

Unit Objectives



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

1. Explain the role mobile hardware repair technician for customer interactions
2. Explain the role of mobile hardware repair technician for front end repairs
3. Describe the job description of front end operations

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Ask the participants about their experience with the handset repair technician.
- Let them describe what went wrong.
- Explain what should have been better.

Say



- Right Customer interactions are necessary to get the customer repair orders .
- Bad Customer interactions may loose the customers
- Enthuse the participants by telling them, what is planned next
- Thank the participants for their involvement.

Notes for Facilitation



- Show some interesting videos to enhance the participants' learning experience.
- Ask questions to gauge their understanding of the subject matter.
- Give feedback on their learning during course.

Role: Interact with customer & perform front end repair

Job description: Interact with customers, understand their requirement / problems faced, by them, in the mobile phones and perform front end repair, without dismantling.

UNIT 2.2: Scope of Work - Front end Operations

Unit Objectives



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

1. Describe the Scope of work for the front end operations

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Ask the participants what are the front end operations.
- Explain the scope of front end operations as per QP & NOS.
- Ask them to describe their day without a mobile handset in their hands.

Say



- Front end customer interactions may win or kill the customer.
- Emphasize the importance of soft skills to win over the customers
- Enthuse the participants by telling them, what is planned next
- Thank the participants for their involvement.

Notes for Facilitation



- Show some interesting videos to enhance the participants' learning experience.
- Get feedback on their learning during course.

UNIT 2.3: Performance Criteria for Front end Operations

Unit Objectives



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

1. Explain the performance criteria for the front end operations

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Ask the participants about their understanding of the performance criteria for front end operations.
- Let them describe what is important in front end operations.
- Explain the performance criteria as per the QP & NOS.

Say



- Customer is the most important entity in the service station.
- He is the cause of our being there to service his requirements
- Enthuse the participants by telling them, what is planned next
- Thank the participants for their involvement.

Notes for Facilitation



- Show some interesting videos to enhance the participants' learning experience.
- Get feedback on their learning during course.

Performance Criteria

On the job Performance Criterion:

The following points are important for on the job performance:

2.3.1: Engage with Customers

Understand and learn the following:

- Receive the customers and greet them as per company's norms
- Follow behavioural etiquettes while interacting with customers
- Ensure the customers are comfortable in the store
- Communicate in the language which the customers are comfortable with
- Understand the requirements of the customers and offer service accordingly
- Inform about repair charges and warranty applicable
- In case the handset is beyond warranty, explain the terms & repair charges

2.3.2: Understand the Complaint

Understand and learn the following:

- Interact with customers to understand the customer's purpose of visit such as repair of phone, purchase of accessories, software upload, collection of repaired phone
- Listen to customers and understand the customer level complaint such as display not working, not switching on
- Interrogate the customers to assess the cause of problem such as physical damage, uploading of any unauthorised software or application
- Decide on the action to be performed, i.e., front end repair or hardware level repair is required
- Inform customers about the time taken
- In case the handset is beyond warranty, inform the customer the delivery time & the estimated cost of repairs
- Provide document to customers for collecting the device after repair

2.3.3: Document on Computer

Understand and learn the following:

- Use the system to identify the warranty coverage of the mobile phone and other terms and conditions
- Understand the customer relationship management policy of the mobile brand and inform customers about them
- Log into customer portal and enter the details of the customer and other details such as phone model, complaints, warranty coverage
- Understand and use the interactive ERP system of the company and enter appropriate details
- Use the system to prepare invoice, stock management, order placement, accessories availability, etc.

2.3.4: Perform Front end Repair

Understand and learn the following:

- Identify problem and decide the action to be taken
- Upload only licensed and brand approved applications as per customer requirement using system
- Understand the application and software compatibility with the mobile phone and suggest to customers accordingly
- Check the accessories and perform a demo with the customer to ensure their functionality (chargers, SD card, etc)
- Open the panel of the mobile phone without damaging them
- Replace the parts such as battery and clean the inner parts of the phone
- Ensure the functionality of the replaced part
- Provide necessary details on the warranty, terms and conditions of the replaced parts
- Educate customers on effective usage of mobile phone to save battery and to avoid any repeat problem

2.3.5: Interact with Superior & Meet Targets

Understand and learn the following:

- Understand the work requirement from superior, periodically
- Report to superior on the work completed
- Seek technical assistance from superior whenever required
- Document the work completed

UNIT 2.4: Knowledge & Understanding - Front end Operations

Unit Objectives



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

1. Explain the organizational context for mobile hardware repair
2. Apply best practices for customer interaction
3. Handle different types of customer
4. Perform front end repair of mobile phone

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Explain the technical knowledge involved in the front end operations.
- Let them describe what some important in front end operations.

Demonstrate



- The front end operations during role play & practical exercises.
- Call a volunteer and let him explain the front end operations
- Demonstrate the process of repairs.
- Demonstrate the process of work order entries.
- Demonstrate the process of getting customer feedback.

Say



- Customer is king & he has to be delighted with our service.
- Explain the difference between customer satisfaction & customer delight

2.4.1: Organizational Context - Knowledge of the Company

Organization and its processes :

Understand and learn the following :

- Company's policies on: incentives, delivery standards, and personnel management
- Company's sales and after sales support policy
- Importance of the individual's role in the workflow
- Reporting structure
- Company's policy on product's warranty and other terms and conditions
- Company's line of business and product portfolio
- Company's service level agreement (SLA) with the brand



Fig: 2.4.1 Organization Context

2.4.2: Technical Knowledge

Understand & learn the following:

2.4.2.1: Customer Interaction

Customer is King:

Customer is king is an old yet valid quote as no business can flourish if it does not have customers to buy their offerings. In the olden days guests were welcomed with flowers, perfumed spray of water droplets and sweets in India. Even today we have a great affection to treat our guests with lots of love. The customers are like guests who are satisfied by the company's product/service.

A customer satisfied with the product or service spreads the benefits to their circle of family, friends, relatives and colleagues. So if one of their family members were planning to buy the similar product they will chose the same brand over others. A satisfied customer is actually a brand ambassador of the organization.



Fig: 2.4.2.1.1 Make Customers Happy



Fig: 2.4.2.1.2 Customer is King

Is it that difficult to make the customers happy? If the service offered to the customer is good then why won't customer buy? Customers are no living beings from Jupiter. They are humans too. Like the way we want to be treated they expect the same. Who holds the responsibility to make them happy? It is the employees of the organization. People make an organization successful or failure. Therefore the employees are the face of the organization,

Every employee from the tongue to tail of the organization is responsible, though the frontend employees have the higher portion of responsibility.

Greet the Customer:

The steps involved in the process of are :

- Welcome the customer (The way we do for our guests at home)
- Bringing him/her in their comfort zone
- Creating Confidence
- Making Customer feel important

STEP 1: Welcome the Customer

Welcoming the customer involves the following things:

- Greet the customer: As per the timings greet the customer
- Good Morning/Evening/Afternoon
- Offer a handshake or say Namaste by folding your hands
- Introduce yourself with your name. Example: My name is XYZ.
- Last step is the first step to start a conversation "How may I Assist you?"

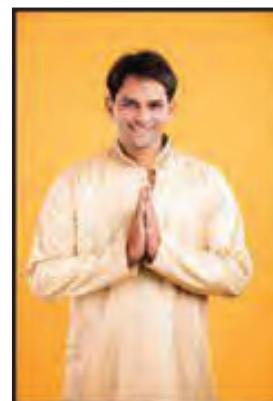


Fig: 2.4.2.1.3 Welcome the Customer

STEP 2: Bring them to comfort zone:

Anyone who is coming from outside environment may have gone through either physical stress or mental stress.(Example physical stress- extreme heat in mid noon, may be unwell, have gastric/ head-ache etc. It can be any condition that is bringing the customer into stress and tiredness. Mental Stress- stress to overcome heavy traffic, upset probably due to fight with boss, stress due to a clash during parking the car. Again it could be anything that may put off the customer's mood in bad way.)



Fig: 2.4.2.1.4 Bring them to comfort zone

A warm welcome ensures that some part of the stress is relieved with a bright smile and warm greetings. A small talk about how are you? It is very hot today. Let me arrange some cooling refreshments and water for you.

STEP 3: Create Confidence:

A person becomes interactive once he/she is confident to talk to the person in front of them. A villager may hesitate to talk to a person in city who is talking in a sophisticated manner over phone. Once the city person keeps the phone down and asks the villager in the language or style known to the villager. A villager can say his concerns with more confidence. You need to adjust your behaviour (does not mean to incorporate split personality) as per the customer.

Some of the key points to note during this conversation to create confidence are:

- Steady eye-contact
- A calm face
- Straight body posture
- Natural gestures

Try to match your communication style to that of customers. A comfortable eye contact shows that you are listening to the customer. This also shows a sense of responsibility and value to customer



Fig: 2.4.2.1.5 Create Confidence

STEP 4: Making Customer Feel Important:

Treat the customers like they own the brand. Give them undivided attention. Keep away from all the distractions like mobile, talking with colleagues etc.



Fig: 2.4.2.1.6 Making Customer Feel Important

Enquire and Understand Customer Queries:

Collecting customer information is very important to maintain records of purchase, services, repairs etc. There are various ways to collect information, but the best is by getting a form filled. Assist the customer to fill the form. Basic information includes:

- Name
- Age
- Address
- Contact number
- Mobile phone brand/model
- Customer complain

If the customer has visited for the first time a complete information is required. This is done for the new customers. Usually existing customers are given customer ID or any identification number.

2.4.2.2: Customer Types

Characteristics of Different Customers:

Different customers can have similar characteristics, such as interests, appearance, shopping behavior, etc. So, we can divide them into “types of customers”.

You may broadly deal with three different customer types:

Social

Dominant

Detached

Here are the personality traits of each customer type:



Fig: 2.4.2.2.1 Social



Fig: 2.4.2.2.2 Dominant



Fig: 2.4.2.2.3 Detached

- Affectionate
- Understanding
- Flexible
- Easy going
- Social active

- Aggressive
- Competitive
- Very ambitious
- Success driven

- Attention to detail
- Less expressive
- Reserved
- Silent

Handling Different Customers:

Let's now learn about some tricks to deal with different customer types and win them forever.

Social:

The effective ways to deal with the Social types of customers are to:

- Let the customer talk
- Touch emotions
- Use personal references
- Ask for feedback

Socializers love to receive and give compliments. However, they tend to be self-centered. They want to go to a store where they are made to feel important. Use compliments often with these customers. Do whatever you have to do to remember the names of these customers. Do remember although they look at the shopping experience as a fun, your goal is still to sell them your product.

Dominant:

The effective ways to deal with the Dominant types of customers are to:

- Make them feel important
- Let them see that you understand their viewpoint, and you are on their side
- Be quick in answering their queries
- Show latest versions of the products
- Avoid giving excuses and do not talk too much
- Give simple answers
- Have real solutions to what the customer wants
- Show seriousness, efficiency and interest for them and for what they need

You must show a genuine interest to them. Listen carefully to their complaints and resolving them as soon as possible.

An effective way to deal with this type of customer is by offering an excellent customer service.

Detached:

To deal with the detached types of customers,

- Don't get personal
- Focus on real situations
- Highlight value for money
- Let them speak at their own pace
- Spend more time with them than other customers
- Inspire confidence in them

These types of customers usually have trouble deciding their purchases, so you must try to give them time to choose the right product.

Also, they usually have difficult in communicating clearly what they are looking for. Therefore, you must pose the right questions to help them communicate better.

2.4.2.3: Basic Mobile Phone Hardware



Fig: 2.4.2.3 Mobile Phone Hardware

2.4.2.4: Popular Mobile Phone Models of Mobile Phone



Fig: 2.4.2.4 Sample Mobile Phone model

2.4.2.5: Mobile Phone Features



Fig: 2.4.2.5 Mobile Phone Features

2.4.2.6: Mobile Phone Accessories



Fig: 2.4.2.6 Mobile Phone Accessories

2.4.2.7: Safety Rules, Policies & Procedures

Follow Safety rules, policies & procedures of the company

SAFETY RULES, POLICIES AND PROCEDURES

2.4.2.8: ERP & Front End Repair Procedures

Company's ERP system and operational procedure

Awareness about implementation of engineering change order process

Procedures of replacing accessories such as battery, SD card

Licensed and authorised software compatible for Mobile Phones and the downloading procedure

Specifications of accessories such as chargers, battery

Service level agreement with the brand on parameters such as turn around time (TAT), repair procedure, warranty

2.4.2.9: Software & Applications Available in the Mobile Phone Market

The main OS (Operating Systems) currently used on Mobile Phones in the market are:
 Android (Samsung), iOs (i Phones – Apple), Symbian (Nokia), Microsoft, Black Berry etc.
 Many user friendly Apps can be downloaded easily from the market place

2.4.2.10: How to Repair a Mobile Phone Software

Many problems in the Mobile Phone's software may arise, if it gets corrupted.
 For ex. slow functioning, frequent freezing (hanging), booting related problems, apps malfunctioning, switching off automatically, restarting, etc.



Fig: 2.4.2.10.1 Mobile Phone - Software

There are 3 ICs which ensure proper functioning of the software i.e the flash IC, the CPU, the RAM. Whatever you see on the LCD of your device is the software known as operating system (OS).

The software of the mobile phone is stored in its flash memory (flash IC). The CPU does the main processing work, while all the temporary and virtual data is stored in the RAM.

The Operating System of the mobile phone can get corrupted easily and anytime. There isn't any specific reason for it. The most common reason can be through viruses coming through internet surfing or through sharing of files. This is when an antivirus program is not installed in your Mobile Phone. Hence it is always advisable to install an antivirus in your Mobile Phone. Also it should be always updated, as new malwares arise everyday.



Fig: 2.4.2.10.2 Mobile Phone - Software Corrupt

What to do, if your phone's software gets corrupted:

Reset the Mobile Phone's settings: Start with the basics first. That is to bring the Mobile Phone to the original factory default settings. This can be done by going to settings menu. Here there will be an option like reset / restore / original / factory settings. Select this option. Now it will ask for security code. If you know the code enter it. Your phone will come back to original settings. To know the default security codes of all companies, please visit the page on the internet.

If the Mobile Phone displays code error, then you may have changed your security code. You will have to get it reset through a software program. If the fault gets repaired, you may think that the problem in your handset was a minor one or there was some settings related problem!

Format the Mobile Phone: The next step is to try by formatting your Mobile Phone. Formatting means deleting all the data that you have downloaded or stored after buying the phone. Always take a backup of your important data, before formatting or flashing. So for formatting, you will have to again go to the settings menu and go to the same option as you went before i.e reset settings option. Here there will be 2 options 1. Reset settings only 2. Reset all / master reset. Select the second option, give code and it will be formatted. Now format the memory card as well. If the problem gets solved, then you may think that there was virus and it was creating problems.

Flash the Mobile Phone: This is the last step and if it is a software related problem, it will get fixed here. Flashing will reinstall the operating system, thereby solving any problem arising due to a corrupt OS. So if the problem gets solved here, you may think that the OS was corrupted.

So what if the fault is not repaired even now. Oh!

Then it's not a software related problem, the problem is in the hardware!

2.4.2.11: Quality Standards for Recurrence Prevention



Fig: 2.4.2.11 Quality Standard

UNIT 2.5: Skill (Optional)

Unit Objectives



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

1. Prepare job card having information of customer, handset and repair requirement
2. Prepare document based on action taken for the complaint registered

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Explain the core / generic skills required for the front end operations.
- Explain the technical skills required for the front end operations.

Demonstrate



- Demonstrate Communication, reading, writing skills during practical exercises.
- Call for volunteers to do the role play & guide them during demonstrations.
- Demonstrate the analytical skills.

Say



- Knowledge, skills & attitude make the person competent.
- Explain the difference between knowledge & skill

2.5.1: Core / Generic Skills

Understand & learn the following:

2.5.1.1: Communication - Reading & Writing Skills

Understand & learn the following skills:

Prepare complaints note with customer details, issues faced, phone details

Note customer complaints and solution provided

Prepare invoice with appropriate details

Understand & learn the following skills:

The process of information transfer from the sender to the receiver, who understands and shares feedback, is known as communications. Every act of communication whether it is speaking, writing, listening or reading is more than a single isolated action. It is a chain of events which has certain characteristics:

It is two way process

It has a sender and receiver

A message is sent across

It is effective only when it gets the desired response from the receiver

Communicating with others involves three primary steps:

Thought: First, information exists in the mind of the sender. This can be a concept, idea, information or feelings

Encoding: Next, a message is sent to a receiver in words or other symbols

Decoding: Lastly, the receiver translates the words or symbols into a concept or information that a person can understand

Communication Skills:

Communication skills are used in our personal as well as professional life example:

While interacting with your family / friends

Applying for a job (Interviews)

Product demonstration

Responding to a message

Giving instructions to working partners, contractors

Components of Effective Communication:

Conviction:- It is an unshakable belief in something without the need of evidence. Almost all of us have the conviction in the existence of God. We don't need any proof for his presence.

Confidence:- It is belief in yourself and your abilities. For e.g. if you are sure about your efforts and the hard work, you gain confidence that you will succeed in whatever you do.

Enthusiasm:- It is a feeling of excitement. Remember your school/ college days when you enthusiastically used to take part in sport activities.

Pace:- The speed with which you speak. During an India – Pakistan match, the commentator uses the art of pace to create interest. One such commentator who comes to mind is Geoffery Boycott!

Clarity:- It means easy to understand. Ever noticed Amitabh Bachan delivering dialogues in movies like Don and Deewar. How clear his voice is, one can easily understand and feel the emotions.

Volume:- It is the pitch with which we talk. For e.g. we speak in high volume when we want to convey our message over a long distance.

Eye contact: - Looking in the eyes of the receiver (please note this is a lot different from staring).

Body Language :- It is maintaining appropriate distance, hand movements, gestures, nodding, etc. The body language reflects the personality of a human being, its is very important to maintain a positive body language.

Most common ways of communication:

To display confidence use positive words, communication is very necessary. Communication can be done through the following mediums –

Spoken word

Body Language

Written Word

Types of Communication:

There are a variety of verbal and non-verbal forms of communication. These include body language, eye contact, sign language, haptic communication, and chromatics.

Other examples are media content such as pictures, graphics, sound, and writing. The Convention on the Rights of Persons with Disabilities also defines the communications to include the display of text, Braille, tactile communication, large print, accessible multimedia, as well as written and plain language, human-reader, augmentative and alternative mode means and formats of communication, including accessible information and commutation technology.

Feedback is a critical component of effective communication.

Types of Communication – Verbal:

Verbal communication refers to the use of sounds and language to convey a message.

Language plays a significant role in verbal communication

In order to describe events, ideas, products a person needs words – symbols that stand for thoughts arranged in meaningful patterns.

To create a thought with these words, we arrange them according to rules of grammar, putting the various parts of the speech in the proper sequence.

Ways to improve verbal communication

Use positive words

Ask the right questions

Think and prepare before you speak

Reduce usage of verbal pauses

Avoid careless language

Types of Communication - Written:

Written Communication

Provides records for future reference

Message written in black and white can be used as a record.

Written document is referred to in the absence of the person and therefore it must be fool proof. One can explain the product benefits to a buyer in a one to one conversation but in the absence of the Salesperson the written communication is the basis for discussion. Written communication is of prime importance in a company and has to be done in a proper manner. In business written communication takes the form of a letters, memo and reports. Following are the ways to effective written communication:

- Clearly, Coherently, Concisely, Correctly with Courtesy and Confidence

Effective Written Communication:

The 'C's of Effective Writing

Clearly

Concisely

Correctly

Types of Communication - Non Verbal:

Communication without words - Non Verbal clues

Body language

Emotion of the sender and receiver

Perceptions due to prior interactions

WHAT you say is not nearly as important as HOW you say it! "So Let Us Implement"

Listening Skills:

Listening is the act of hearing attentively and making sense of, what you hear. Hearing becomes listening only when an individual pay attention to what is said and follow it very closely.

2.5.1.2: Teamwork & Multi Tasking Skills

Understand & learn the following skills:

Share work load as required

Achieve the targets given on service

2.5.2: Professional Skills

Understand & learn the following:

2.5.2.1: Interpersonal Skills

Understand & learn the following skills:

- Develop a rapport with customers
- Listen carefully and interpret their requirement
- Suggest customer on possible solutions

2.5.2.2: Communication Skills

Understand & learn the following skills:

- To seek inputs from customers at assess the problems
- Put the customer at ease and suggest solutions
- Communicate in local language
- Educate and inform customer about contractual issues such as warranty, cost of service and module or accessories replacement
- Educate on precautions to be taken for effective usage of Mobile Phone

2.5.2.3: Behavioral Skills

Understand & learn the following skills:

- Importance of personal grooming
- Significance of etiquette such as maintaining the appropriate physical distance with customer during conversation
- Importance of being patient and courteous with all types of customers
- Be polite and courteous under all circumstances

2.5.2.4: Computer & Software Related Skills

Understand & learn the following skills:

- Operate computer and laptop with ease
- Software and applications related to mobile phone with its features and purpose
- Download software and application from company's website and from cloud
- Download mobile phone related document from company website such as model specification, repair manual

2.5.2.5: Entrepreneur & Entrepreneurship Skills

Entrepreneur

An individual who, rather than working as an employee, runs a small business and assumes all the risk and reward of a given business venture, idea, or good or service offered for sale. The entrepreneur is commonly seen as a business leader and innovator of new ideas and business processes.

Entrepreneurship

"Entrepreneurship is the professional application of knowledge skills and competencies and/or of Monetizing a new idea, by an individual or a set of people by launching an enterprise or diversifying from an existing one (distinct from seeking self-employment as in a profession or trade), thus to pursue growth while generating wealth, employment and social good"

Importance of Entrepreneurship

Increases opportunities for employment (comprising various competitive skill sets)

Additional wealth creation

Introduction, dissemination of new methods & technology

Overall economic growth

Personal Qualities of an entrepreneur:

Love a challenge and are driven by a need to challenge one's self – Self-motivated, High tolerance for ambiguous, unstructured situations

Possess a desire for change and constant improvement

Action oriented, Dedicated to work, Creative & confident

Think positively and quickly get over failures

Learn quickly, enjoy feedback and are able to learn from mistakes

Both listen and communicate well

Physical and Psychological Qualities of an entrepreneur:

Ample health and energy

Emotional stability

Money – enough to start the business

Time – A business requires a lot of time & attention, especially during its launch

Influence from entrepreneurial role models

Motivators for entrepreneurship:

Independence

Challenge

Market opportunity

Family background

Dream desire

Idea driven

Facilitators for entrepreneurship:

Independence

Challenge

Market opportunity

Family background

Dream desire
Idea driven

Following factors are responsible for entrepreneurship:

Family support in starting phase of the venture (approximately 74% received family support)
Financial assistance from the following – Self financed, Banks, Venture capitalist, Angel investor, State Finance Corporation etc.
Education, Innovation and Entrepreneurship – help in creating commercially viable products/services for sustained growth
Government Support – Infrastructure, Legal system, Labor laws, Corruption , Information Taxation, Licenses etc.

Difference between Wage & Self Employment

Basis of Difference	Wage Employment	Self Employment
Nature	Self-Saturation	Self Actualization
Scope	Limited	Unlimited
Tendency	Routine or Status-Quo	Imaginative, Creative or Innovative
Earning	Fixed	Generating/Flexible
Satisfaction	Through compliance of rules/Procedures	Through converting one's creativity to reality
Status	Employee	Employer

Tab: 2.5.2.5.1 Difference between Wage & Self Employment

Difference between Entrepreneur & Business Owner

Entrepreneur	Business Owner
Innovators and creatives always seeking a new , better way to present solutions	Satisfied with status quo as long as it works, solve local problems
Risk takers, live on the edge, love technology and simplistic methods, are willing to take a financial Risk	Conservative, play it safe, uncomfortable with change, are interested in the bottom line as long as they are in control
Are future focused, are thought leaders hand not good managers. Their interest is to find 'the thing' that is revolutionary	Manage their business, keep their hand on the pulse, often micro-manage. Are involved in all of the aspects of their business

Growth focused, seek scalable growth, follow other experts, continuously pursue business/professional development, acceleration in their passion	Keep their ideas close, do not pursue massive growth, will only play it safe, do not want to be surrounded by experts, are not open to business/-professional development
Team players, get others involved in their vision, love to ignite creativity	Share information in an as needed basis with staff, do not want a lot of input from others
Will only work with creatives and innovators, relish thought leaders, savor a good challenge	Will only work with followers and type A personalities, dislike as challenge perceive it as confrontation

Tab: 2.5.2.5.2 Difference between Entrepreneur & Business Owner

Notes

Exercise-1: Fill in the Blanks



1. In case the handset is beyond warranty, you need to
A. Start repair work B. Explain the terms & repair charges C. None

2. Document to be provided to customer for collecting the device.....
A. Before repair B. After repair C. None of above

3. Operating System used in i Phone is -----
A. Android B. iOs C. Symbian

4. The customers are like
A. Friend B. Family member C. Guest

5. You need to adjust your behaviour as per the.....
A. Company policy B. Manager Instruction C. Customer

6. Socialisers are
A. Self-centered B. Aggressive C. Polite

7. An effective way to deal with dominant customer is by offering an excellent
A. Solution B. Customer service C. Greeting

8. Detached customer have difficult in
A. Reading B. Writing C. Communicating

9. Dominant customers are
A. Aggressive B. Flexible C. Silent

10. Social customers are
A. Aggressive B. Flexible C. Silent

Exercise-2: Answer the Following Questions



1. What are the steps involved in customer interaction?

2. What are the characteristics of different customers?

Exercise-3: Fill in the Blanks



1. There are manly ICs which ensure proper functioning of the software in mobile phone

A. 4 B. 3 C. 2 D. 5

2. The software of the mobile phone is stored in its

A. Flash memory B. Memory card C. RAM

3. Frequent freezing (hanging) problem in mobile phone arise due to.....

A. Network Problem B. Hardware Problem C. Software problem

4. The software of the mobile phone is stored in its.....

A. Flash memory B. CPU C. RAM.

5. Most of the time mobile operating system is get corrupted due to

A. Physical Damage B. Virus C. Mishandling

6. All the temporary and virtual data is stored in the

A. RAM B. ROM C. Flash IC

7.refers to the use of sounds and language to convey a message

A. Written Communication B. Non-Verbal communication C. Verbal communication

8. Before formatting always take a backup of.....
- A. Operating system B. Data C. Both
9. If you are sure about your efforts and the hard work, you gain in whatever you do
- A. Respect B. Revenue C. Confidence
10. The body language reflects the of a human being
- A. Quality B. Personality C. Entrepreneurship

Exercise-2: Answer the Following Questions



1. What are the process to reset the mobile phone settings?

2. What kind of skill required in Computer and Software to repair Mobile Phone?

3. What are the differences between wage & self employment?

4. What are the difference between entrepreneur & business owner?



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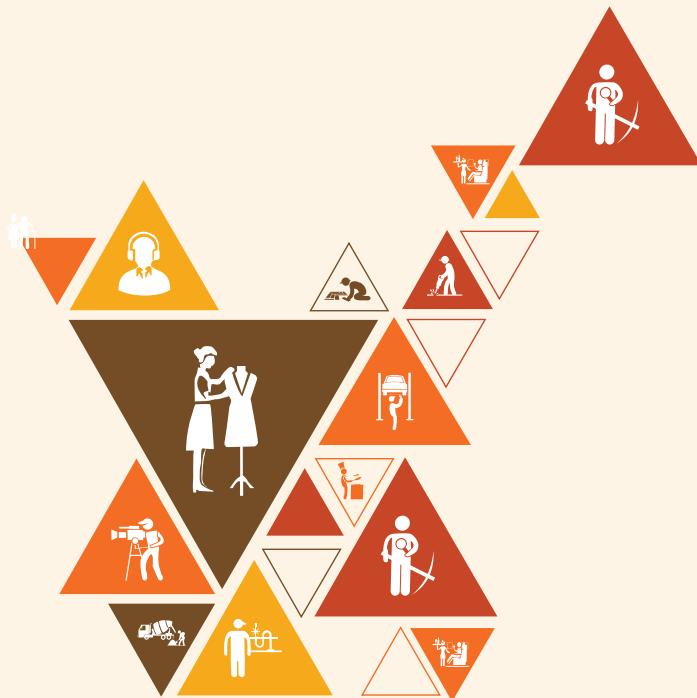
3. Repair & Rectify Faults in Mobile Phones

Unit 3.1 - Role & Job Description - Repair & Rectify Mobile Phones

Unit 3.2 - Performance Criteria for Repairing & Rectifying Mobile Phones

Unit 3.3 - Knowledge & Understanding for Repairing & Rectifying Mobile Phones

Unit 3.4 - Skills (Optional)



ELE/ N 8107

Key Learning Outcomes

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

1. Explain role, job description, scope of work for repairing mobile phone
2. Identify key components of mobile phone and its functioning
3. Operate various tools and equipment required for the diagnosis of mobile phone
4. Operate various tools and equipments required to carry out repair work of mobile phone
5. Diagnose the defect and performance issues in various components of mobile phone
6. Diagnose faults, root cause and repair requirements in the mobile phone
7. Carryout repair work of components and micro-component of mobile phone
8. Carryout service and maintenance requirements of the mobile phone
9. Analyze customer complain and requirements
10. Prepare job card having information of customer, mobile phone brand & model and repair requirement
11. Prepare document for the action taken based on the complain registered in the job card

UNIT 3.1: Role & Job Description - Repair & Rectify Mobile Phones

Unit Objectives



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

1. Explain role of Mobile phone repair technician in repairing & rectifying mobile phone fault
2. Explain job description in repairing & rectifying mobile phone

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Ask the participants about their problems with the handsets.
- Let them guess the resolutions to their handset problems.
- Explain the process of handset repairs.
- Explain the SOPs : Standard Operating Procedures for the handset repairs
- Explain the importance of Manufacturers' repair instructions
- Let the participants learn from the extensive practical exercises.

Say



- Proper fault diagnosis is important for repairing the handset correctly.
- Manufacturer's instructions on the repairs & replacement of parts should be strictly followed.
- Enthuse the participants by telling them, what is planned next
- Thank the participants for their involvement.

Notes for Facilitation



- Show some interesting videos to enhance the participants' learning experience.
- Ask questions to gauge their understanding of the subject matter.
- Give feedback on their learning during course.

Role : Repair and rectify the faults in mobile phone

Job Description : Repairing the faulty module in the hardware and checking for effective functioning. Also, check software issues and rectify

UNIT 3.2: Performance Criteria for Repairing & Rectifying Mobile Phones

Unit Objectives



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

1. Explain performance criteria for Mobile phone repairs

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments

Do



- Ask the participants about their understanding of the performance criteria for handset repairs.
- Let them describe what is important in the repair operations.
- Explain the performance criteria as per the QP & NOS.

Say



- Repair technician's performance is very important in retaining a customer.
- Customer base will increase depending on the technician's performance on the job.
- Enthuse the participants by telling them, what is planned next
- Thank the participants for their involvement.

Notes for Facilitation



- Show some interesting videos to enhance the participants' learning experience.
- Get feedback on their learning during course.

3.2.1: Follow Standard Repair Procedure

The following points are important for on the job performance:

- Follow the standard procedure as documented by the mobile phone brand for each model
- Take anti static precautions before work and wear ESD wrist straps or aprons
- Follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards
- Use recommended tools for specific operation suggested by the brand
- Maintain zero-material defect during material handling by following standard operating procedure

3.2.2: Assembling & Disassembling Mobile Phone

Understand and learn the following:

- Open the outer panel of the mobile phone using metal / plastic case opening tools
- Use the brand recommended screwdrivers to remove the screws to open the inner casing
- Locate the connectors and release them to remove the motherboard from the device
- Use hot air gun and other devices to remove the LCD screen from the panel
- Follow similar process and use appropriate tools to assemble the mobile phone

3.2.3: Diagnose Problem

Understand and learn the following:

- Understand the customer level complaint and confirm the issue
- Take preventive measures and identify if there are any other issues in the mobile phone
- Use the self diagnostic tools (similar to power on self test (POST) card) to perform standard diagnosis process and ensure functionality of different parts of the device
- Follow the standard diagnostic procedure as documented by the mobile phone brand for each model
- Check the recently installed application or software and verify the compatibility of the software with the mobile phone

3.2.4: Fix Software

Understand and learn the following:

- Check the recently installed application or software and verify the compatibility of the software with the mobile phone
- Uninstall the applications that is not compatible or creating issues in the mobile phone
- Install the licensed and authorised software to resolve issues and suiting the customer's requirement

3.2.5: Repair the Component or Module

Understand and learn the following:

- Understand the scope of component level of repair as suggested by the brand
- Estimate the cost of repair and verify if it is within Beyond Economic Repair (BER)
- Heat the singled out component using hot air gun to melt the solder joints and remove from PCB
- Clean the board by melting the old solder and removing
- Place the new component precisely on the board at specified location
- Solder the component on the PCB using soldering stations
- Ensure the soldering is proper and the component is fixed as per the specification
- Operate automated BGA (ball grid array) work station to precisely remove the chip from the board and repair them
- Perform re-ball function by dismantling, heating the chip to be removed from the board, remove the solder remains, put new solder balls, place the chip and solder them with the PCB
- Check for functioning of the hardware after repairing
- Ensure that there is no damage of PCB while removal and fixing of SMD components
- Ensure other components are not damaged while using hot air gun for removal of a component which could cause damage
- Ensure adequate soldering for fixing the component and no further rework is required

3.2.6: Replace Faulty Component

Understand and learn the followin:

- Receive spare module / component from stores
- Identify and decide on replacing the module or component as the appropriate solution
- Take adequate measures and follow procedures when replacing expensive or delicate components such as LCD
- Ensure that cost of replacing is justified as the repair cost is beyond economic repair (BER)
- Ensure that replaced module or component is working and no further rework is required

3.2.7: Use of Equipment

Understand and learn the following:

- Identify and use appropriate tools and manuals for repairing the specific issue
- Prevent any accidents while handling hazardous tools
- Achieve results using appropriate tools for specific rework activity
- Maintain zero material defect during material handling by following standard operating procedure for tools handling

3.2.8: Seek Assistance on Unresolved Faults

Understand and learn the following:

- Seek technical assistance from engineer on faults that cannot be fixed
- Receive instruction from engineers on use of specific tools or new repair processes
- Discuss with superior if the cost estimate is found to be Beyond Economic repair (BER) and take recommended action
- Coordinate with superior for performing quality check on the repaired module

3.2.9: Report and Achieve Productivity Target

Understand and learn the following:

- Report on the work load and completion status
- Submit the appropriate documentation on completion of task assigned
- Document the work completed on the company ERP software for tracking and future references
- Achieve 100% daily and weekly target of number of repairs
- Meet the target of quality as per the Service Level Agreement (SLA) of the brand and avoid rework Repair within the turnaround time (TAT) and deliver them

UNIT 3.3: Knowledge & Understanding for Repairing & Rectifying Mobile Phones

Unit Objectives



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

1. Explain various mobile phone terminology
2. Identify key components of mobile phone and its functioning
3. Identify various mobile phone accessories and its functions
4. Operate various tools and equipment required for the diagnosis of mobile phone
5. Operate various tools and equipments required to carry out repair work of mobile phone
6. Explain the SOP : Standard operating procedures for mobile phone repair
7. Practice dismantling and assembly process of mobile phone
8. Diagnose the defect and performance issues in various components of mobile phone
9. Diagnose faults, root cause and repair requirements in the mobile phone
10. Carryout repair work of components and micro-component of mobile phone
11. Carryout service and maintenance requirements of the mobile phone
12. Explain ESD preventive measures

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments
- Repair tools & equipment

Do



- Explain the technical knowledge involved in the repairs & rectifications of the handsets.
- Let them describe some important in repair operations.
- Let them learn through the practical exercises the use of proper repair tools & equipment
- Explain the repair & defective component replacement techniques

Demonstrate 

- The repair & replacement of defective components during role play & practical exercises.
- Call a volunteer and let him explain the repair operations
- Demonstrate the process of repairs.
- Demonstrate the process of work order entries.
- Demonstrate the process of getting customer feedback.

Say 

- Customer delight is vital to our business.
- Explain the difference between customer satisfaction & customer delight

3.3.1: Organizational Context : Knowledge of the Company / Organization and its Processes

Understand and learn the following:

- Company's policies on: incentives, delivery standards, and personnel management
- Company's after sales support policy
- Importance of the individual's role in the workflow
- Reporting structure
- Company's policy on product's warranty and other terms and conditions
- Company's line of business and product portfolio
- Company's repair and stores policy
- Documentation procedure followed in the company
- Company's policy on repair time, turnaround time, production targets, working hours

3.3.2: Technical Knowledge

Understand & learn the following:

3.3.2.1: Introduction - What is a Mobile Phone?

A mobile phone is a mobile phone with an advanced mobile operating system which combines features of a personal computer operating system with other features useful for mobile or handheld use.

They typically combine the features of a cell phone with those of other popular mobile devices, such as personal digital assistant (PDA), media player and GPS navigation unit.

Most mobile phones can access the Internet, have a touchscreen user interface, with either a Gorilla Glass, sapphire, or similar screen, can run third-party apps, music players and are camera phones.

Most mobile phones produced from 2012 onwards also have high-speed mobile broadband 4G LTE internet, motion sensors, and mobile payment.

3.3.2.2: Mobile Phone Features

Most of the modern mobile phones have the following primary built in features:

- Phone and contact address book
- Texting
- Video calling (Apple FaceTime)
- Web browser
- E-mail
- Weather
- Predictive typing (see predictive text).
- Voice dictation
- Voice-activated virtual assistant
- Alarm clock, stopwatch, Timer
- Calculator
- Calendar
- Note pad
- Music player
- Photo album
- Camera (still and video)
- GPS navigation
- App store search

3.3.2.3: Most Popular Mobile Phone Brands in India

The following are the current most popular mobile phone brands in India:

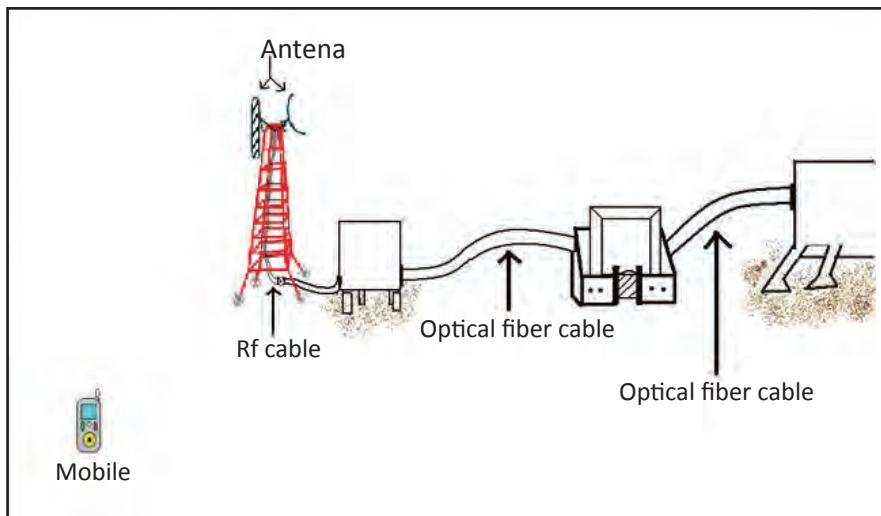
- Samsung
- Apple
- Nokia
- Micromax
- Microsoft
- Motorola
- LG
- HTC
- Sony
- Intex

3.3.3: Basic

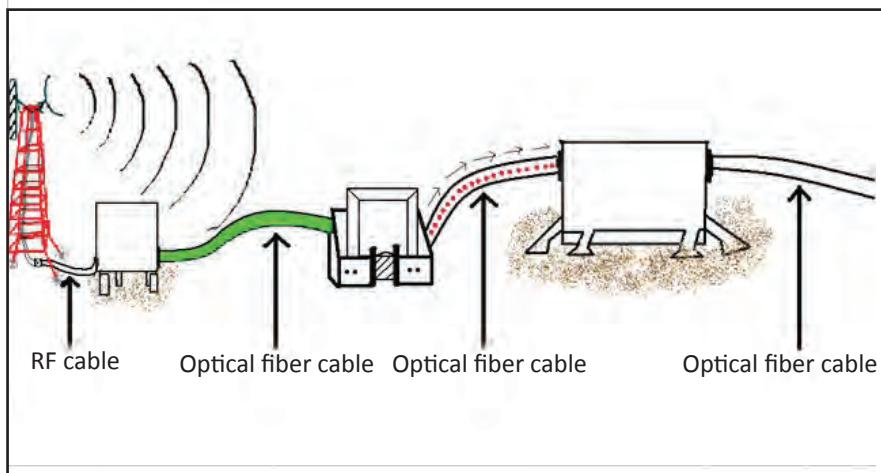
Understand & learn the following:

3.3.3.1: This is Mobile Communication Diagram

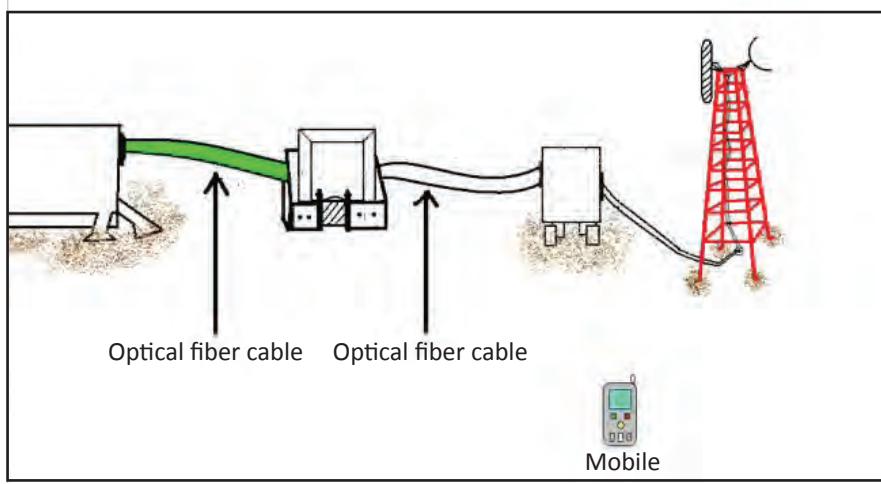
Step 1:



Step 2:



Step 3:



3.3.3.2: Mobile Operating System (OS)

Mobile operating System is a software similar to windows and Linux operating system and is compact in size. Mobile Operating system is installed on the mobile device which helps in operating mobile and also in operating other mobile based software and applications.

Mobile operating system integrates facilities of personal computer operating system for mobile device along with other facilities. These facilities are now mandatory requirements in modern mobile system like Touchscreen, Cellular, Bluetooth, WiFi, GPS mobile navigation, Camera, Video, Speech Recognition, Voice Recorder, Music Player, near field communication and infrared blaster etc.

Timeline:

- From 1973 to 1993 embedded system was used to control the operation of mobile phones
- In 1994 first Mobile Phone “IBM Simon” was launched with facilities such as Touch Screen, e-mail and Personal Digital Assistant.
- In 1999 Nokia officially launched first Mobile Phone Nokia S40 and Nokia 7110
- In 2002 Blackberry launched its first Mobile Phone
- In 2007 Apple launched iPhone with iOS
- In 2009 Samsung launched Samsung S8500 Mobile Phone with Bada OS
- In 2010 Windows launched its Mobile Phone with windows OS
- In 2013 Blackberry launched its new operating system Blackberry 10.
- In 2013 Google launched Android KitKat 4.4
- In 2014 Microsoft launched Windows Phone 8.1
- In 2014 Google launched Android 5.0 Lollipop
- In 2015 February Google launched Android 5.1 Lollipop and further in the month of September launched Android 6.0 Marshmallow

Types of Mobile Operating System (OS):

1) Android OS



Fig: 3.3.3.2.1 Operating System - Android

2) iOS

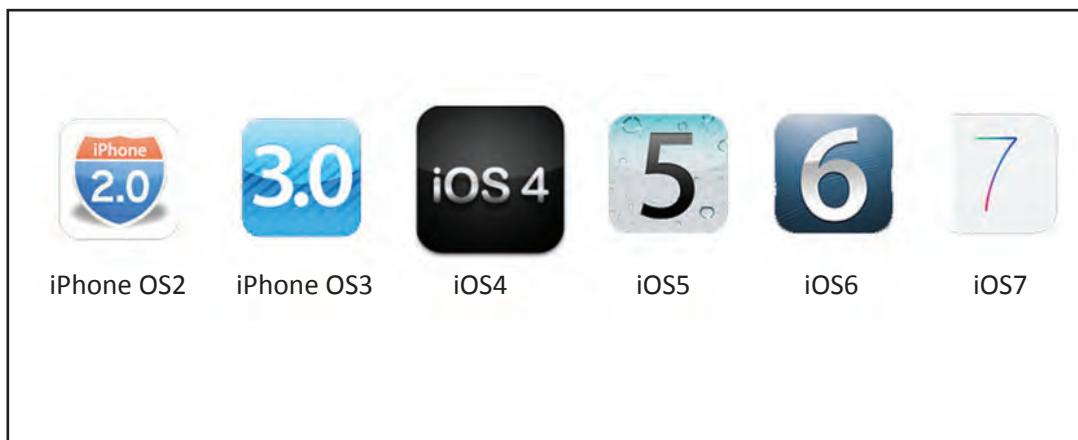


Fig: 3.3.3.2.2 Operating System - iOS

3) Windows OS

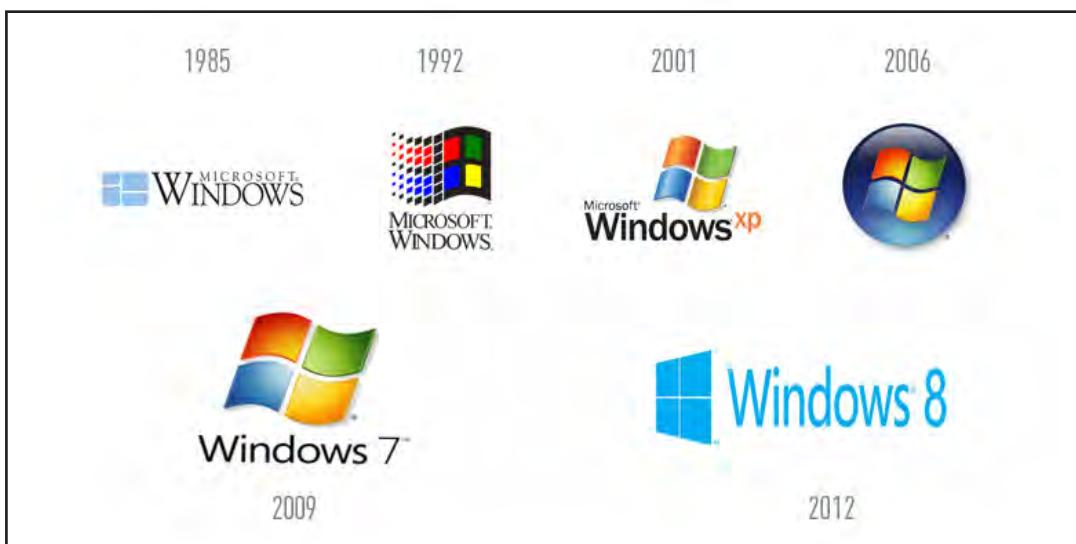


Fig: 3.3.3.2 Operating System - Windows

4) Blackberry OS

Versions of Blackberry	Release Date
	January 1999
	March 2002
	August 2009
	2010
	Summer 2011
	2012
10	January 2013

Tab: 3.3.3.2 Operating System - Android

3.3.3.3: Dismantling Mobile Phone

In this section we are going to learn mobile phone disassembly. In disassembly process we will open the mobile phone and dismantle all the parts.

3.3.3.4: Back Cover

First of all by using opener, we need to take out back cover of mobile phone carefully. To take out back cover we need to push slots carefully by the opener and then remove the back cover. Now place the back cover properly so that it should not get any scratches.



Fig: 3.3.3.4 Back Cover

3.3.3.5: Battery

Now we need to remove battery from mobile phone. To remove battery, push the battery carefully inside using opener and slightly lift it.



Fig: 3.3.3.5 Battery

3.3.3.6: Removal of Screws

After removing battery, we need to remove this back panel. To remove the back cover we need to remove all these screws. During removal of screws, we need to be very careful as if one screw goes missing it will be difficult to locate it. We need to use proper screw driver to remove these screws. Hold the screw driver as shown. Tip of this screw driver has magnetic property, which helps in lifting and removing the screws from the slot. During disassembly process of mobile, make sure to use good quality tools because ordinary tools may damage the top thread of screws.



Fig: 3.3.3.6 Body Screw

Now we will remove all the screws of middle portion one by one. It will be better to keep white paper or cloth while disassembling so that small parts will not get lost.

Now we will remove screws from lower portion. In case, if any screw get stuck in such case we can remove it carefully using tweezers. Now we will inspect this mobile to make sure none of the screw is stuck on the body slot and ensure that all are removed.

3.3.3.7: Middle Panel

Now we will remove this middle panel using opener. Make sure not to apply extra force otherwise this panel may break also. Now you can see this volume switch which is attached with the panel and post removal of the middle panel it will also come out. Keep all the parts carefully so that we can find it easily. Now slowly remove this panel, once the panel is removed, then On/Off switch will also come out.



Fig: 3.3.3.7 Middle panel

3.3.3.8: Shortcuts

- BC - Battery Connector
- DC - Display Connector
- HF - Headphone Connector
- SPK - Speaker
- RIN - Ringer
- M/C - Microphone
- CC - Charging Connector
- MM - Multimeter
- HW - Hardware
- SW - Software
- USB - Universal Serial Bus
- GND - Ground
- VB - Vibrator Motor
- IC - Integrated Circuit
- PW - Power On / Off
- IMEI - International Mobile Equipment Identity
- CDMA - Code Division Multiple Access
- GSM - Global System for Mobile
- MMC - Multimedia Memory Card
- PUK - Pin Unlock Key
- SMS - Short Message Service
- MMS - Multimedia Message Service
- E-Mail - Electronic Message
- LCD - Light Crystal Display
- LED - Light Emitting Display
- RX - Receiver
- TX - Transmit

UI - User Interface
VBAT - Voltage for Battery Connector
VCHA - Voltage for Charging
SIM - Subscriber Identity Module
HDMI - High Definition Multimedia Interface
BSI - Battery Status for Information
MHz - Mega Hertz (Fer)
IPS - In-Plane Switching
TRAI - Telecom Regularity Authority of India
VAS - Value Added Services
TVC - Total Video Convertor
PIN - Personal Identification Number
GPRS - General Packet Radio Service
UIM - User Identity Module
UFS - Universal Flashing Software
WAP - Wireless Application Protocol
FDMA - Frequency Division Multiple Access
Wi-Fi - Wireless Fidelity
IR - Infra Red
GPS - Global Positioning System
TDMA - Time Division Multiple Access
MIN - Mobile Identification
RF - Radio Frequency
IMSI - International Mobile Subscriber Identity
PUC - Personal Unlock Code
RBS - Radio Base Station
BTS - Base Transmitting Station
BSC - Base Transmitting or Transceiver Station
MSC - Mobile Service Switching Center
ITU - International Telecommunication Union
UMTS - Universal Mobile Telecommunication System
ISD - International Subscriber Dialing
PCO - Public Call Office
DSP - Digital Signal Processor
DCS - Digital Cellular Service
LAI - Location Area of Identity
PCBA - Printed Circuit Board Assembly
MMM - Multimedia Mode
HSDPA - High Speed Downlink Protocol Access
WCDMA - Wideband Code Division Multiple Access

3.3.4: Tools

Understand & learn the following:

3.3.4.1 Solder Gun

This is one of the important tool used in mobile repairing. As you can see this is a micro solder gun. Bit of solder gun is very sharp which helps us to do the soldering at very small level. We should always purchase good quality micro solder gun so that we can use it efficiently for a longer period. It works on 12 Volt DC. It helps us in repairing process and also soldering of small components. In 90% of mobile repairing works, we need to use micro solder gun.



Fig: 3.3.4.1 Solder Gun

[Scan image to view Mobile Video](#)

3.3.4.2: Solder Wire

While doing any type of soldering we need soldering wire along with soldering gun. Solder wire is made-up of lead and tin, used for solder-ing and sometime also used for jumpering. Solder wire is easily available in the market costing around Rs. 20 to 25 . We need soldering wire during mobile repairing process on a regular basis.



Fig: 3.3.4.2 Solder Wire

3.3.4.3: Soldering Paste

During soldering process we need soldering paste along with solder iron. It helps in giving good finishing while soldering. Variety of solder-ing paste are available in the market, but we should always purchase best quality soldering paste as shown here.



Fig: 3.3.4.3 Soldering paste

[Scan image to view Mobile Video](#)

3.3.4.4: PCB Stand

PCB stand is also known as PCB holder. It is used during repairing, to hold the motherboard. If PCB is getting over heated we can place it on holder and can do soldering or de-soldering process easily.

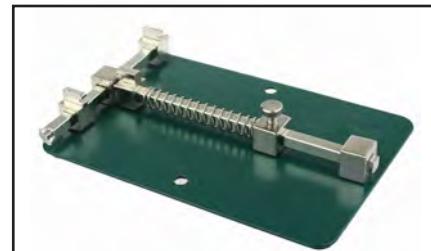


Fig: 3.3.4.4 PCB Stand

[Scan image to view Mobile Video](#)

3.3.4.5: PCB Cleaner

You can see two liquid bottles. These are PCB cleaners. One of these liquid looks like water called I.P (I.P.A) liquid and another one is pink coloured called "Elmaa". We use both of these liquid to clean the moth-erboard. It helps to wash the motherboard which also helps in solving other minor problems on the motherboard.



Fig: 3.3.4.5 PCB Cleaner

3.3.4.6: Ultrasonic Cleaner

Used to clean PCB of a mobile phone and electronic components



Fig: 3.3.4.6 Ultrasonic Cleaner

3.3.4.7: ESD Brush

It is an antistatic brush used to clean the motherboard and also used in washing motherboard with I.P and Elmaa liquid.



Fig: 3.3.4.7 ESD Brush

[Scan image to view Mobile Video](#)

3.3.4.8: Cutter Blade Set

This is a cutter blade set and have various types of blades used for different purposes. It is mainly used in locating display strip track, Motherboard track, cutting of jumper wire etc...



Fig: 3.3.4.8 Cutter Blade Set

3.3.4.9: Opener

It is made-up of plastic and helps in opening mobile phone.



Fig: 3.3.4.9 Opener

[Scan image to view Mobile Video](#)

3.3.4.10: Multimeter

Multimeters are of two types – Analog Multimeter and Digital Multimeter. How to use Multimeter to check voltage, Ohms, battery, continuity etc is more or less the same. The only difference is that a digital Multimeter has a digital display of all the readings. An analog Multimeter has a needle-type pointer that moves to a reading while testing any device or electronic component. Digital multimeter is widely used in service and repair work.

Digital Multimeter:

Digital multimeter provide following :

Function and Range Switch: This switch is used to select the function and desired range as well as to turn the instrument. In order to extend the life of the battery of the Multimeter, this switch must be kept in the “OFF” position when the instrument is not in use.

Display or LCD: To display all the readings.

Common Jack: Plug in connector for black (negative) test lead or probe.

V ? mA Jack: Plug in connector for red (positive) test lead or probe for all voltage, resistance and current (except 10A) measurements.

10A Jack: Plug in connector for red (positive) test lead or probe for current measurement.



Fig: 3.3.4.10.1 Digital Multimeter

Analog Multimeter:

It is one of the very useful tool for repairing the mobile. Just like it is important for a doctor to always carry stethoscope with them, a mobile service technician should always keep multimeter with them. It is very useful in testing the mobile phone. With the help of multimeter we can test mobile phone in different angle and can say mobile is live or dead. Incase mobile is dead then also it helps to identify the cause. With the help of multimeter we can test all com-ponents of mobile and battery. It helps in finding Voltage, continuity and resistance very efficiently which plays very important role during repairing. Always purchase good quality Multimeter as it will give you accurate reading.



Fig: 3.5.4.10.2 Analog Multimeter

[Scan image to view Mobile Video](#)

3.3.4.11: Screwdriver Kit

It has several screwdrivers of different shapes and sizes to disassemble and assemble a mobile phone. Aven Tools is a world renowned manufacturer, exporter and supplier of all kinds of tools and tool kits.

T6 Screwdriver

This type of screw driver is mainly used to open Nokia and other old types of mobile phones.

Star Screw Driver

This type of screw drivers are mainly used to open latest Mobile Phone.



Fig: 3.3.4.11 Screwdriver Kit

3.3.4.12: Power Supply

It is used to boost the power of battery of a mobile phone



Fig: 3.3.4.12 Power Supply

3.3.4.13: Magnifying Lamp

It is used to see the magnified view of the PCB of a mobile phone. Most magnifying lamps also have light. Magnifying lamps are available in different magnification such as 3x, 4x, 5x, 10x, 50x etc.



Fig: 3.3.4.13 Power Supply

3.3.4.14: Multi Charger

Multi charger is a device used to charge various brands and models mobile phone.



Fig: 3.3.4.14 Multi charger

3.3.4.15: DC Power Supply

Regulated DC (Direct Current) power supply is used to supply DC current to a mobile phone. Most repair person used DC power supply to switch ON a mobile phone with-out battery.



Fig: 3.3.4.15 DC Power Supply

3.3.4.16: Antistatic Mat

It is laid or placed on the table or workbench where mobile repairing is done. The mat is grounded using a grounding cord or normal grounding wire. This also prevents damage from static electricity.



Fig: 3.3.4.16 Antistatic Mat

3.3.4.17: Antistatic Hand Gloves

It is important to wear ESD-Safe hand gloves while repairing a mobile phone to prevent PCB and electronic components from static charge.



Fig: 3.3.4.17 Antistatic Hand Gloves

3.3.4.18: Wrist Strap

It is worn in the wrist of the person who is repairing a mobile phone. It helps to discharge or ground static charge thus preventing the PCB or electronic components from any damage.



Fig: 3.3.4.18 Wrist Wrap

3.3.4.19: BGA Kit

BGA Kit or BGA Reballing Kit is used for reballing the solder balls of a BGA IC (Ball Grid Array). There are several BGA Reballing kit and BGA rework stations available in the market. Most repairing professionals generally start with a starter BGA Reballing kit and gradually shift to latest universal kits and stations.

How to Use a BGA Reballing Kit

Desolder and remove the BGA IC from the PCB.

Now clean the solder from the bottom of the IC and the PCB where the IC was soldered. Use a soldering iron and desoldering wire or wick.

Now select the right size of the IC depending on the number of balls from the stencil supplied with the kit.

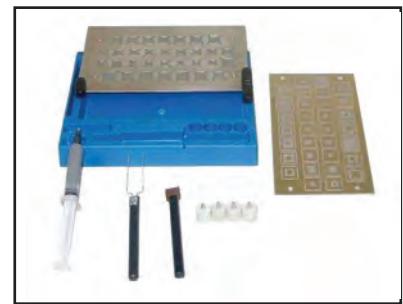


Fig: 3.3.4.19 BGA Kit

Place the IC on the stencil and tightly hold it with the stencil using clip or tape. Now apply solder Paste from the other side of the stencil. Solder paste will stick to the IC through the tiny holes in the stencil. Now apply hot air using SMD rework station. This will solidify the solder paste and it will form solder balls that will stick to the IC. Now clean the IC with Acetone or IPA solution and remove it from the stencil.

3.3.4.20: ESD

Mobile Phone components assembled on motherboard are sensitive to electrostatic discharge. It is possible for electronic devices to be damaged by ESD that is hardly noticeable to the human body. These components or devices can be damaged by common static charges which build up on people, tools, and other non-conductors or semiconductors. Humidity also has a significant effect on ESD.

Common electrostatic-sensitive devices

- MOSFET transistors, used to make integrated circuits (ICs)
- CMOS ICs (chips), integrated circuits built with MOSFETs.
- TTL chips
- Laser diodes
- Blue light-emitting diodes (LEDs)
- High precision resistors

How does damage from ESD happen?

When a statically-charged person or object touches an electrostatic discharge sensitive device, there is a possibility that the electrostatic charge could be drained through sensitive circuitry in the device. If the electrostatic discharge possesses sufficient energy, damage could occur in the device due to localized overheating

What damage does ESD cause in an electronic

There are basically two categories of damage from ESD:

Catastrophic damage – the electronic device is rendered inoperable immediately after the ESD event. A semiconductor junction or a connecting metallization could have been damaged by the electrostatic discharge.

Latent damage – the electronic device appears to be working fine following the ESD event. However, the sensitive circuitry has been damaged and could fail to operate properly at some time in the future

A recent investigation found the human body and its clothing capable of storing between 500V and 2,500V electrostatic during the normal workday this is far above the level that damages circuits. In order to prevent damage, while working with sensitive components, technician should use a grounding mat or other grounding tool. A technician may also need to wear antistatic wristband strap or an antistatic apron.

3.3.5: Android Mobile Phone Disassembly

Understand & learn the following:

3.3.5.1: Back Cover

First of all by using opener, we need to take out back cover of mobile phone carefully. To take out back cover we need to push slots carefully by the opener and then remove the back cover. Now place the back cover properly so that it should not get any scratches.



Fig: 3.3.5.1 Back Cover

3.3.5.2: Battery

Now we need to remove battery from mobile phone. To remove battery, push the battery carefully inside using opener and slightly lift it.



Fig: 3.3.5.2 Battery

[Scan image to view Mobile Video](#)

3.3.5.3: Removal of Screws

After removing battery, we need to remove this back panel. To remove the back cover we need to remove all these screws. During removing the screws we need to be very careful as if one screws goes missing it will be difficult to locate it. We need to use proper screw driver to remove these screws.

Hold the screw driver as shown. Tip of this screw driver has magnetic property, which helps in lifting and removing the screws from the slot.

During disassembly process of mobile, make sure to use good quality tools because ordinary tools may damage the top thread of screws.

Now we will remove all the screws of middle portion one by one. It will be better to keep white paper or cloth while disassembling so that small parts will not get lost.

Now we will remove screws from lower portion. In case, if any screw get stuck in such case we can remove it carefully using tweezers. Now we will inspect this mobile to make sure none of the screw is stuck on the body slot and ensure that all are removed.



Fig: 3.3.5.3 Screw Assembly

[Scan image to view Mobile Video](#)

3.3.5.4: Middle Panel

Now we will remove this middle panel using opener. Make sure not to apply extra force otherwise this panel may break also. Now you can see this volume switch which is attached with the panel and post removal of the middle panel it will also come out. Keep all the parts carefully so that we can find it easily. Now slowly remove this panel, once the panel is removed, then On/Off switch will also come out.



Fig: 3.3.5.4 Middle Panel

3.3.5.5: Camera Strip

Now we can see the motherboard which is also called PCB (Printed Circuit Board). All connection of mobile phone are made thru this PCB. Now we will remove all the plastic strips very carefully.

First of all we will remove camera strip. To remove camera strip, hold the strip using tweezers and carefully pull it outside.

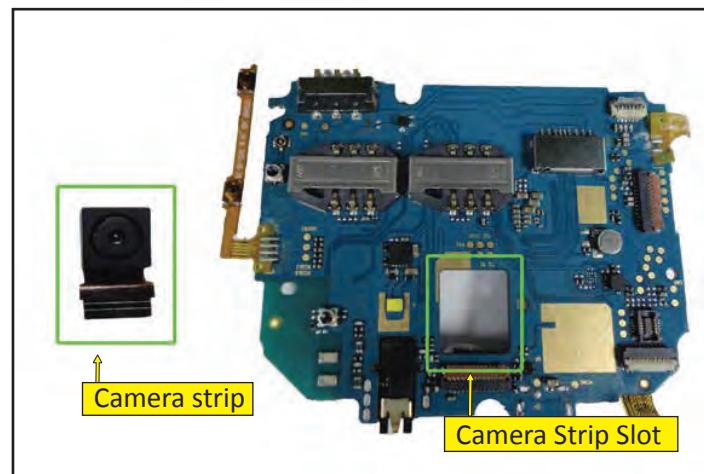


Fig: 3.3.5.5 Camera Strip

[Scan image to view Mobile Video](#)

3.3.5.6: Touchpad Strip

Now we will remove touchpad strip carefully using tweezers. We need to be very careful in removal of strip as these strips are very sensitive and may even get damage by tweezers tip also. If it gets damaged touchpad will stop working.

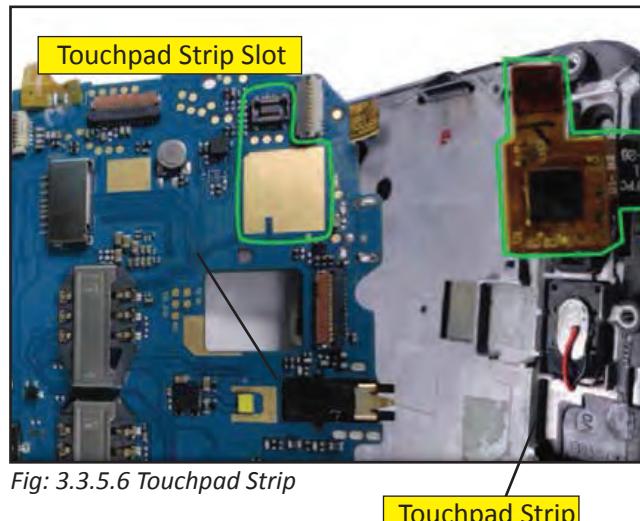


Fig: 3.3.5.6 Touchpad Strip

3.3.5.7: Front Module Camera

Now we will remove front module camera strip. We need to remove this strip very carefully without applying force otherwise it may also get damaged.

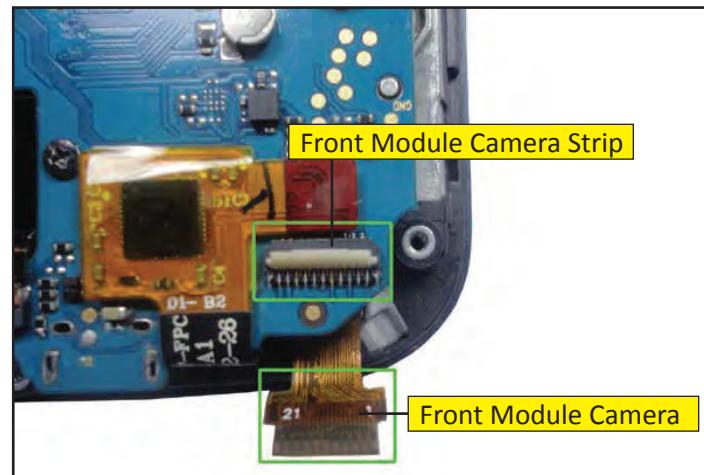


Fig: 3.3.5.7 Front Module Camera

[Scan image to view Mobile Video](#)

3.3.5.8: Display Strip

Now we will remove display strip. This is very important strip. To remove display strip lift the lock of strip using tweezers and then open the lock and now remove the strip carefully from motherboard.

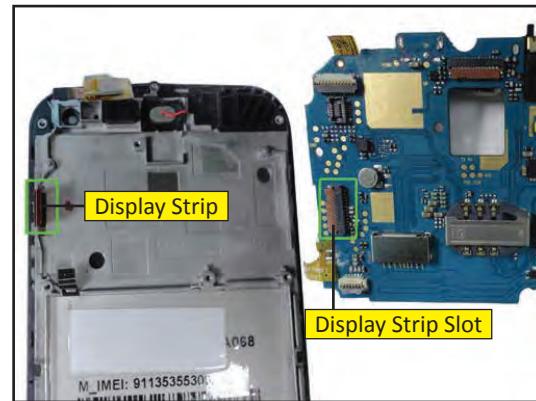


Fig: 3.3.5.8 Display Strip

3.3.5.9: Power Supply Strip

Now we are going to remove the strip from motherboard which connects parts like Mic and Vibrator with motherboard and also connects motherboard with lower-board.

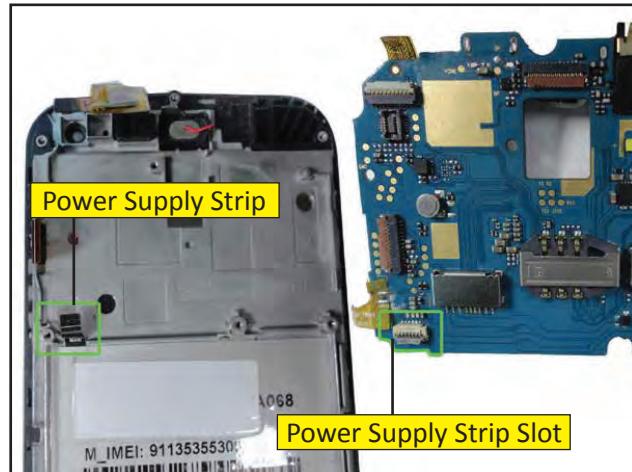


Fig: 3.3.5.9 Power Supply Strip

[Scan image to view Mobile Video](#)

3.3.5.10: Antenna Wire

Once all the strips are removed, we will also remove this antenna wire from motherboard.

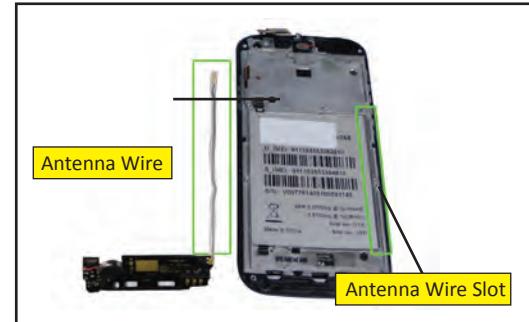


Fig: 3.3.5.10 Antenna Wire

3.3.5.11: Motherboard

Now we will remove motherboard carefully using hand and keep it carefully. Now we can see upper portion of mobile is fully dismantled.

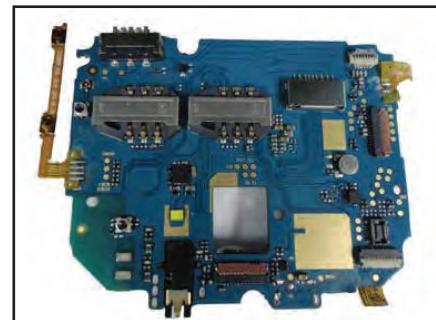


Fig: 3.3.5.11 Motherboard

3.3.5.12: Ground Panel

Now we will dismantle lower portion which is also called ground panel. This section has no screw. To remove ground panel we need to pull it slightly upwards and then open the lock using tweezers. Now ground panel is also removed, keep it carefully in safe place.

Disassembly process of Smartphone is over now. We need to be very careful during disassembling process as a minor mistake may permanently damage mobile phone.

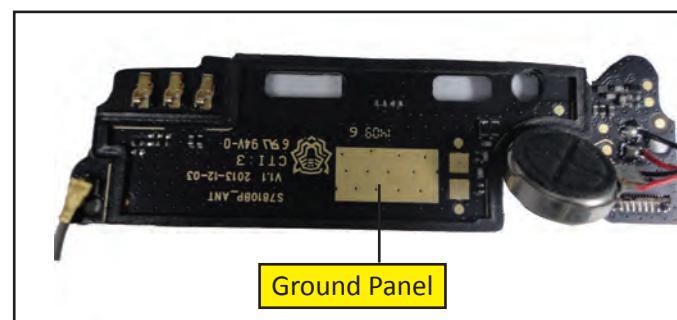


Fig: 3.3.5.12 Ground Panel

3.3.5.12: Ground Panel

In this portion we are going to learn how to assemble android Smartphone. Assembling process is a reverse process of disassembling. During disassembling the part which was dismantled last will be used first during assembling process.

3.3.6.1: Ground Panel

This is the ground panel which we dismantled at the end. We will first connect the ground panel in the same way we removed it.

Place the ground panel at lower end on the slot and carefully lock it. Now place the vibra-tor in it's slot properly.

Lower portion of the Smartphone is assem-bled, now we will place the antenna wire properly in it's slot.

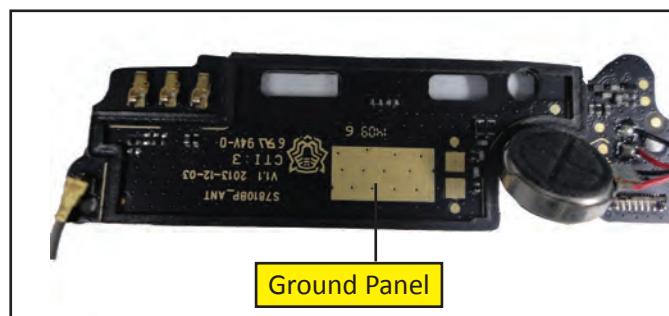


Fig: 3.3.6.1 Ground Panel

[Scan image to view Mobile Video](#)

3.3.6.2: Camera Strip

Place the camera properly in the camera slot and then place the camera strip careful-ly in camera strip slot. Before placing the camera strip in the strip slot make sure, line on camera strip is straight so that it can be place properly in the slot otherwise camera may not work properly.

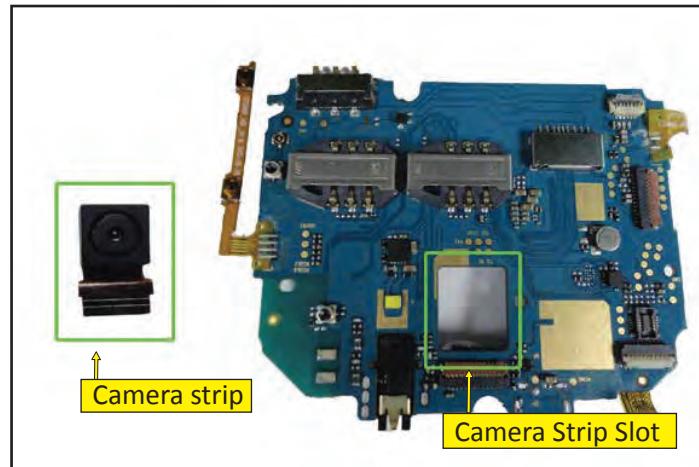


Fig: 3.3.6.2 Camera Strip

3.3.6.3: Motherboard

Now place the motherboard in it's slot. While placing the motherboard never apply force to adjust in the slot. Place it slowly and carefully in the slot.

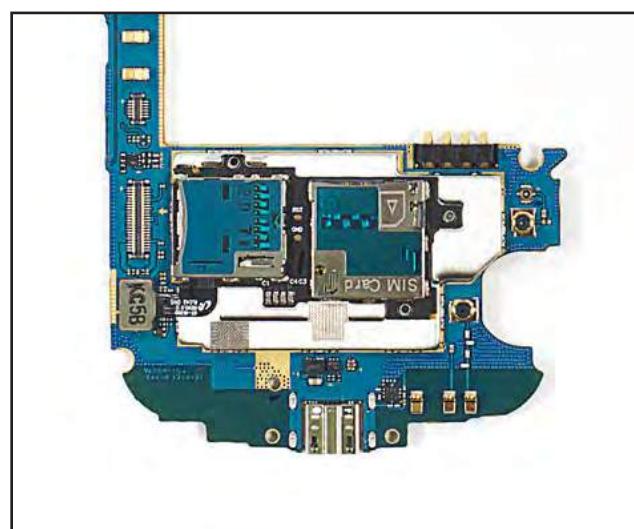


Fig: 3.3.6.3 Motherboard

[Scan image to view Mobile Video](#)

3.3.6.4: Antenna Wire

Place the Antenna wire properly and carefully using tweezers in it's slot

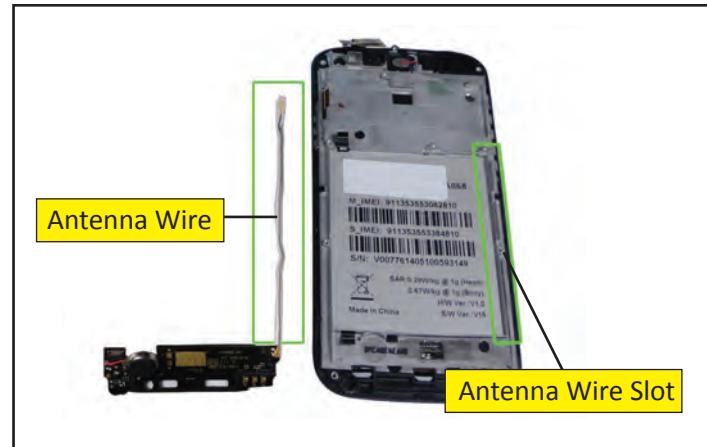


Fig: 3.3.6.4 Antenna Wire

3.3.6.5: Power Supply Strip

First we will place the strip which gives supply to lower portion of the phone. Place the strip inside slot by holding it using tweezers and push it inside strip slot carefully and then lock it.

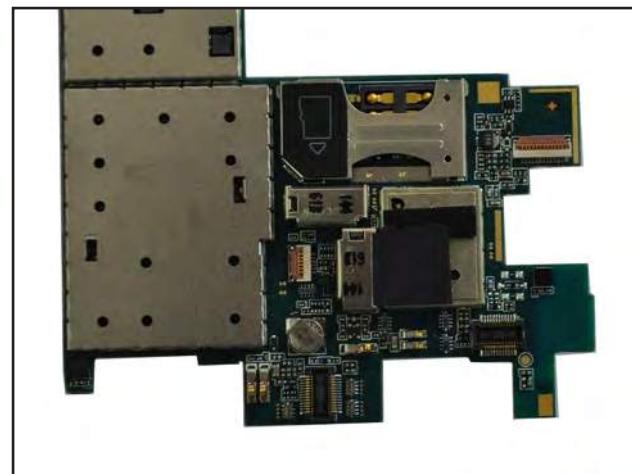


Fig: 3.3.6.5 Power Supply Strip

Scan image to view Mobile Video

3.3.6.6: Display Strip

Now we are going to place display strip which is an important strip. Hold the display strip using tweezers and push it inside the strip slot carefully while doing it make sure camera strip line should be straight. Now lock the strip.

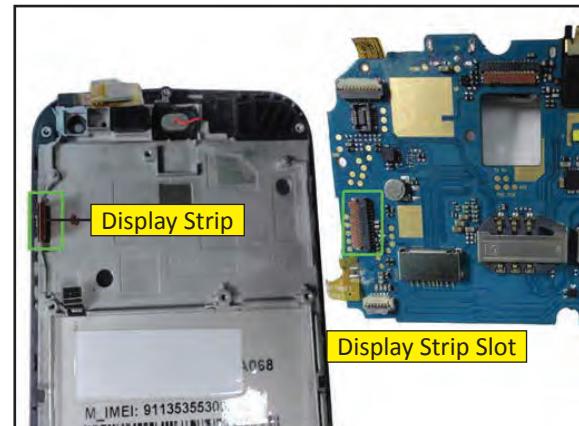


Fig: 3.3.6.6 Display Strip

3.3.6.7: Front-end Module Camera

Now we are going to connect front module camera. Hold the front module camera strip using tweezers and push it inside strip slot carefully while doing it make sure camera strip line should be straight.

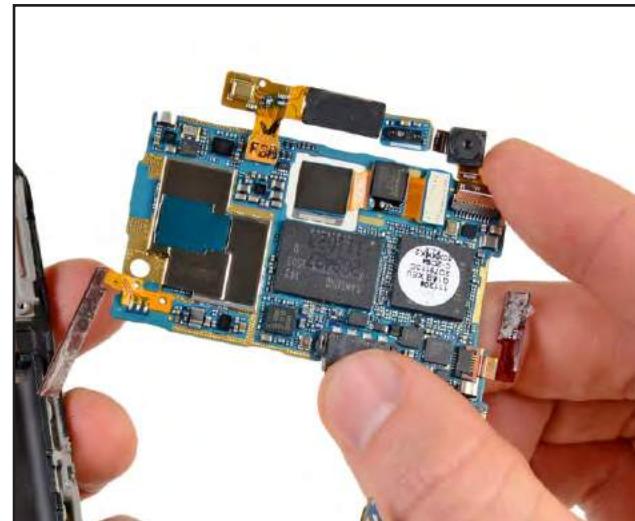


Fig: 3.3.6.7 Front Module Camera

Scan image to view Mobile Video

3.3.6.8: Touchpad Strip

Now we are going to place touchpad strip which was removed as the first strip during disassembly process and this is going to be the last strip during assembly process. Now we have placed all the strips properly on the motherboard.

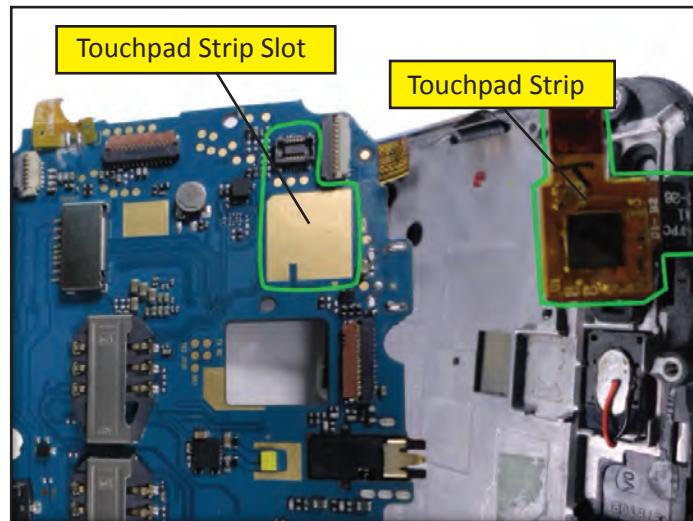


Fig: 3.3.6.8.1 Touchpad Strip

[Scan image to view Mobile Video](#)

Now we are going to tighten the screw on motherboard using suitable screw driver. Make sure volume and On/Off switch is in its place and should not get disturbed because during fitting when we will press the body if strip will come on body panel, it may get damaged also.

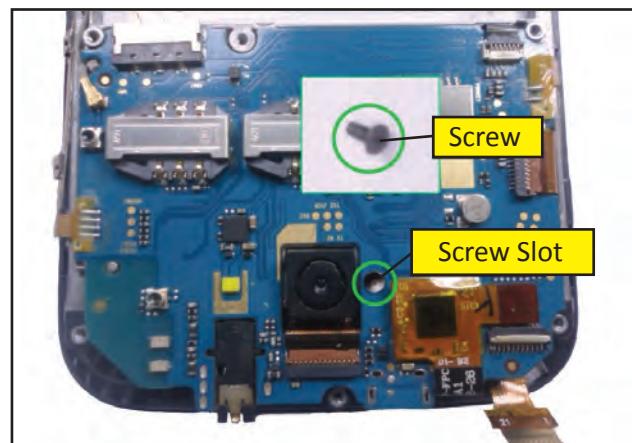


Fig: 3.3.6.8.2 Screw Slot

Now we will place antenna wire properly in its slot. If antenna wire will not get properly locked, it may give network problem in mobile. We need to place it the way it is being demonstrated.

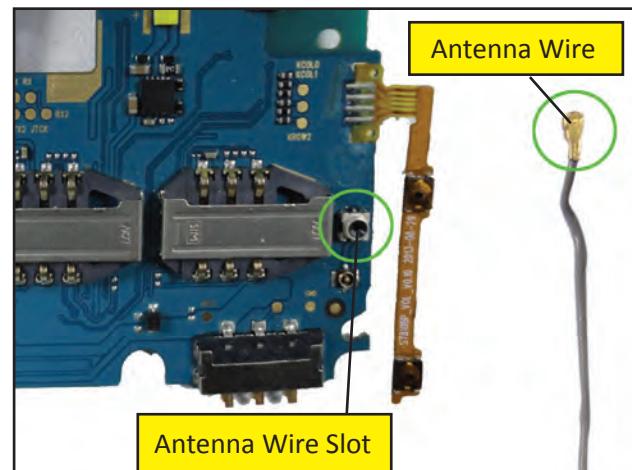


Fig: 3.3.6.8.3 Antenna Wire Slot

3.3.6.9: Middle Panel

Now we are going to fit middle panel. First press the top portion so that it should be placed properly in the slot, we will also observe sound while we press it.

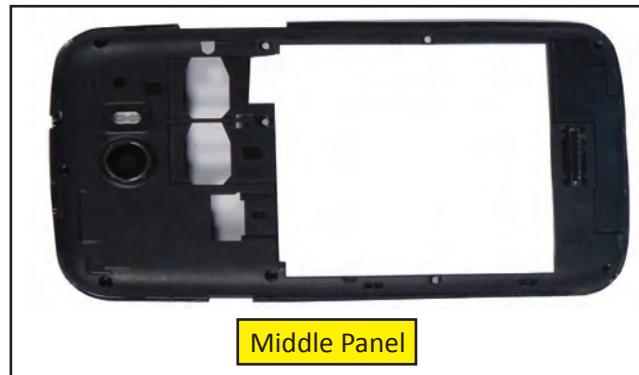


Fig: 3.3.6.9.1 Middle Panel

Now place the On/Off switch in it's slot properly using tweezers and press it slightly. Now we will place volume key in it's slot.

Make sure strip should be in proper place otherwise we cannot place volume key in it's location.

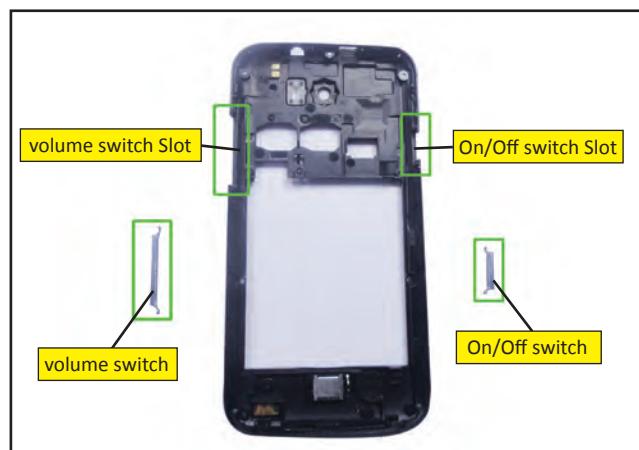


Fig: 3.3.6.9.2 On/Off Switch

3.3.6.10: Screw Fitting

Now we are going to tighten all screws. First we will place screws on the lower end using magnetic screwdriver and tighten it. Then after we will place the screw on upper end and tighten it. Now we will place screw in middle section and tighten it and finally we will place top 2 screws which is very important and tighten them.

During tightening the screw hold the screw driver like this, do not hold the screw driver like this. Now we have tightened all the screws.

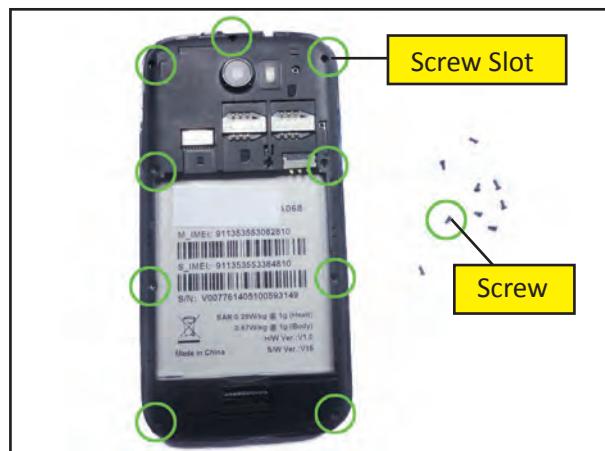


Fig: 3.3.6.10 Screw Assembly

3.3.6.11: Battery

Now we are going to place battery. Place the battery properly in it's slot and then press it slightly.

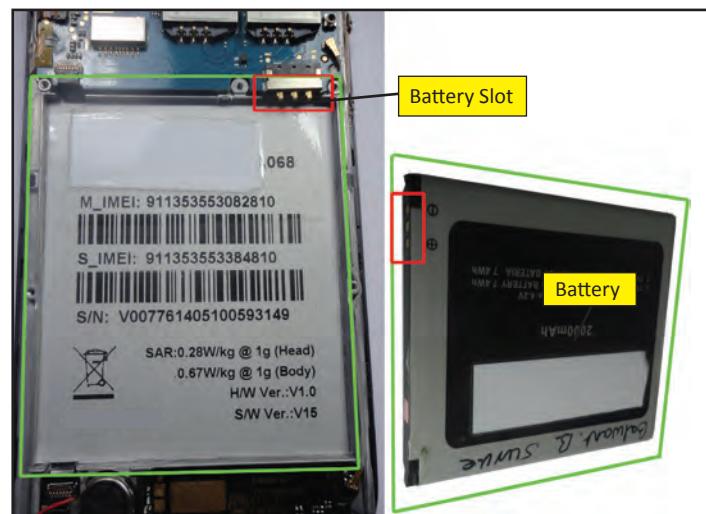
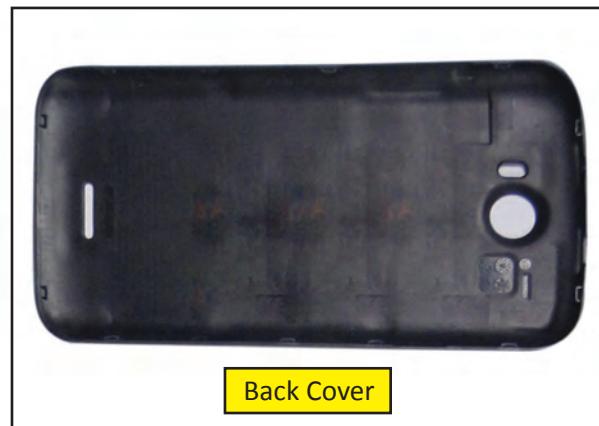


Fig: 3.3.6.11 Battery

3.3.6.12: Back Cover

Now we are fitting the back cover. Press all sides of back cover properly . Make sure there is no gap between two panels. Now test the mobile properly to make sure all the jobs has been done properly. Post testing the assembly process of Android Smartphone, assembly process is completed.



Back Cover

Fig: 3.3.6.12 Back Cover

3.3.7: Practical Hardware

Understand & learn the following:

3.3.7.1: Removing and Soldering Components

Before touching motherboard or any component of Mobile phone make sure you have grounded yourself for ESD and have also taken necessary action for ESD like use of Antistatic Mat / Hand Gloves / Wrist Strap to prevent any damage to components of mobile phone.

In this section we will see how to connect charging connector. As you can see this is a mobile PCM board. First place the board on PCB stand and make sure charging connector is in open area.

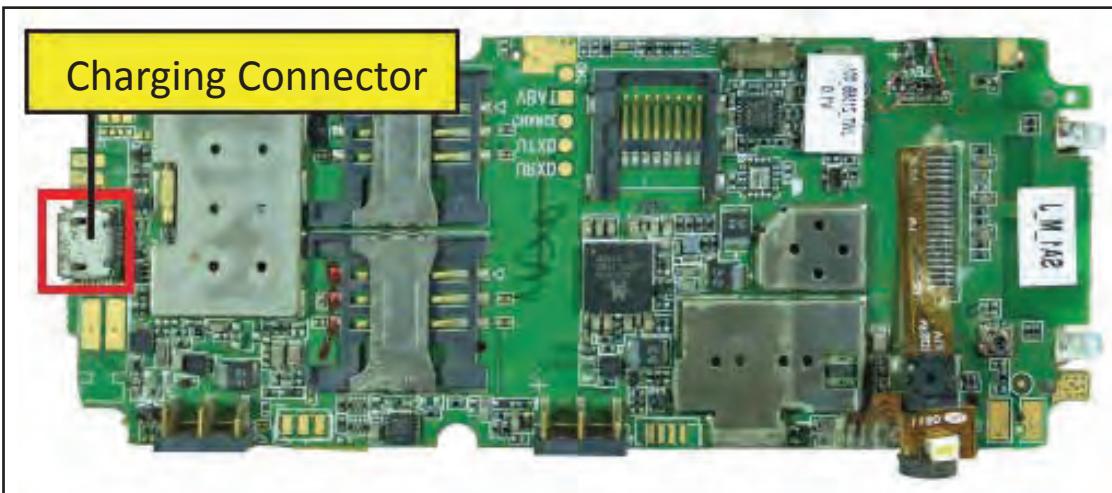


Fig: 3.3.7.1.1 Motherboard - Charging Connector

[Scan image to view Mobile Video](#)

Now we will apply soldering flux on charging connector and hold the connector using tweezers.

Now apply hot air gun on charging connector and slowly remove the charging connector.

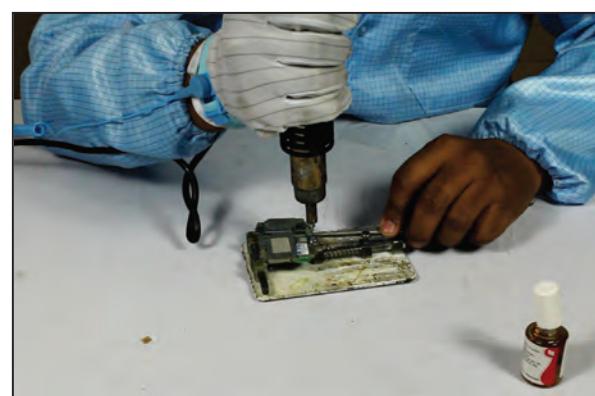


Fig: 3.3.7.1.2 Soldering Flux on Charging Connector

As you can see we have removed the charging connector. Now we have to remove charging connector track without damage. As you can see holes are now not properly visible on board. We have to make it proper so that base of charging connector should go smoothly in the holes to connect the charging connector on the board.

Now we can see four bases which need to be soldered using soldering wire. Once the soldering of base is over, turn it over. Now we need to do the soldering of the track on the backside. To perform this process we need soldering gun with small bit. First clean the bit by filing, now apply flux on the track and then press the track from bottom to top area

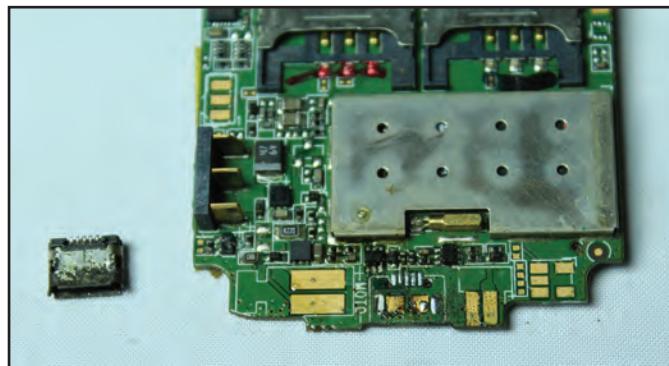


Fig 3.5.7.1.3: Charging Connector and Slot

Scan image to view Mobile Video

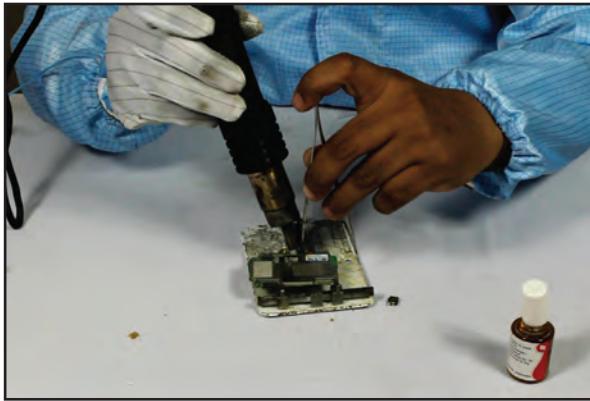


Fig: 3.3.7.1.4 Charging Connector Soldering - Step 1



Fig: 3.3.7.1.5 Charging Connector Soldering - Step 2

Now you can see charging connector is connected. Now we will remove the holes on the back-side using soldering gun it will give further strength to the connector base.

3.3.7.2: Battery Connector

This is battery connector of mobile phone. Apply flux on the track and hold the connector using tweezers now with the help of hot air gun remove it slowly. Now apply flux on track and clean it then after connect the battery connector back on its track through soldering process.

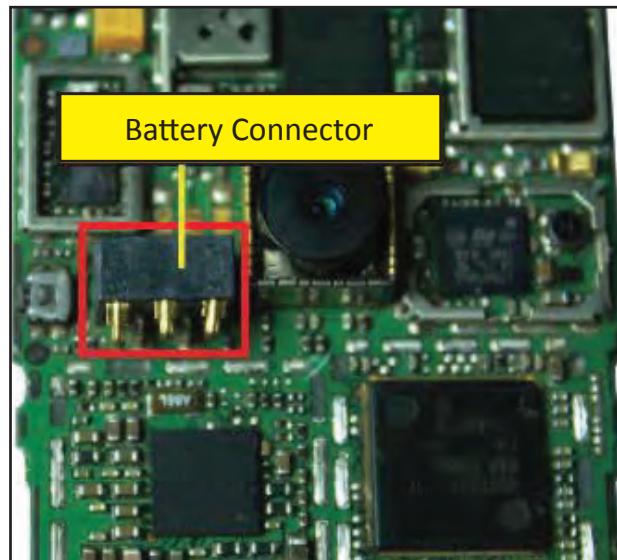


Fig: 3.3.7.2 Battery Connector

Scan image to view Mobile Video

3.3.7.3: Headphone Connector

In this section we will see how to remove and connect the headphone connector. Headphone connector is more or less common in different types of mobile phones.



Fig: 3.3.7.3.1 Headphone Connector

Scan image to view Mobile Video

Apply flux on the headphone connector track and hold it properly with tweezers and now apply hot air gun and slowly remove it.



Fig: 3.3.7.3.2 Headphone Connector Soldering - Step 1

To connect It back clean the track by applying flux. Now create hole on the board using hot air gun and tweezers.



Fig: 3.3.7.3.3 Headphone Connector Soldering - Step 2

3.3.7.4: SIM Tray

In this section, we will learn how to remove and connect back SIM tray. Process involved in removal and connecting back of SIM tray and Memory tray in mobile phone is identical. Apply flux on connecting point of SIM tray, hold it with tweezers and then apply hot air gun and slowly SIM tray will be de-soldered and can be removed. Post removal of SIM tray, apply flux on the SIM tray track and clean it. The SIM tray we have removed as a part of demonstration has six soldering points. Place the SIM tray back on the same points and solder it back using solder gun and solder wire.

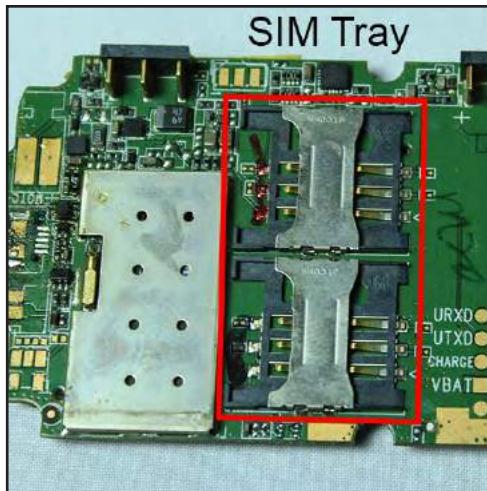


Fig: 3.3.7.4 SIM Tray

Scan image to view Mobile Video

3.3.7.5: Memory Tray

In this section, we will learn how to remove and connect back memory tray. Process involved in removal and connecting back of SIM tray and Memory tray in mobile phone is identical. Apply flux on connecting point of memory tray, hold it with tweezers and then apply hot air gun and slowly memory tray will be de-soldered and can be removed. Post removal of memory tray, apply flux on the memory tray track and clean it. The memory tray we have removed as a part of demonstration has eight soldering points. Place the memory tray back on the same points and solder it back using solder gun and solder wire.

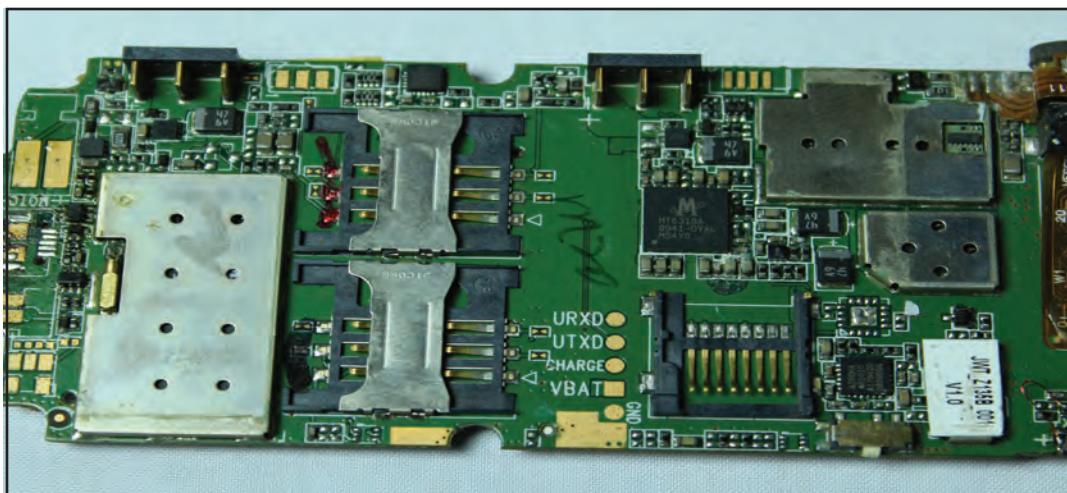


Fig: 3.3.7.5 Memory Tray

[Scan image to view Mobile Video](#)

3.3.7.6: Speaker

In this section we will see how to remove and connect speaker. Speaker is used in mobile phone for listening the voice. On speaker you will find one red mark (+) and one black mark (-).

To remove speaker we will use soldering flux. Apply flux on both points of the speaker and with the help of soldering iron de-solder both the wires. We can connect it back by re-soldering.



Fig: 3.3.7.6 Speaker

3.3.7.7: Ringer

This is PCB board and this component on PCB board is called ringer. This is used for ringtone in mobile phone. On ringer you can see + sign for red wire and – sign for black wire. To remove ringer first

apply flux on both the point and de-solder the wire using soldering iron. Now we will see how to connect ringer. As per the indication given, solder red wire on “+” point and black wire on “-“ point.



Fig: 3.3.7.7 Ringer

[Scan image to view Mobile Video](#)

3.3.7.8: Mic (Microphone)

Mic. is used to record our voice and pass it on to the network to be delivered to the recipient. Mic. Also has red wire with “+” sign and black wire with “-“ sign. By applying flux on Microphone Point we can de-solder Microphone. To solder it back we need to solder red wire on “+” point and black wire on “-“ point.

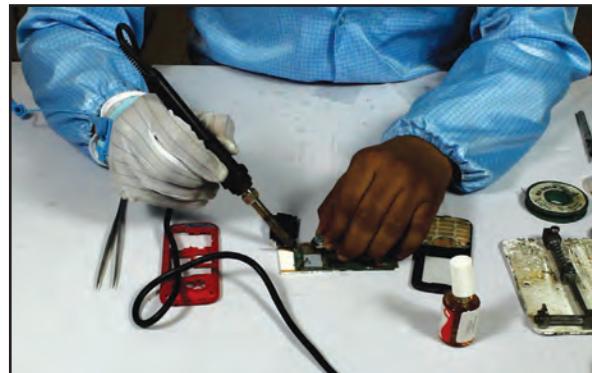


Fig: 3.3.7.8 Microphone

[Scan image to view Mobile Video](#)

3.3.7.9: Display

In this section we will learn how to remove display and connect it back. Display problem is very common in mobile phones. There are three types of displays. Lock Display – Most of the Smart phones are using lock display. In this type of display, just by removing lock on the display strip we can remove the display.

Soldering Display - To remove this type of display we need to apply soldering/de-soldering flux on display track. Hold the display strip and apply hot air gun on soldering point and slowly remove it without pulling. Never pull display strip as it may cause track to break and the strip will get damaged and will be difficult to solder it back. Now we have removed the display strip. To connect it back first clean the track of display strip using solder gun. Post cleaning, see it carefully and you will observe two holes on both the sides and we can see similar holes on the PCB board. To connect the display we need to match the holes and then do the initial soldering just to hold it and then solder it properly. As you can see we have soldered the display strip. **Plug Display** – In this type of display we need to just unplug it to take it out and to put it back just plug it back.



Fig: 3.3.7.9.1 Display Strip

Scan image to view Mobile Video



Fig: 3.3.7.9.2 Display Strip Assembly

Scan image to view Mobile Video

3.3.7.10: Display Connector

This is display connector of mobile. To remove connector, first apply flux on the track and remove it with the help of hot air gun. We cannot simply connect the connector back as it gets burnt during the process. Now clean the track. Now you can see small track. Now we need to match these tracks with the PCB track. Once matched apply flux and with the help of soldering gun press it slightly, make sure while pressing tracks should not connect with each others. Using this process we can connect charging connector.

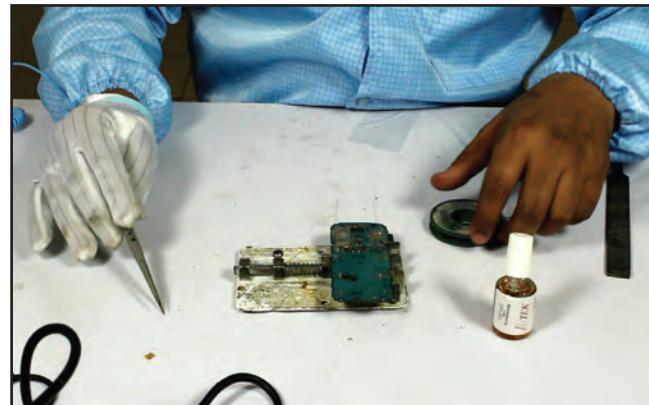


Fig: 3.3.7.10 Display Connector

[Scan image to view Mobile Video](#)

3.3.7.11: On/OFF Switch & Battery Connector

Now we are going to learn how to remove On/Off switch and battery connector and place it back. First of all apply flux on the track of the component then hold it with the help of tweezers and apply hot air gun on the component and slowly remove it with pulling it. To connect it back first apply flux on the track and clean it after cleaning place the component properly on track and do the soldering process.



Fig: 3.3.7.11 Battery Connector

[Scan image to view Mobile Video](#)

3.3.8: PCB Board

Understand & learn the following:

3.3.8.1: Mobile Phone Antenna

Mobile phone antenna is used to receive and transmit radio frequency in mobile phone and is available in each and every mobile phone.

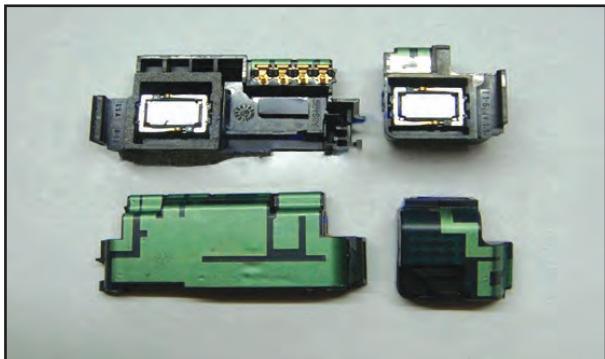


Fig: 3.3.8.1.1 Mobile phone Antenna -1

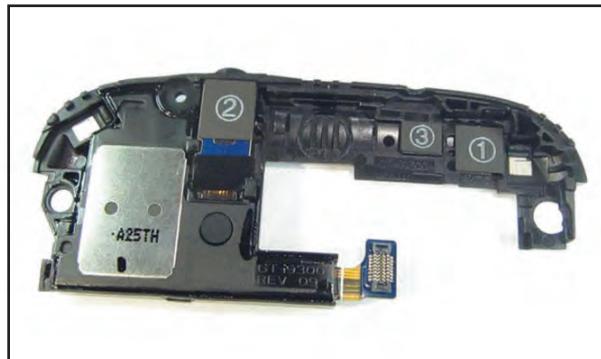


Fig: 3.3.8.1.2 Mobile phone Antenna -2

3.3.8.2: Ear Speaker

Ear phone speaker is used to receive the call voice in normal mode.

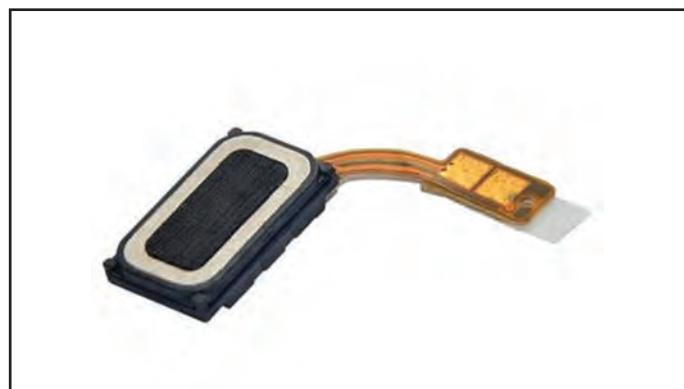


Fig: 3.3.8.2 Ear Speaker

3.3.8.3: Ringer or Loud Speaker

Ringer or loud speaker is used to listen to the ringtone and also listen to the voice in speaker mode.

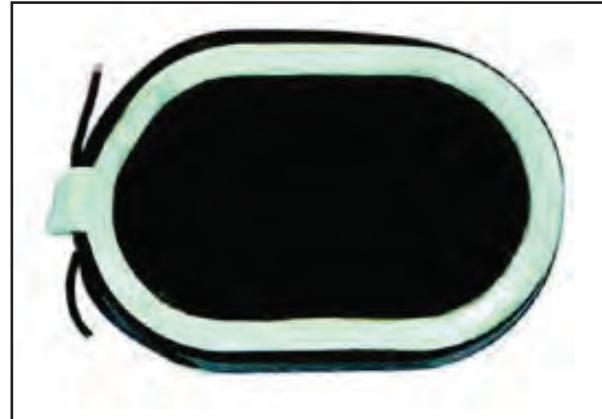


Fig: 3.3.8.3 Ringer / Loud Speaker

3.3.8.4: Vibrator Motor

Vibrator motor is used in mobile phone for vibration alert

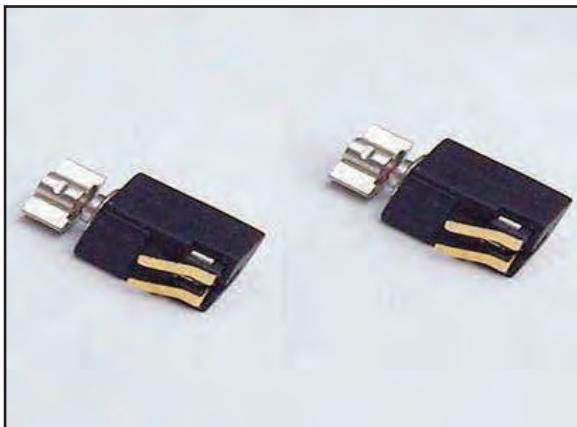


Fig: 3.3.8.4.1 Vibrator Motor - 1

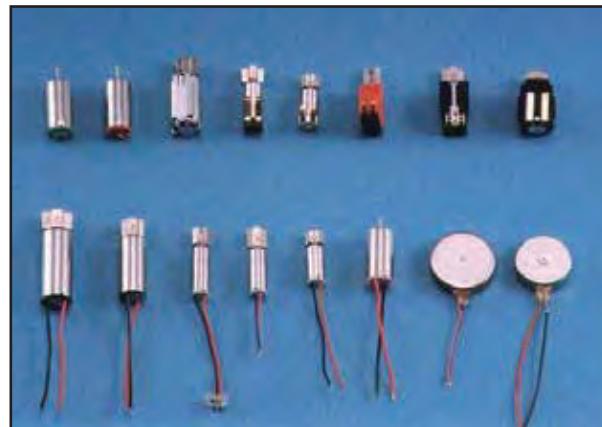


Fig: 3.3.8.4.2 Vibrator Motor 2

3.3.8.5: MiC (Microphone)

Mic is used in mobile phone to transmit voice message

1) Universal MIC



Fig: 3.3.8.5.1 Universal Mic.

2) Box or Cristal MIC



Fig: 3.3.8.5.2 Crystal Mic.

3.3.8.6: LED (Backlight)

LED are used along with LCD



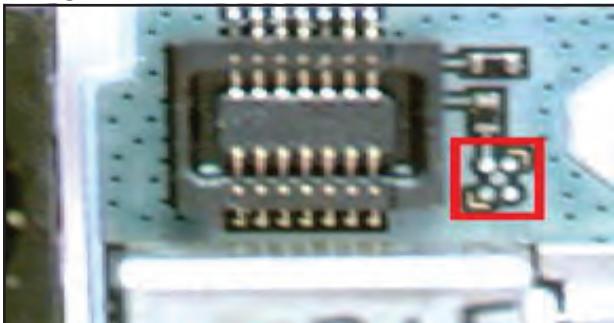
Fig: 3.3.8.6 Backlight LED

3.3.8.7: Display Connector

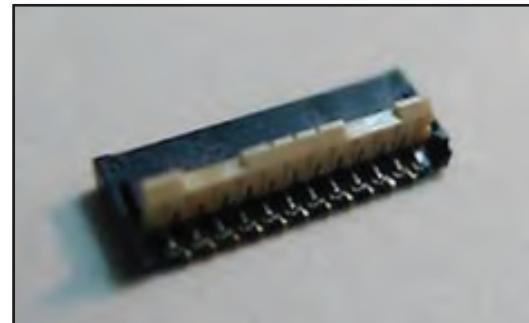
Display connector is used to connect display unit of mobile phone with PCB board.

Types of display connector

1) Plug



2) Lock



3) Soldering



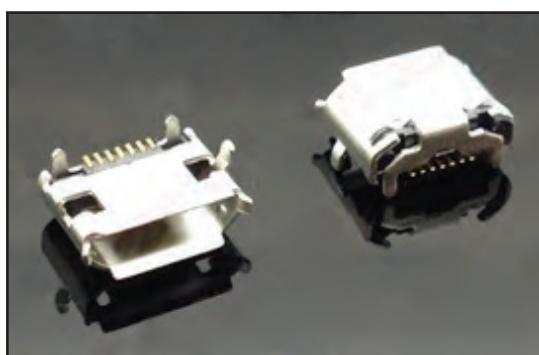
Fig: 3.3.8.7 Display Connector Type

3.3.8.8: Charger Connector

Charger connector is used to connect mobile phone with external power source for charging and also used to connect to the computer by using USB cable.

Types of charger connector

1) Soldering



2) Plug



Fig: 3.3.8.8 Charger Connector Type

3.3.8.9: SIM Card

SIM is short form of Subscriber Identity Module. It is used in all types of GSM phone. SIM card is having a microchip inside which stores certain information about phone and also certain data. a smart card inside a mobile phone, carrying an identification number unique to the owner



Fig: 3.3.8.9 SIM Card

3.3.8.10: SIM Card Socket

SIM card socket is used to place the SIM card in Mobile phone and send information to CPU for processing. CPU processes the information and passes it to the base station for registration. SIM card socket acts as SIM reader or writer.

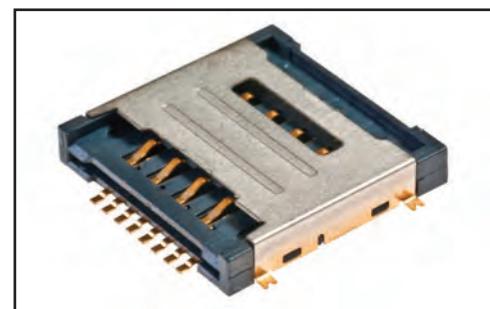


Fig: 3.3.8.10 SIM Card Socket

3.3.8.11: Memory Card Socket

Memory card socket is used to place memory card in the mobile phone. Memory card socket is used to read or write information on the memory card.

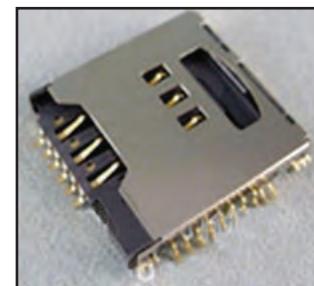


Fig: 3.3.8.11 Memory Card Socket

3.3.8.12: Display

Display is an integral part of mobile. There are three Types of Displays

1) Lock



2) Plug

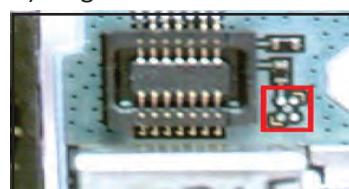


Fig: 3.3.8.12.1 Display Type

3) Soldering



Fig: 3.3.8.12.2 Display Type

3.3.8.13: PCB Board

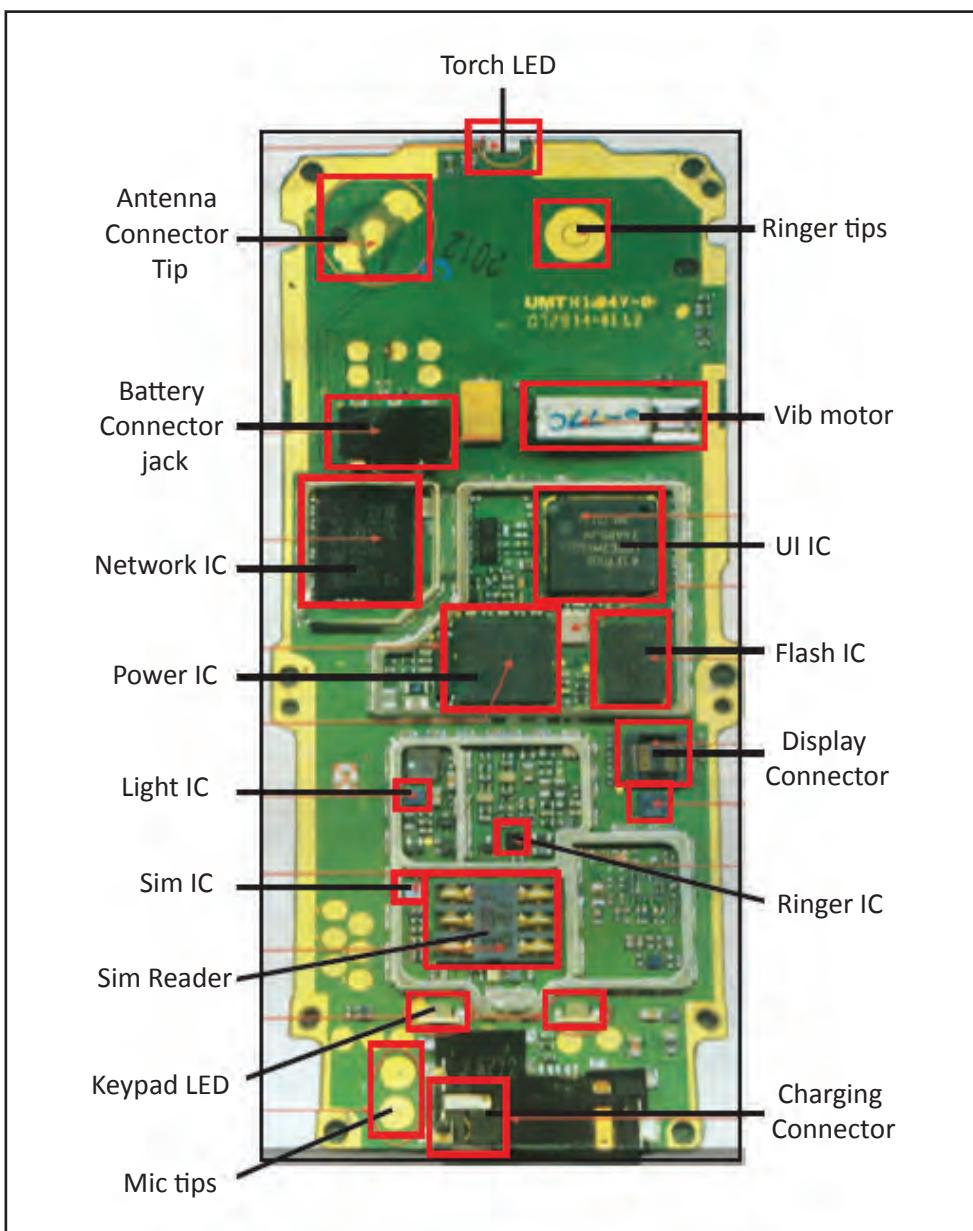


Fig: 3.3.8.13.1 PCB Backside

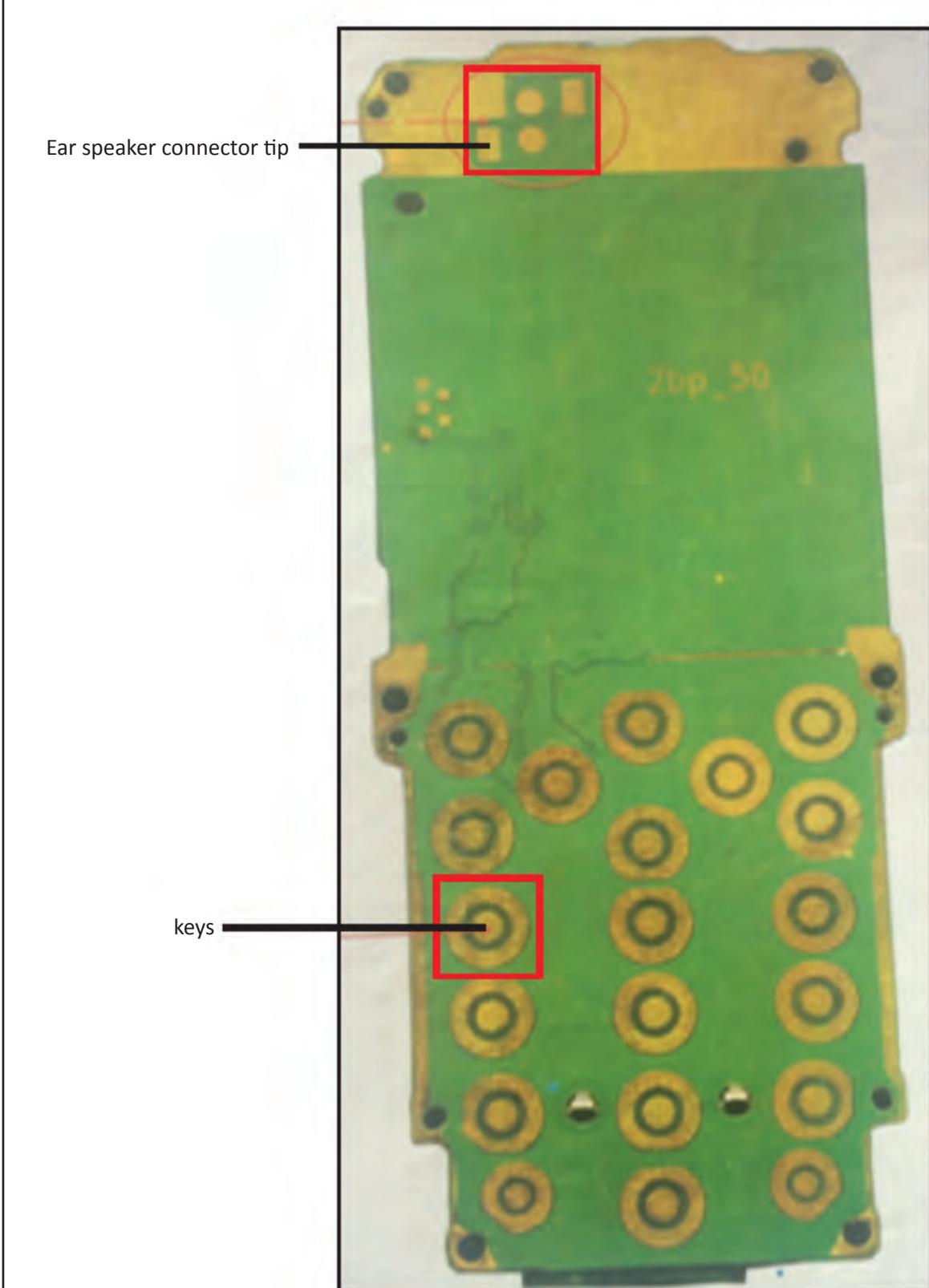


Fig: 3.3.8.13.2 PCB Front Side

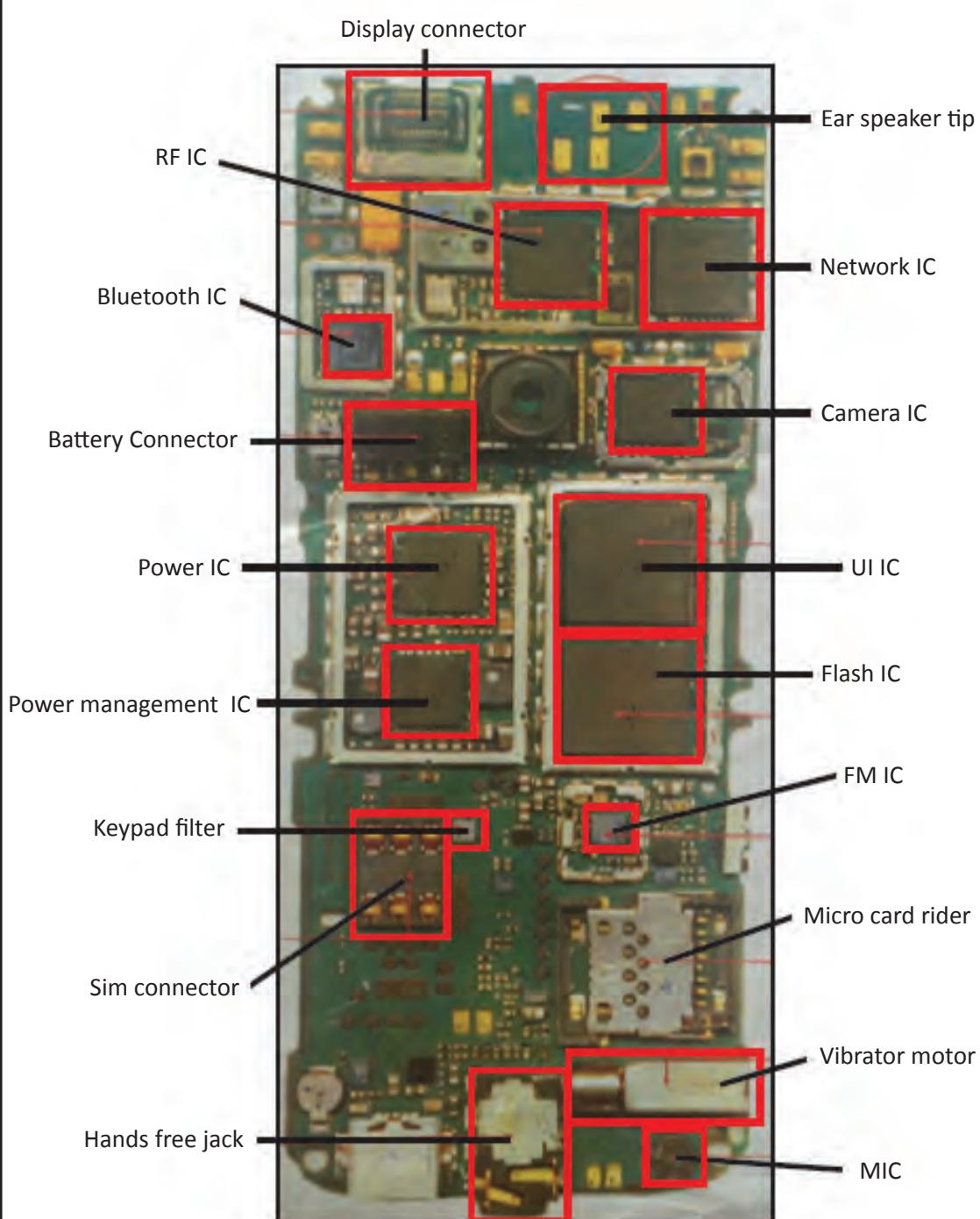


Fig: 3.3.8.13.3 Multimedia PCB Back Side

Power switch Display filter

Keypad LED

Inner keypad

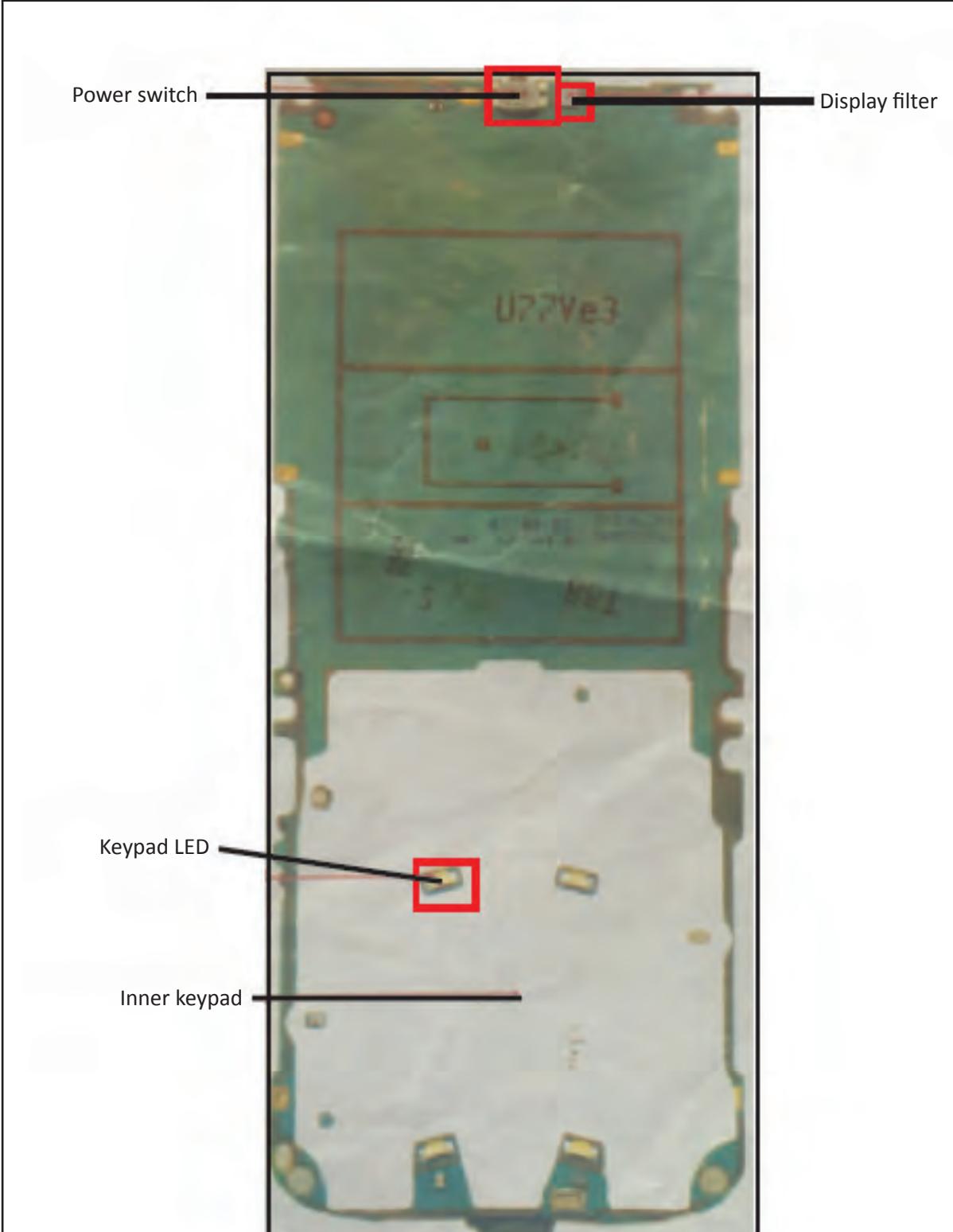


Fig: 3.3.8.13.4 Multimedia PCB Front Side

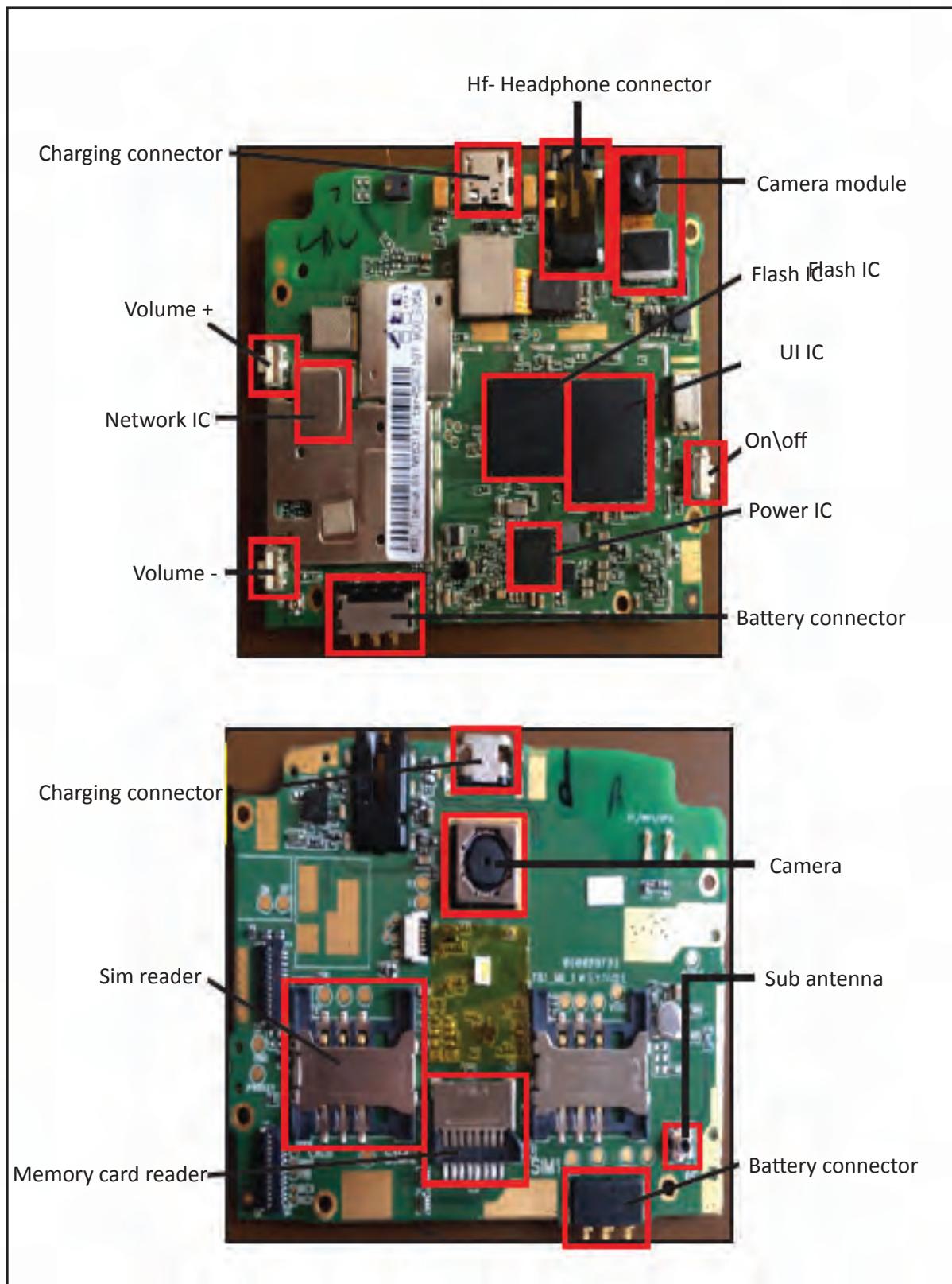


Fig: 3.3.8.13.5 Android Board

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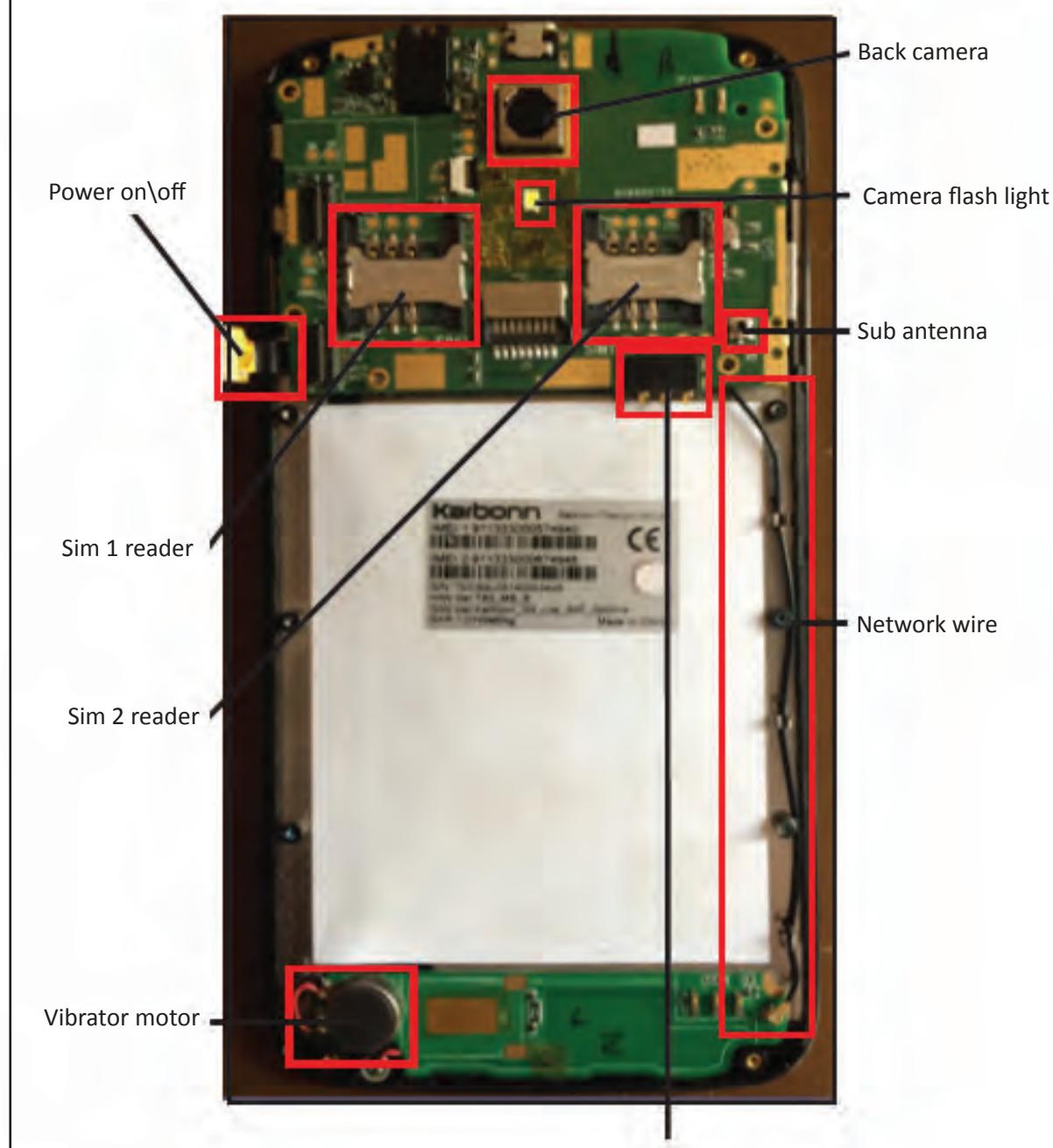


Fig: 3.3.8.13.6 Android PCB Board

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Tablet PCB

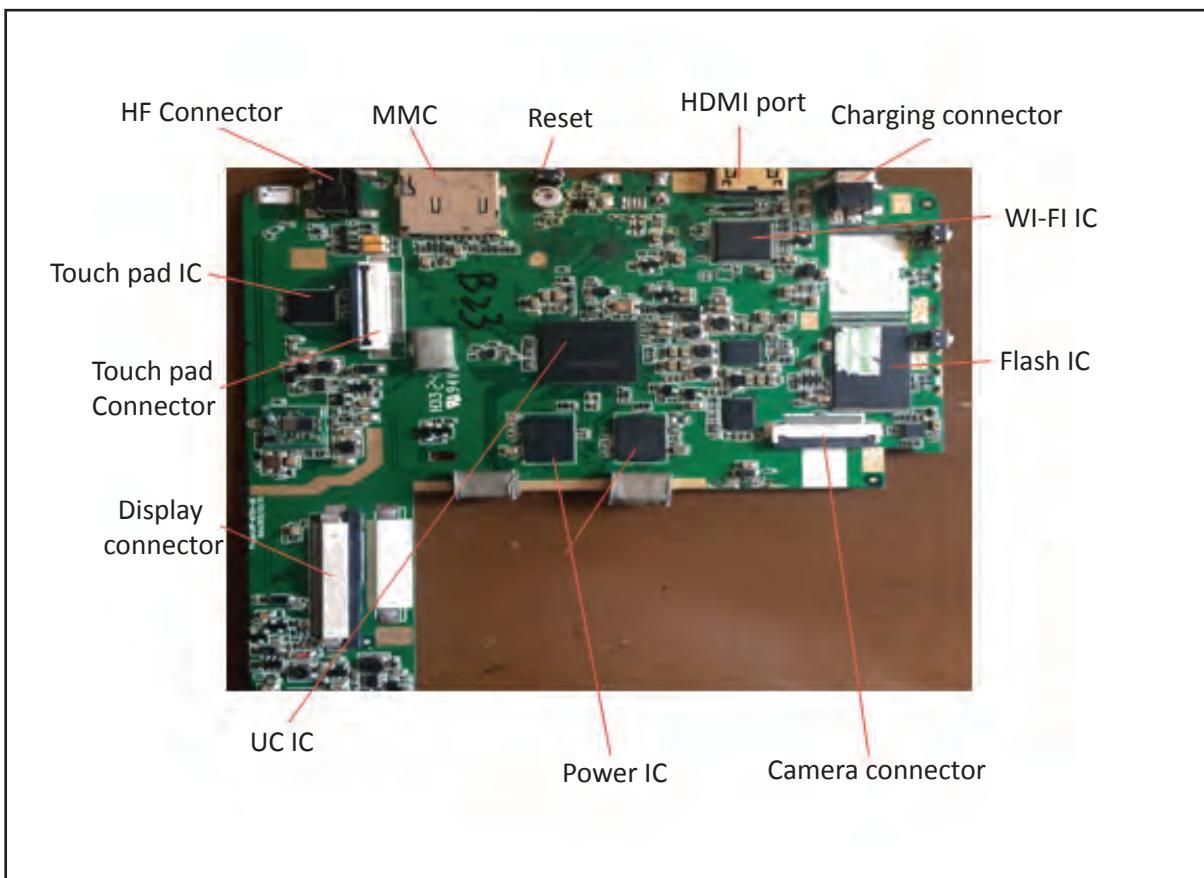


Fig: 3.3.8.13.7 Tablet PCB

3.3.8.14: Sample PCB of Various Brands & Models

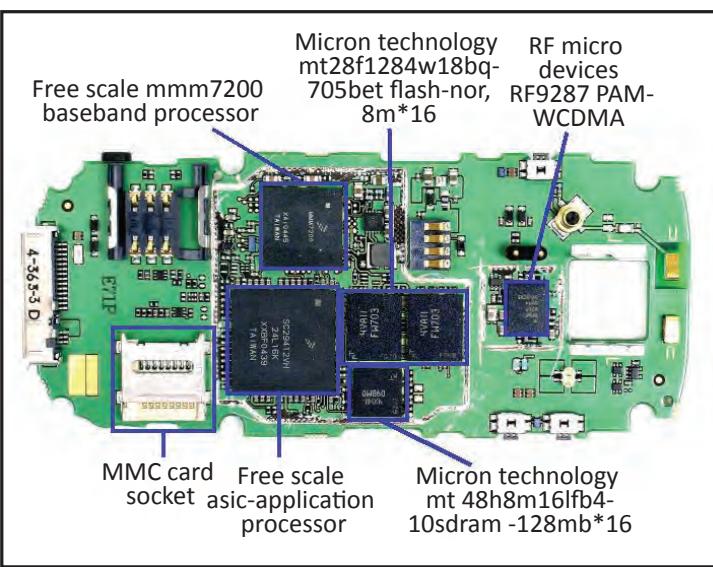
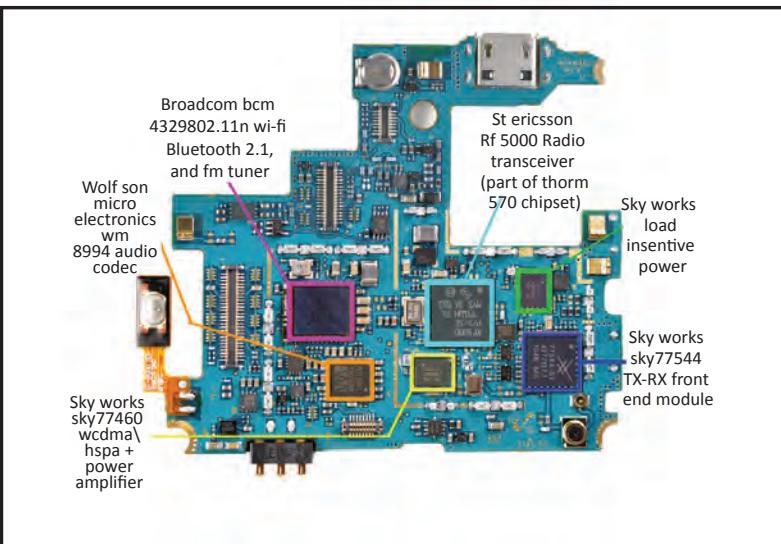
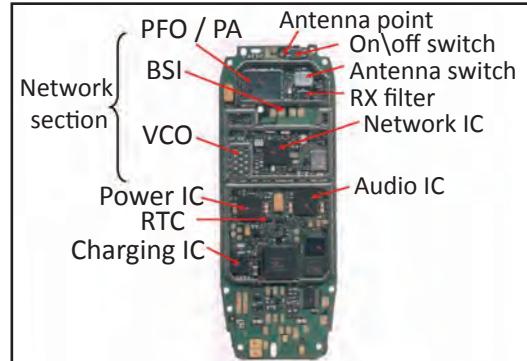
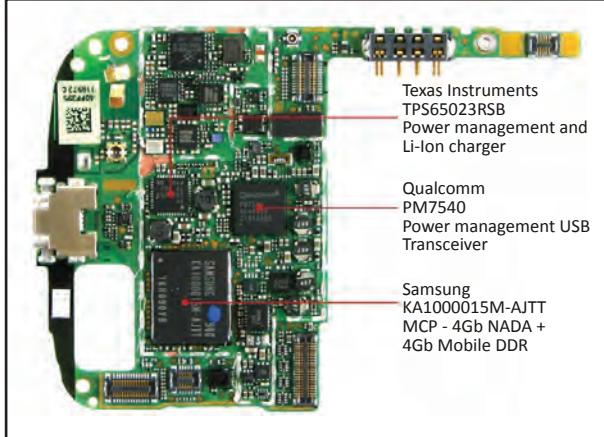


Fig: 3.3.8.14.1 Sample PCB

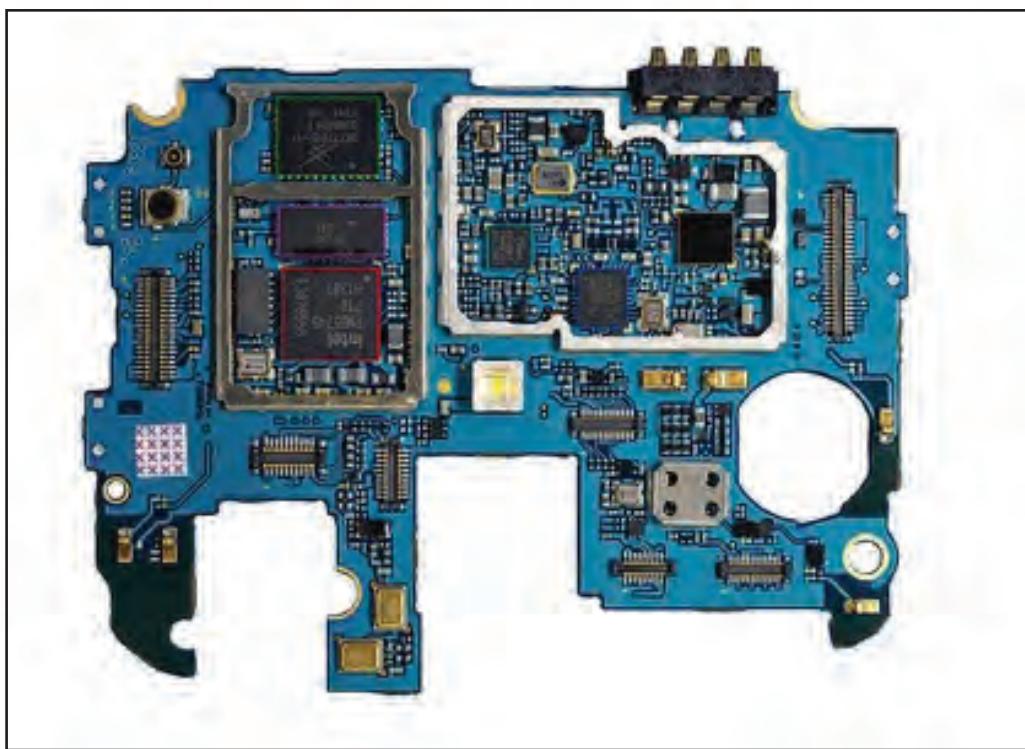


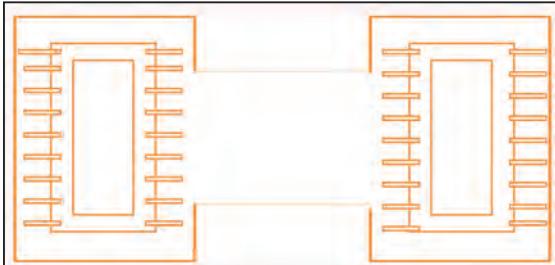
Fig: 3.3.8.14.2 Sample PCB - 1

3.3.9: Mobile Strips

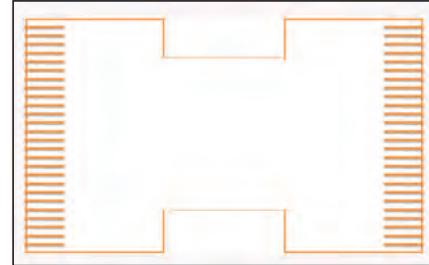
- Cable used to connect the front board and the back board is called Strip.
- What if strip is damaged ?
 - 1) Button on front board will not work
 - 2) White, Indigo, Black & Zig Zag display
 - 3) Malfunctioning of Speaker, Ringer, Call drop
 - 4) Touchpad not working even after replacing
 - 5) Back board will show light but no display on front board

3.3.9.1: Types of Strips

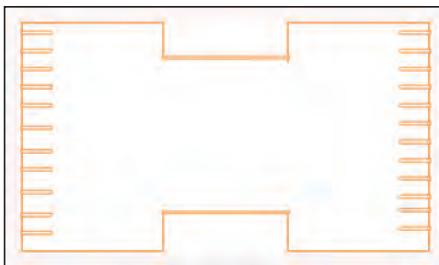
Two Side Plug only



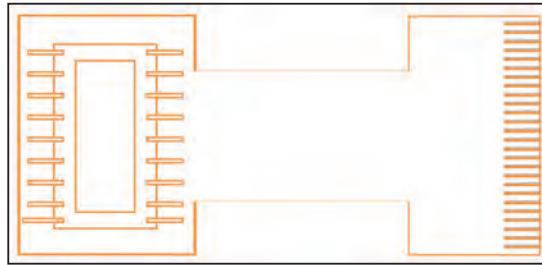
Two Side Soldering only



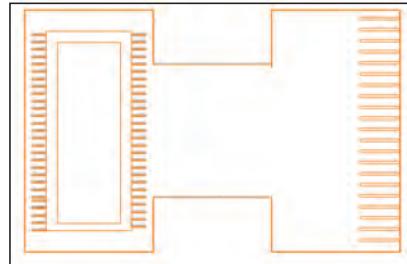
Two Side Lock only



Plug and Soldering only



Plug and Lock only



Lock and Soldering only

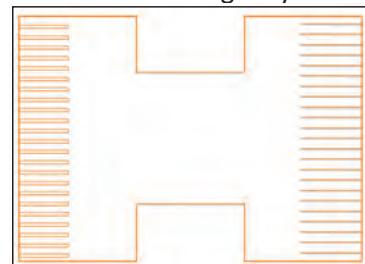


Fig: 3.3.9.1 Types of Mobile Strips

3.3.10: How to Test Components using Multimeter

Multimeter has three units namely:

- 1) Display
- 2) Section Nob
- 3) Port

Use of Multimeter

- To measure voltage and current
- To measure resistance
- To check continuity
- It helps in testing and diagnosing problems in mobile phone. To make sure whether circuit as well as all switches are working or not.

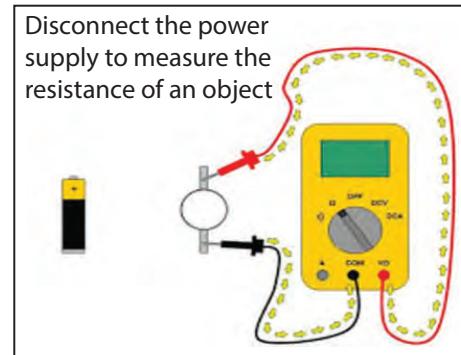


Fig: 3.3.10 Measuring Resistance

3.3.10.1: Battery

- Battery supplies power to the mobile phone
- Earlier we were using Nickel-Cadmium battery. Size and weight of this battery was big and heavy
- Now days we are using Lithium Ion battery
- If your battery is showing full charge in relatively short time and also shows voltage more than or equal to 4.3 V in open of charging then it indicates that your battery may be faulty



Fig: 3.3.10.1 Sample Battery

3.3.10.2: Ear Speaker

- Ear speaker is used to listen to the voice communication over phone.
- How we can check ear speaker ?
- Select Resistance (Ohm) on multimeter

Place both the probe of multimeter on both the point of speaker

We can check it by two different methods



Fig: 3.3.10.2 Ear Speaker

Method-1 : Post placing probe resistance range between 25-30 Ohm. If multimeter is showing range infinity then speaker is faulty

Method-2 : Turn the multimeter knob in beep mode. If you can listen to the beep then speaker is working fine.

3.3.10.3: Ringer

- Ringer is used for listening to the ringer tone.
- Ringer is like speaker except that its resistance range is 8-10 Ohm.
- In some of the mobile phone ringer is also acting as speaker, in such cases, resistance range of the speaker is 8-9 ohm.

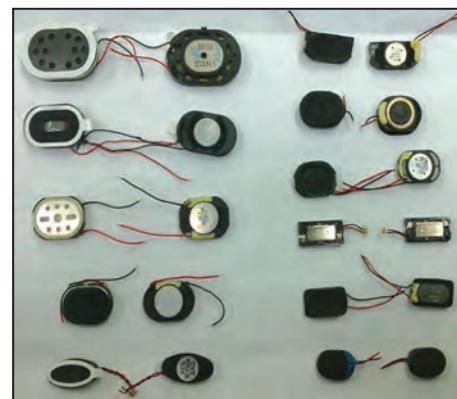


Fig: 3.3.10.3 Ringer

3.3.10.4: Mic.



Fig: 3.3.10.4.1 Mic.



Fig: 3.3.10.4.2 Testing of Mic.

3.3.10.5: Vibration Motor

- Vibration motor is used by mobile phone for vibration alert.
- How to check vibration motor
- Change the knob of multimeter in Ohm range
- Touch both the end of vibration motor with multimeter probe. If reading is showing 15 Ohm or 35 Ohm or 39 Ohm, it means it is working. In-case it shows reading “0” ohm it means vibration motor is not working.



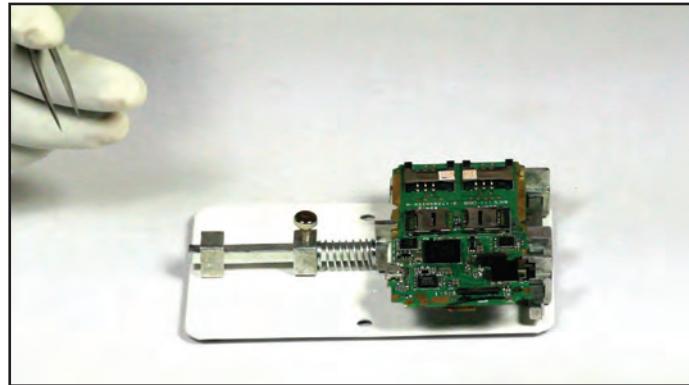
Fig: 3.3.10.5 Vibrator Motor

3.3.11: Soldering and De-Soldering Process

Understand & learn the following:

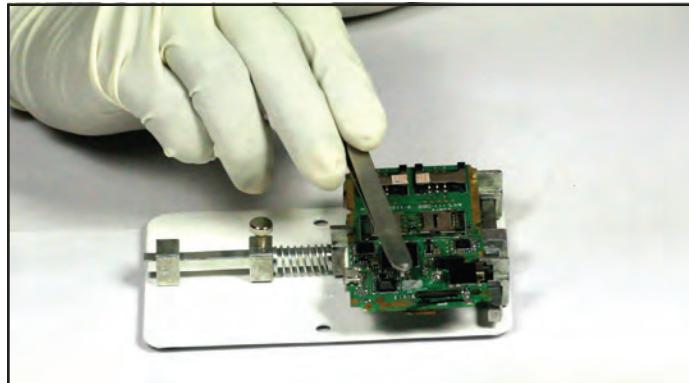
3.3.11.1: Process of Soldering and De-Soldering of Micro Component on PCB

Step 1: In this section we are going learn how do the soldering and de-soldering processes of micro component on PCB like Ceramic capacitor, Resistor or coil.

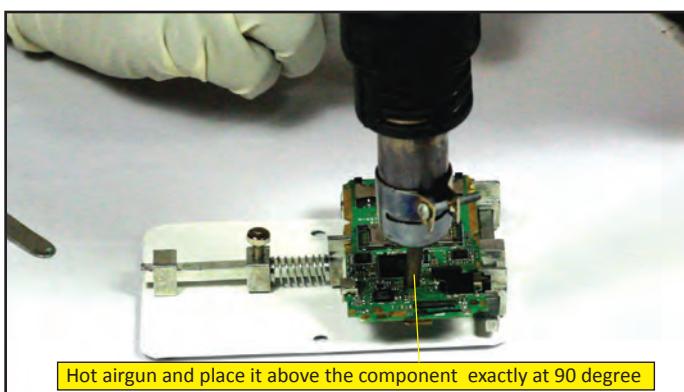


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Step 2: It is simple to remove these types of components from motherboard if we follow systematic process and we can also solder it back easily.

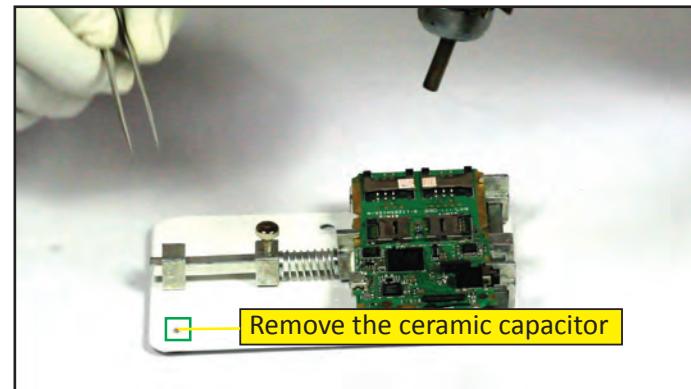


Step 3: First apply flux using tweezers on the component we need to remove. Now switch On hot airgun and place it above the component exactly at 90 degree. Now we can see this component can be separated easily from the motherboard. Remove the ceramic capacitor and keep it in safe place. Now Switch Off the hot air gun.

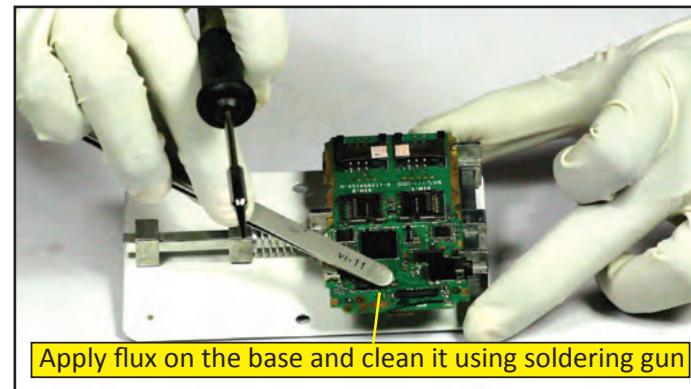


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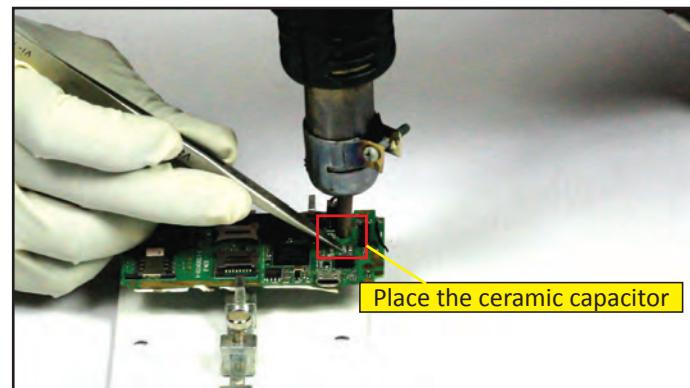
Step 4: To resolve the problem of battery discharge or battery blown or auto switch Off, we will use IP and Elmaa liquid to wash the motherboard. After drying the board using hot air gun we will assemble it back properly and after that switch it On.



Step 5: This is the base from where we can remove ceramic capacitor, apply flux on the base and clean it using soldering gun. Now we have to place the ceramic capacitor back to its location. Point the hot air gun to the location where we have to place the ceramic capacitor.



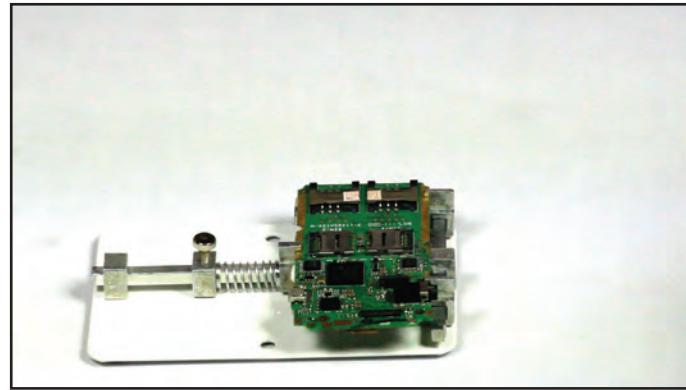
Step 6: Now we have assembled ceramic capacitor properly to its location using hot air gun. This is called soldering and De-soldering process.



3.3.11.2: How to Remove and Place IC on PCB

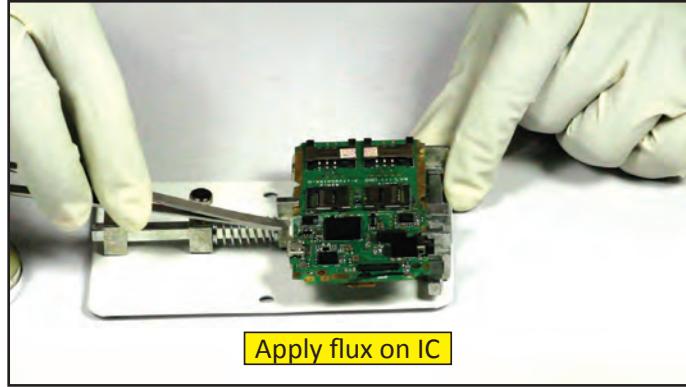


Step 1: Now we are going to learn how to remove and place IC on PCB.



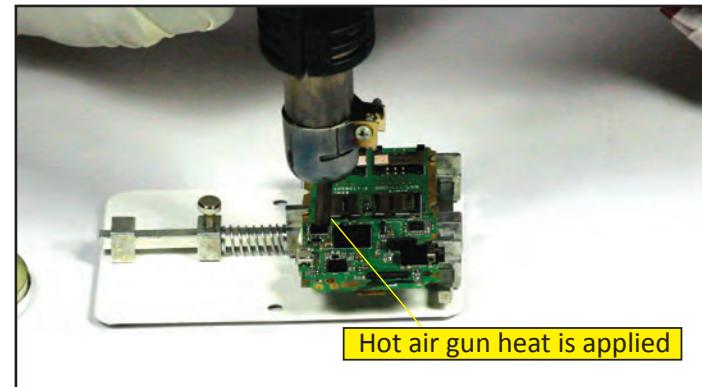
Step 2: The process we are demonstrating on this PCB can be done on any types of PCB.

We need to be very careful while holding the gun it should be straight on top of IC or any other component in 90 degree angle and have to use good quality of tweezers which can help us to lift any small components easily. Solder gun should also be of good quality so that we can perform soldering and de-soldering process easily with good finishing.



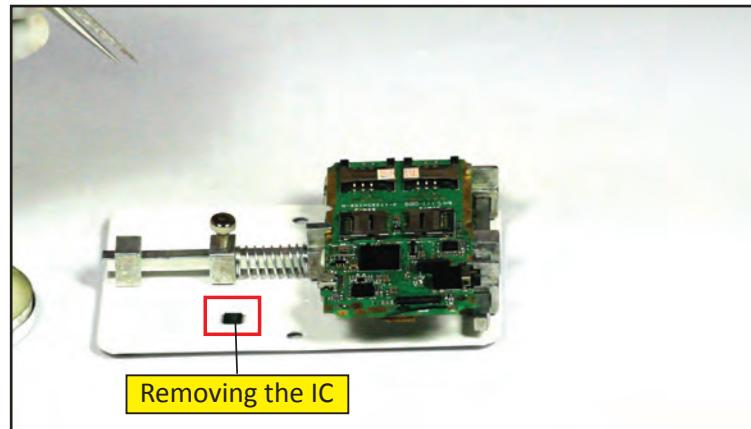
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Step 3: Now we will remove this IC using hot air gun. As you can see I have held the hot air gun at 90 degree angle on top of the IC. Now rotate the hot air gun in anticlockwise direction on top of the IC to make sure heat is applied on all sides of IC so that it will become easy to remove it. You can see I have removed this IC and kept it aside.

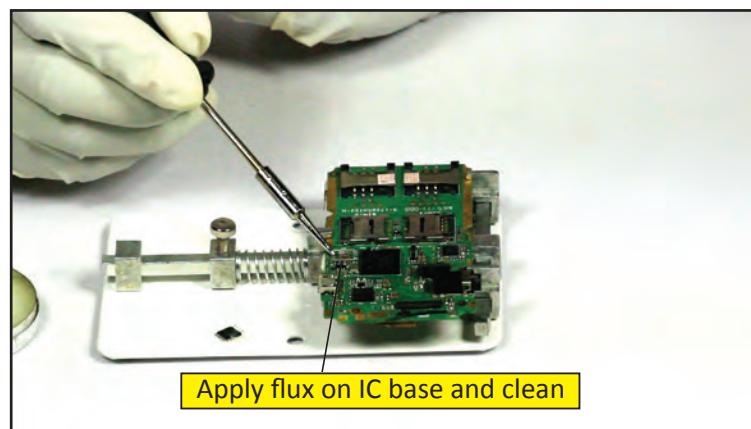


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Step 4: While removing the IC always mind the (.) Dot mark which is on top of IC, it help us to show right direction. While removing observe the (.)Dot and while placing it back make sure (.)dot is on same location. If IC is placed in a wrong way on PCB it will cause shorting on the mobile and it may lead to permanent damage to the PCB.



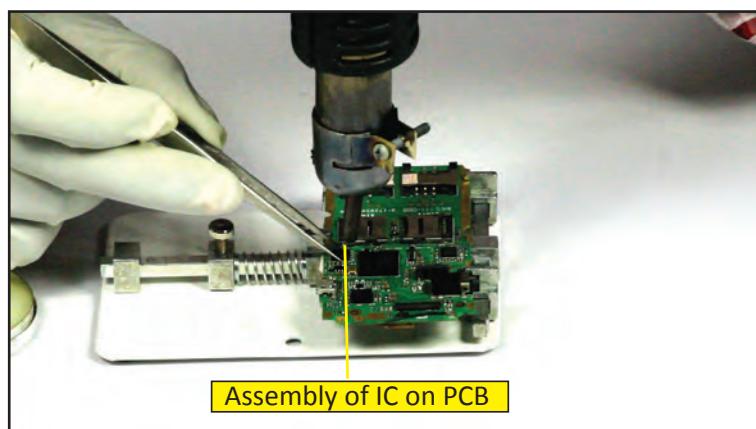
Step 5: Now inorder to place the IC back, we will apply flux and with the help of soldering gun try to do the re-soldering. At first we will clean all the legs then after apply flux on IC base and clean it properly.



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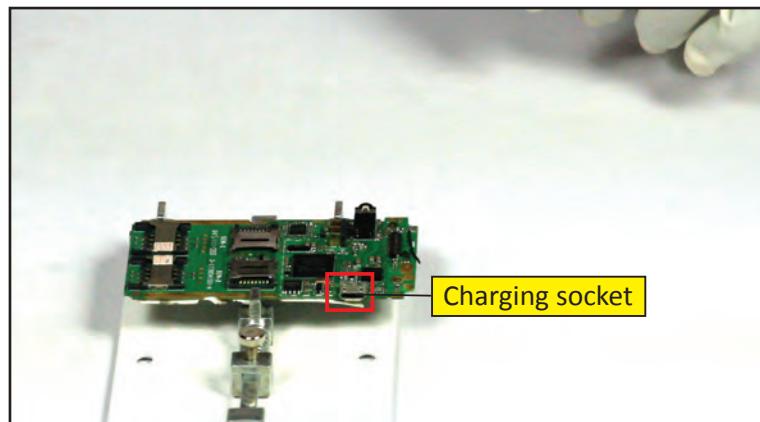
Step 6: We will assemble the IC back to its location from where it was removed. Apply heat at base of IC using hot air gun so that base will become thin. It will help us to do the assembly of IC on PCB.

Now we have assembled this "leg type IC"



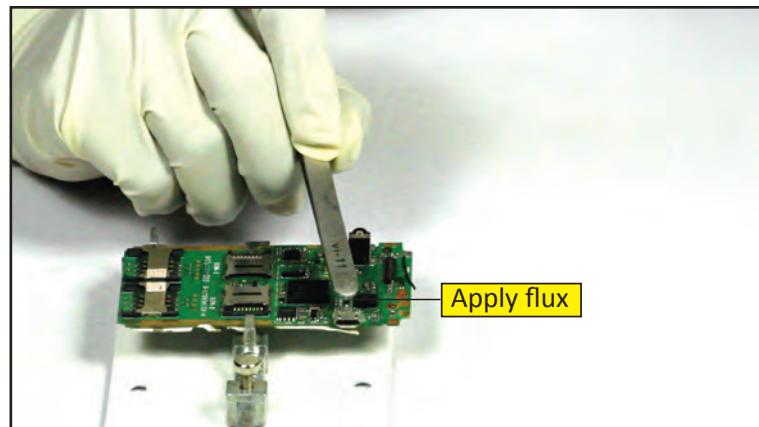
3.3.11.3: Charging Socket Soldering and De-Soldering on PCB

Step 1: Now we will learn how to remove and assemble charging base which is also called charging connector or charging socket and how to do soldering and de-soldering process.

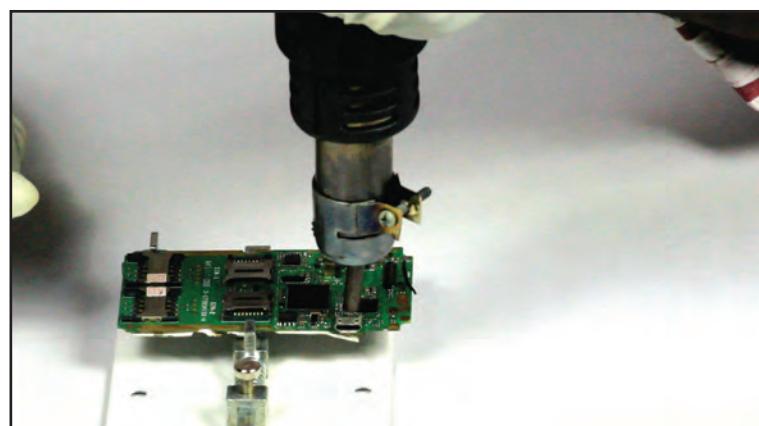


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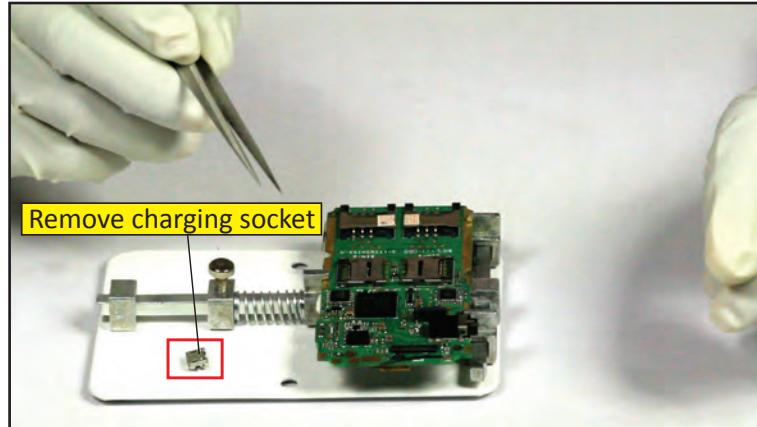
Step 2: Now we will see how to use hot air gun in this process. Switch On the hot air gun and place it on top of component we have to remove and apply flux on base so that component can be removed easily.



Step 3: Now we will rotate the hot air gun close to charging socket in half circle. Make sure air should be less while doing this process as it may damage other small components in the surrounding area on the Mother board.

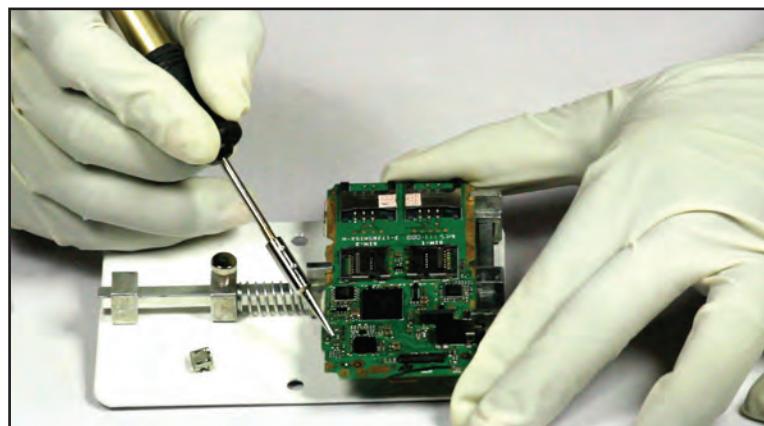


Step 4: Now you can see we have remove this charging socket from PCB. This is the lower portion of charging base where it is getting soldered.

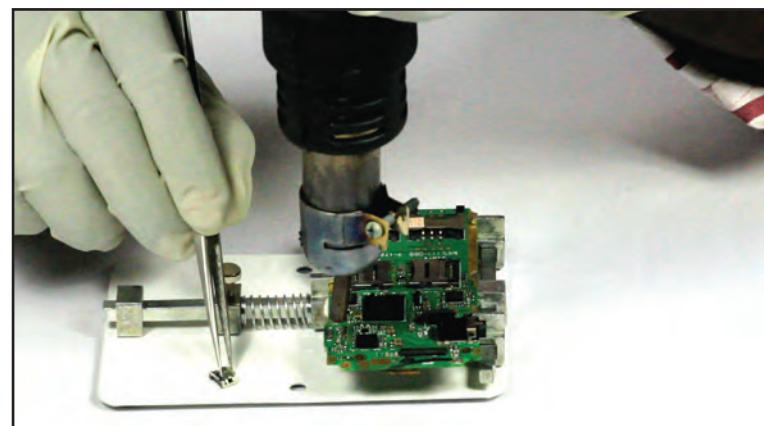


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Step 5: Now apply flux on base and clean it properly using soldering gun. Even we are assembling new IC on board, we should first apply flux and clean the base so that it will become easy to assemble it using hot air gun.

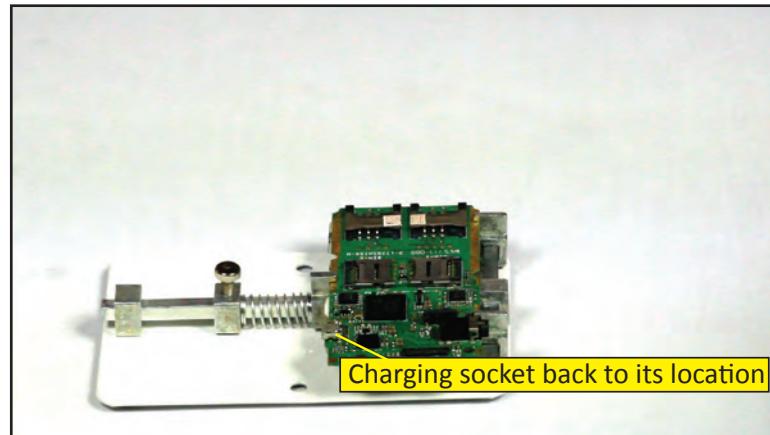


Step 6: Now we will apply heat on the base using hot air gun so that solder will melt and become thin. Once it melts we will place the charging socket back to its location.



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Step 7: Now we have assembled the charging base and as you can how easily it is assembled.



3.3.12: Systematic Process to Test Dead Mobile Phone

Understand & learn the following:

3.3.12.1: Dead Mobile Solution

Today we are going to learn testing process of a dead android mobile phone. First of all we will open the dead mobile phone and take the PCB out. Now you can see this is PCB. We will test the motherboard with the help of multimeter and try to identify and resolve the problem in mobile phone.

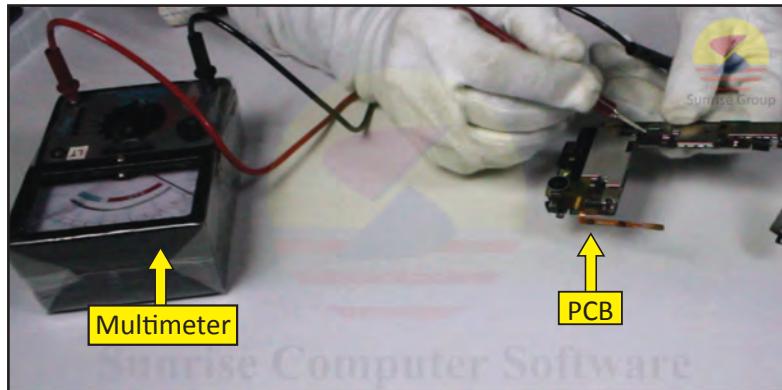
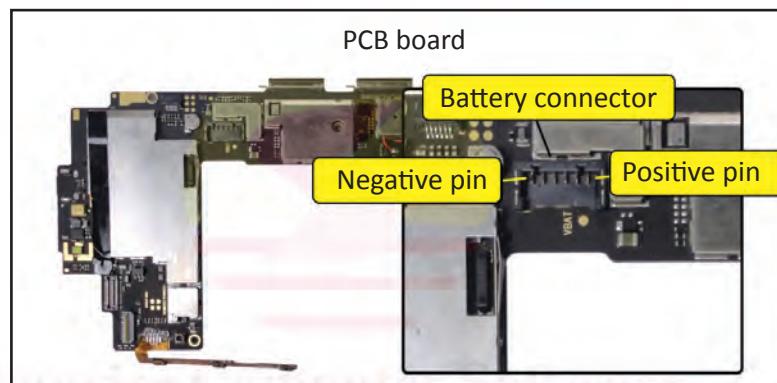


Fig: 3.3.12.1 Testing of Dead Mobile Phone

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3.3.12.2: Systematic Process to Test Dead Mobile Phone

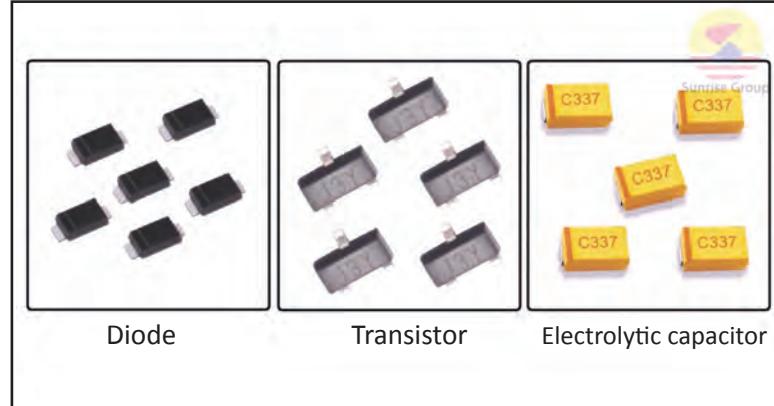
Step 1: First check the continuity of battery connector of motherboard. This helps us to identify whether the problem in mobile phone is related to hardware or software. We are going to test battery connector continuity on the battery connector's pin. This mobile is having 2 pins for positive (+) and two pins for negative (-).



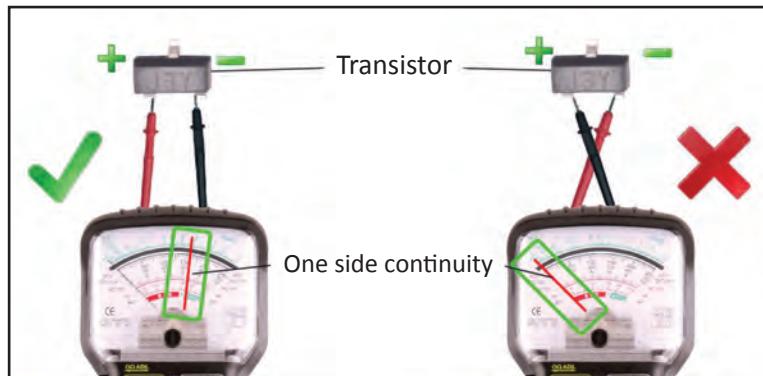
On multimeter it is showing continuity as it is showing multimeter pointer moving forward, it means supply is going from positive to negative. If we change the multimeter probe in reverse direction, multimeter pointer will not move forward. In case pointer is moving forward, it means mobile is having some hardware problem.

As you have seen we have checked battery connector pin by reversing the multimeter probe and multimeter pointer was not moving, this clearly indicates mobile is not having any hardware problem and also there is no shorting in any components of the mobile phone.

Step 2: Now we will do physical inspection of PCB to make sure any of the components is not looking black or burnt out.



Step 3: Now we will test components like Diode, Transistor, Regulator Module, Electrolytic Capacitor etc.. weather it is working or not. Diode, Transistor, Regulator Module, Electrolytic Capacitor are the generic components and available in types and brand of mobile phone.



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Step 4: We will test the continuity of these components; all these components during test process will show one side continuity. In case any of these components are showing both side continuity this means that particular component is faulty and we need to replace it. After replacing the component probably problem will be resolved and we can turn dead mobile to working mobile phone.

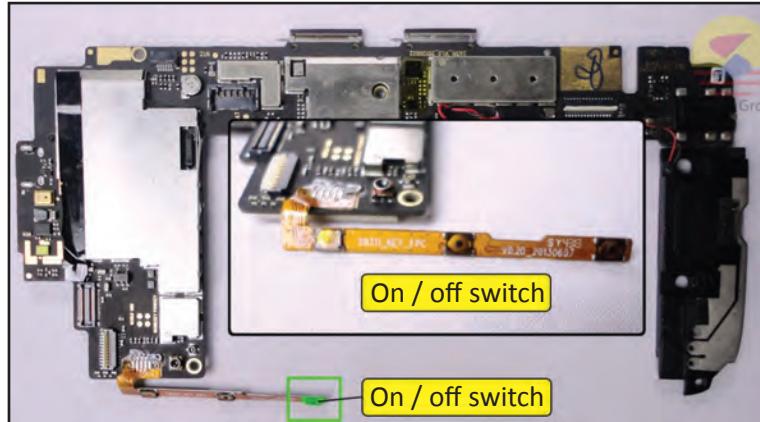
Now as we can see battery connector of this mobile phone is proper, board is also proper as there is no mark of repairing or burnt component thus we can say we are giving proper service to this mobile and we can make it operational.

This mobile battery is showing voltage and also not receiving charge. This means due to reduce Ampere capacity battery is not in a position to accept voltage capacity thus not getting charged.

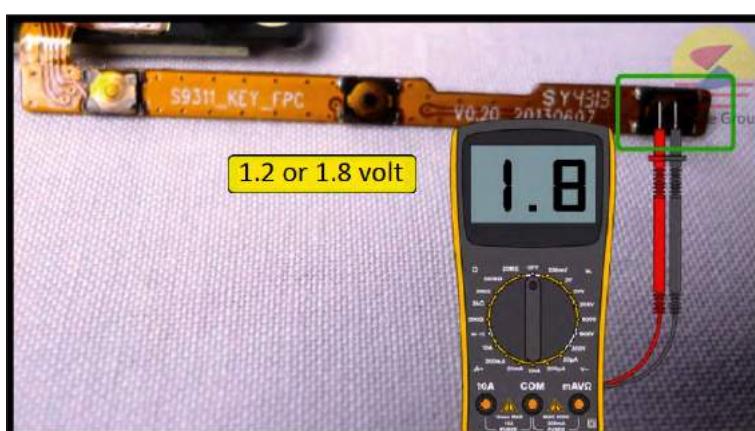
Now we will place new battery in the phone and will try to switch it ON. After that only we can do the power testing because for power testing we need charged battery connected to the mobile phone. We will test the On/Off switch.

Step 5: Remove the plastic cover which is on top of ON/OFF switch and inside the plastic cover we can see the power supply point. We can test this point with the help of multimeter to ensure battery supply on the point.

If we test On/OFF switch point, it will show 1.2 or 1.8 volt. If power switch point is showing power supply we can switch On the mobile phone.



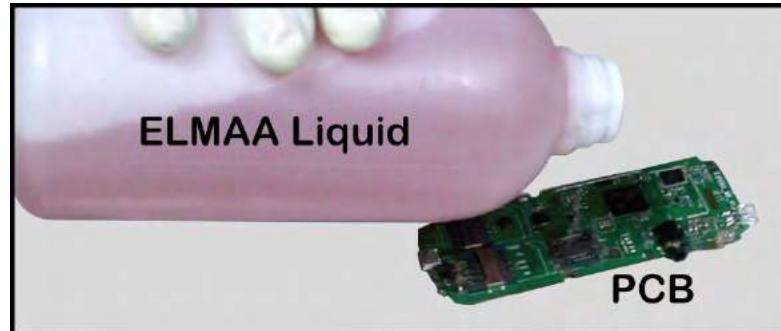
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Step 6: As we can see there are dust particles in the mobile. Headphone and Microphone areas are also having dust particles. Antenna socket and speaker is also having some spots. This visual inspection tells us there is a high level of dust and humidity in the mobile phone.

In such case we need to do the servicing of the mobile. We have to use Elmaa and IP liquid used to wash the PCB. First we need to remove all metal cover and then start washing the PCB.



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Step 7: Now we have to reassemble all the parts of mobile phone. Once all the parts are reassembled we can switch it on and test it again. In more than 90% cases mobile will start working



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3.3.13: Servicing Mobile Phone Having Water Inside

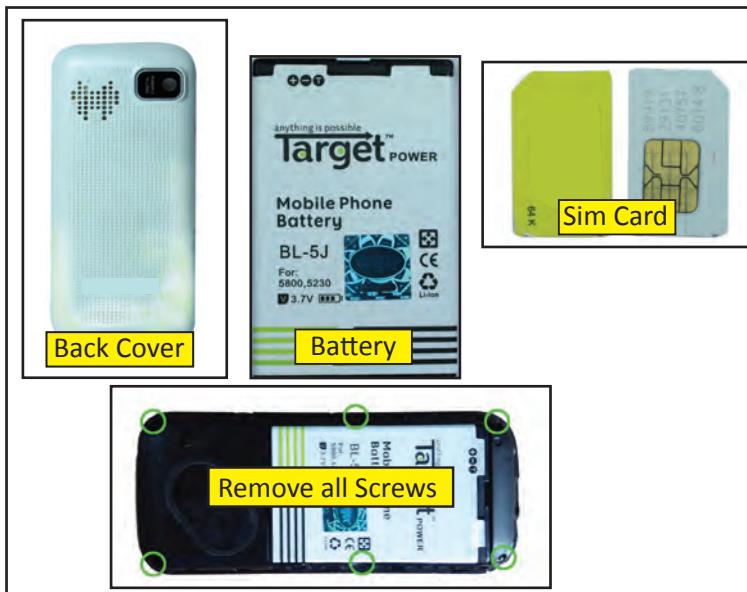
Step 1: When mobile phone falls in water, take it out immediately and shake it so that water should come out. Make sure not to press any of the buttons on the mobile phone.

Step 2: Then remove back panel (back cover) of the mobile phone.

Step 3: Now remove battery of the mobile phone so that mobile get's switched Off immediately. It is necessary because when battery is connected it gives supply to the mobile phone and in such situation in case "ON" button will be pressed, it can cause shorting on the motherboard especially to the areas having presence of the water particles and can cause permanent damage also.

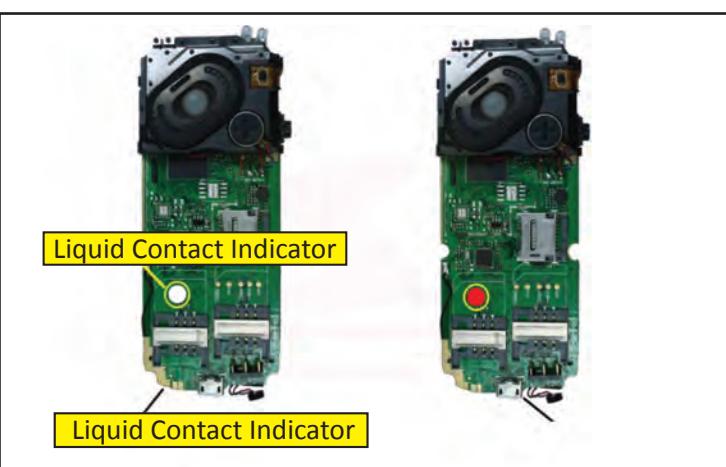
Step 4: Now remove SIM card from the mobile phone.

Step 5: Now remove all screws from the body of the mobile phone and open it slowly to remove the front panel. Once the mobile is open we can see the presence of water particle on the display, front panel and speaker areas.

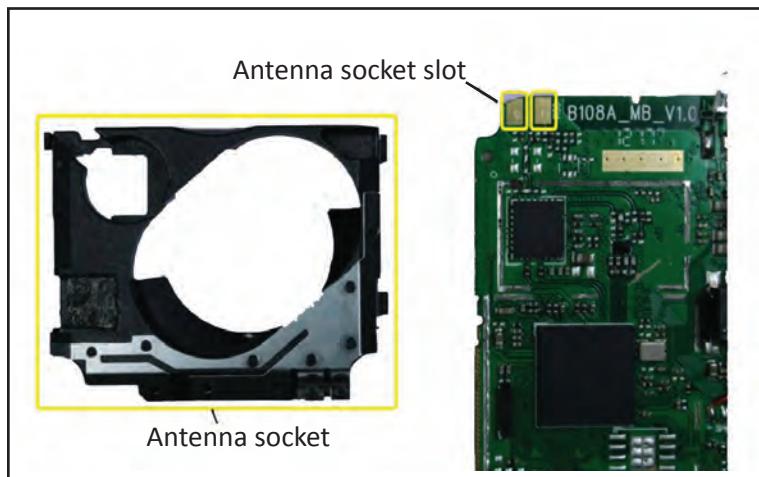


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Step 6: Now remove motherboard from the middle body. Motherboard of all brands and model mobile phones having one white paper called "Liquid Contact Indicator" paper. Once it comes in water contact, its colour change to Red. This helps to detect problems due to water at the service centre.

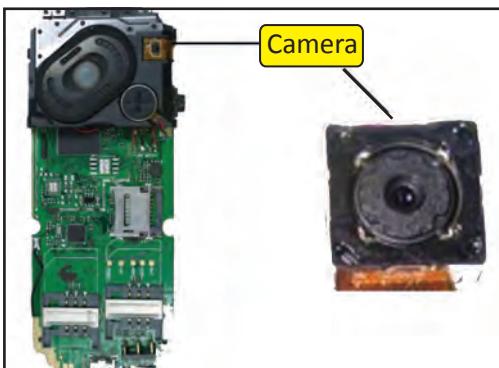


Step 7: Now remove antenna socket which is at back side of the mobile phone.

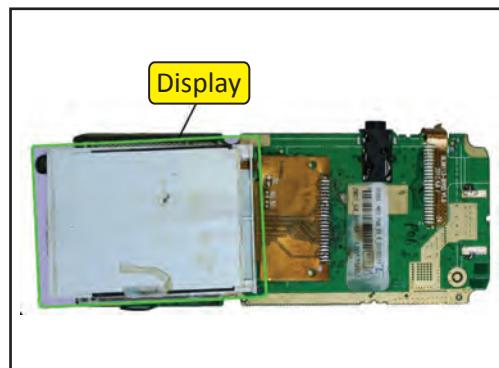


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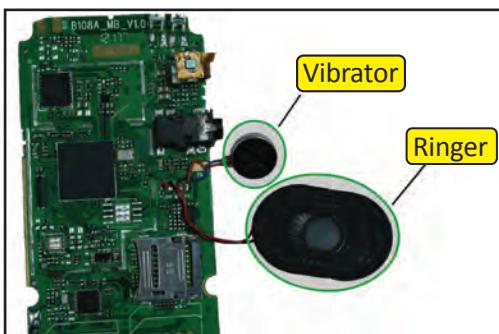
Step 8: Now remove camera



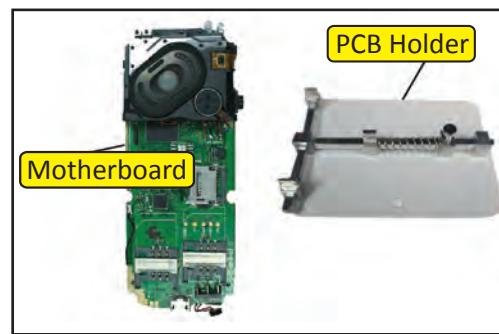
Step 9: Now slowly lift the display



Step 10: Now we have to remove ringer and vibrator from PCB



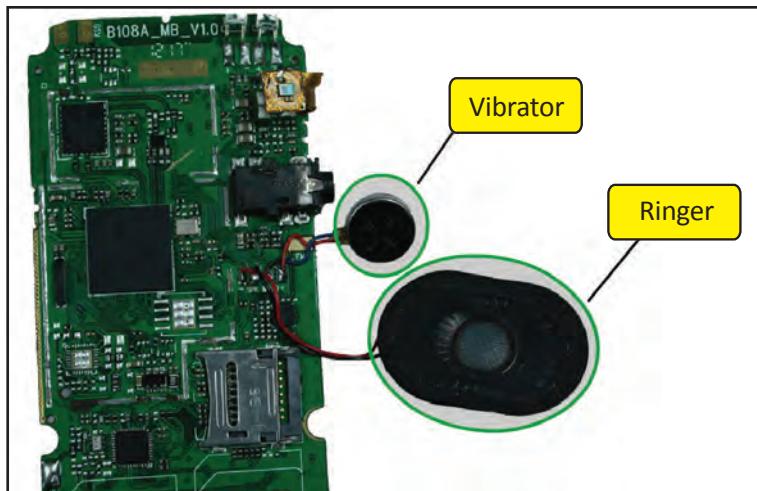
Step 11: To remove parts from motherboard set the motherboard on PCB holder



Step 12: Now remove speaker and ringer form motherboard. First remove vibrator using hot air gun and same way we will remove vibrator



Hot Air Gun

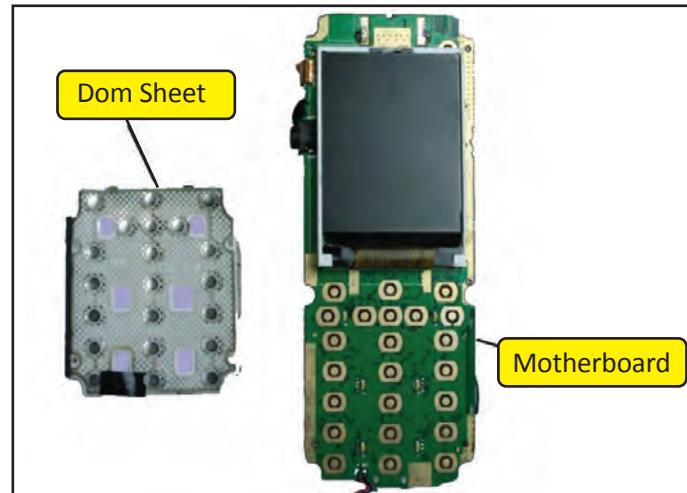


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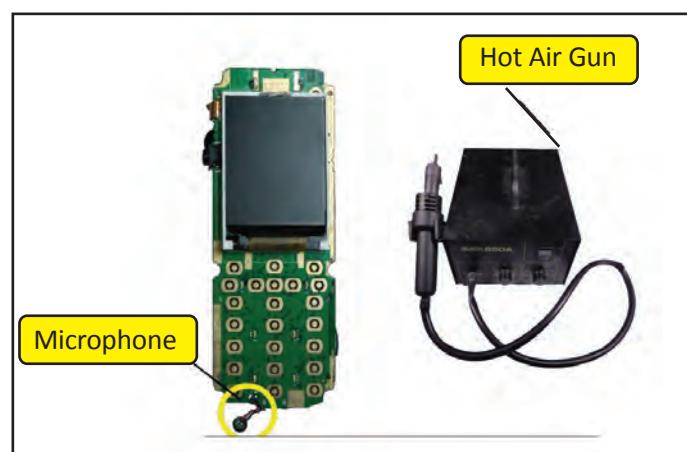
Step 13: Now remove motherboard from PCB holder and remove middle keypad (Dome Sheet) using tweezers

Step 14: Now we have to remove Mic. And display using hot air gun. Lower end of display is connected on to the motherboard. Pull the display slightly upwards as it helps to remove display using hot air gun. Be-careful while doing this process and do not apply any force. Now place the motherboard back on the PCB holder.

Step 15: To remove MIC apply soldering paste on Mic. using tweezers and using hot air gun remove Mic.



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Step 16: Now we have to remove display very carefully as display solder is very fragile. Never apply pressure while putting or removing Display. Apply heat using hot air gun and very slowly remove it. Before using hot air gun we should apply soldering paste at display solder location. Post applying soldering paste, hold the display and apply heat from one corner to another corner. Due to the effect of the heat display will slowly detach from soldering point. Post removal of display, we can see all the pins on display strip and motherboard are intact.



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Step 17 : Now remove motherboard from holder

Step 18: Now we have to service motherboard using I.P.A and Elmaa liquid.

Step 19: First apply Elmaa liquid on the motherboard and clean the board using brush. It helps to clean dust and moisture from the motherboard.

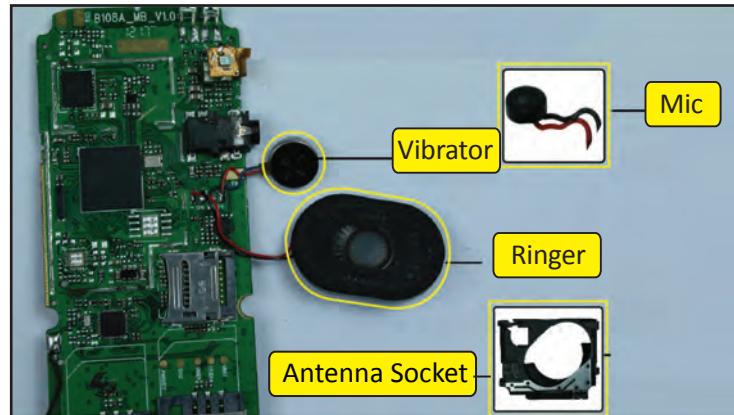
Step 20: Now turn the motherboard and repeat the process with Elmaa liquid on back side of motherboard also.

Step 21: Now wash both side of the motherboard properly using I.P.A liquid

Step 22: Now dry the motherboard properly by applying heat using hot air gun. Once front side is dry turn the motherboard and dry the back side also. Post drying process check the motherboard very carefully to make sure it is not wet at any point on either side. In-case we find wet spot dry it back using hot air gun.

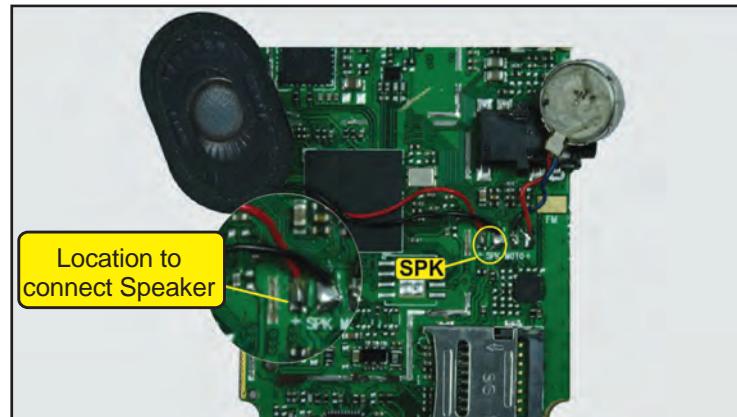


Step 23: Now we have to do the fitting of all parts which were removed, one by one and for that again place the motherboard on motherboard holder

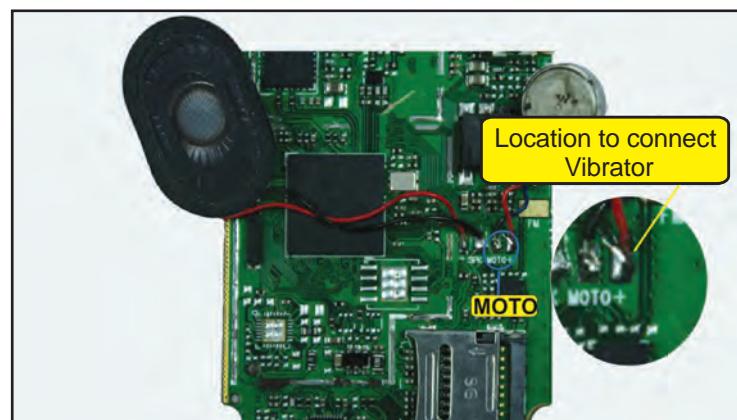


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Step 24: Now we will connect speaker. Location from which speaker was taken out having text marking SPK which indicates speaker location next to that location we can see text MOTO, it means Motor Vibrator. This indicates place to connect Vibrator. Text marking helps us to locate part's location on the motherboard. Now we will place both the parts at their respective locations.



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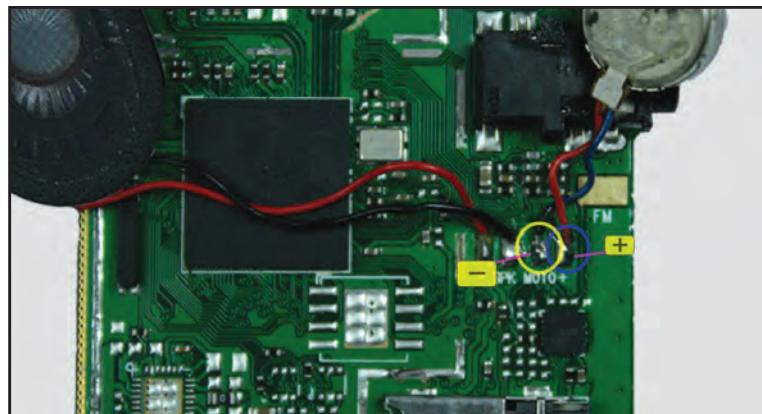


Step 25: Be careful while soldering the wire, always connect positive wire with positive pin and negative wire with negative pin. Location for positive is marked with “+” where as negative is marked with “-“ sign.

Step 26: Before soldering the wire apply small amount of soldering paste on its base. Then do the soldering of negative wire first and then after positive wire. Make sure to use good quality of soldering iron for better result.

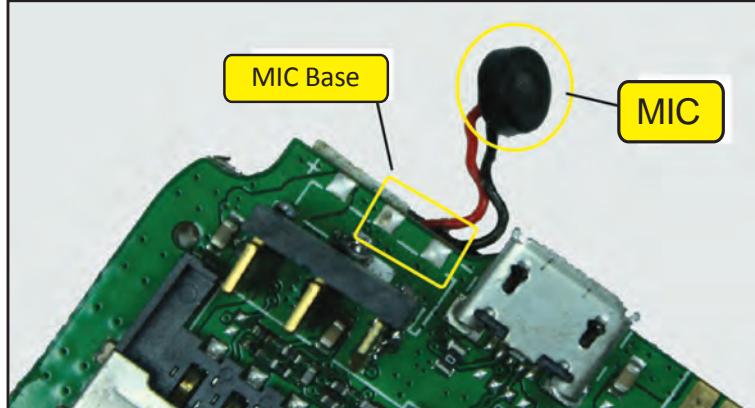
Step 27: Now we have to do soldering process for Vibrator and Ringer.

Step 28: Now we have to connect MIC. MIC is getting connected at front end module and for that we need to turn the motherboard and place it PCB holder.



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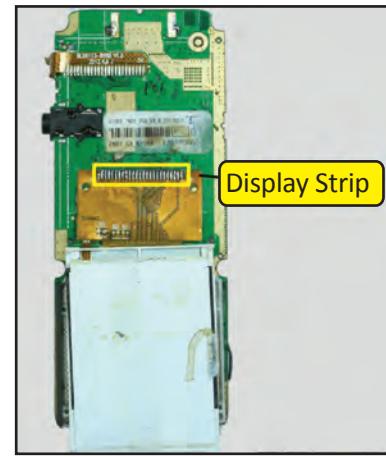
Step 29: This is the base of MIC and it is an universal MIC which can be connected in many types of mobile phone. First apply small amount of soldering paste on the base and then with the help of soldering gun connect the MIC with the board.



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Step 30: Now we have to connect display and for that first we apply soldering paste on the base and clean the base using soldering iron so that we can do the soldering without any difficulty. Now we have to apply soldering paste on motherboard display pins and clean it using solder gun.

Step 31: Now we will do the soldering process of display pins. Initially We need to do the soldering of first pin and then last pin and then after we have to do the soldering of all pin one by one. We will again do the soldering of first and last pin, if we are not getting better solder result then clean the pin and apply little bit solder wire so that soldering can be done easily. Now apply soldering paste on rest of the pins so that we can do the soldering easily in small time. Benefits of applying soldering paste is that it doesn't allow the pins to be soldered together thus before soldering it is must to apply soldering paste. Now with the help of solder gun we wil do the fitting of display strip on motherboard.



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Step 32: Remove motherboard from holder. We have to now check whether post servicing and assembling this mobile is working properly or not and for that we will do the fitting of the middle keypad (Dom Sheet). Now connect battery in the mobile and try to switch it ON. As we can see the mobile is switched On this means we did the servicing of this mobile successfully. Now we will press the keypad button to make sure key pad buttons are working. Now this mobile is working properly.

3.3.14: Jumpering

Understand & learn the following:

3.3.14.1: Jumpering Process

Step 1: During repair process of mobile phone we may need to do the jumpering process. In this section we are going to learn how to do the jumpering process.

When any track is broken in the mobile phone and need to connect it back, we need to do the jumpering process to connect the track and it is called jumper wire track. We are going to learn the process to reconnect the track.

Step 2: Now we are going to learn how to do the jumpering process. As we have already discussed when any track in the mobile is broken and needs to reconnected we need to do the jumpering. The wire used in jumpering process is a copper wire and called Jumper wire. Now we are going to do the jumpering process using copper wire.



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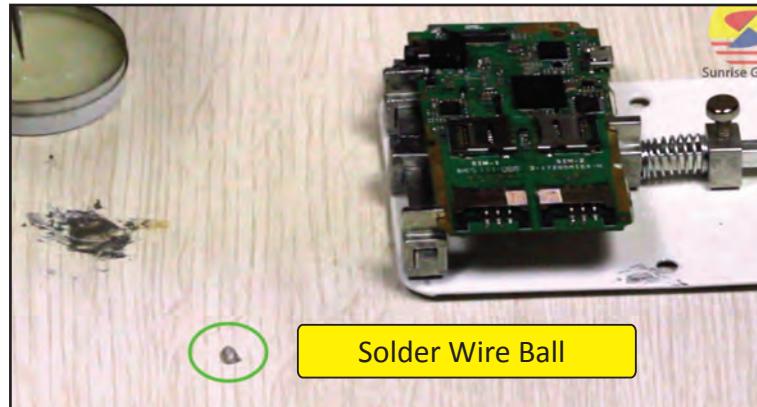


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First of full we have to make soldering ball using PPD paste. In case we do not have PPD paste we can also make soldering ball using soldering wire.

Now apply little bit flux on the jumper wire and also on soldering ball we have made. Keep the jumper wire inside soldering ball so that plastic coating on jumper wire will be removed and it will be coated with silver solder. Now we can see the silver coating on one end of jumper wire.

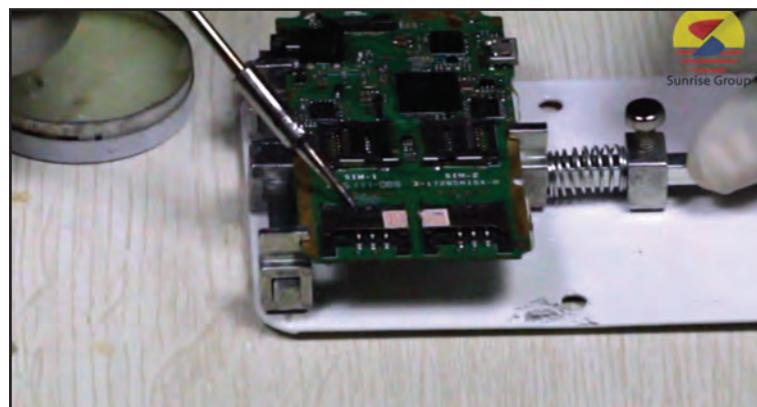
Step 3: Now we will apply PPD paste on another corner of the jumper wire and after that apply flux. After that put it inside PPD paste ball and now we can see this corner of the solder wire is also coated with silver coating. Now this jumper wire is ready for the jumpering process.



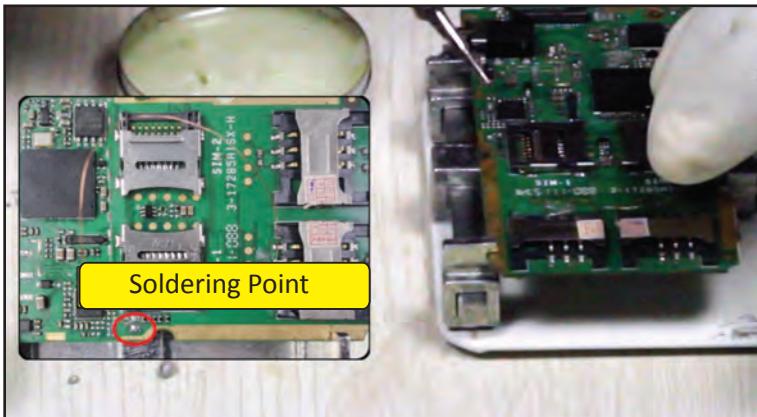
Solder Wire Ball

Scan image to view Mobile Video

Step 4: Apply flux on the location where jumpering is to be done on the motherboard. Now we will apply flux on SIM tray. Then with the help of solder gun apply flux on the base of SIM tray to achieve better soldering result. Now we will do the soldering of one end of jumper wire. Hold the wire using tweezers and do the soldering process. Hold the wire for few seconds on SIM tray base for better result and then leave it.



Step 5: Now we will use another end of jumpering wire to connect broken track. You can see silver base on this track. We will clean the base with the help of solder gun and then apply flux to do the soldering of another end of the jumpering wire. Here we can see we how we did the jumpering from SIM tray pin to base of track. This process is called jumpering

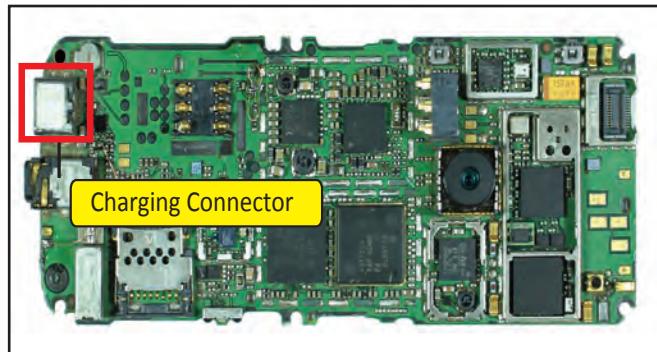


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Mobile phone may face various problems like Ringer, Speaker, Network, charging etc.. In these types of problem if the track is broken, we can connect it back using jumpering process and resolve the problem.

3.3.14.2: Charging Connector Jumpering

Step 1: We are now going to learn charging connector jumpering. Usually charging problem in mobile is similar to other problems like phone not charging, not showing charging, even after charging battery get discharged very fast. We will first check charging points. There are two types of charging ??tender. First type is plug which is having tips



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connected and another type is soldering which is using soldering process. Plug is having one (+) plus and another (-)minus point. We need to check the continuity of these points. To check it we need to use multimeter. Keep the black wire on ground and check with red wire. If this point is getting beep sound this means it is minus where as on another point it is showing reading that means it is plus point. If beep and reading both are observed that means charging connector is working fine.

Step 2: In case either of reading is not coming then for (-) minus part we can do the jumpering from any ground point. Minus (-) signs are visible on board at various locations but for plus point we need to search for its fuse first. Fuse is mainly located above the connector.

This is fuse. This fuse helps to restrict electricity flow inside and also protects from high power flow inside. In-case of mobile blast, first its fuse gets blasted thus protecting us from any damage. First check the reading on fuse point, mostly we will find reading at this point. If we find reading then for (+) plus point we need to do the jumpering from fuse (+) plus point. Apply flux on tips and fuse point . Cut the jumpering wire as per requirements. Rub the tip of one side of the jumpering point and do the soldering at the (+) plus point of the fuse.



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Step 3: Now check the reading from another end of jumpering wire, if it is showing reading then solder has been done properly. In case you will observe beep that means solder is not done properly. As we need to do proper soldering at this point. We have finished the soldering on fuse (+) plus point now do the soldering of another point of jumper wire at the tip of charging connector (+) plus point. Once the soldering is done test it out for proper connectivity.

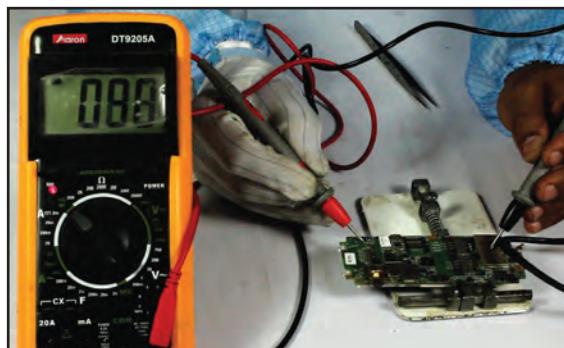
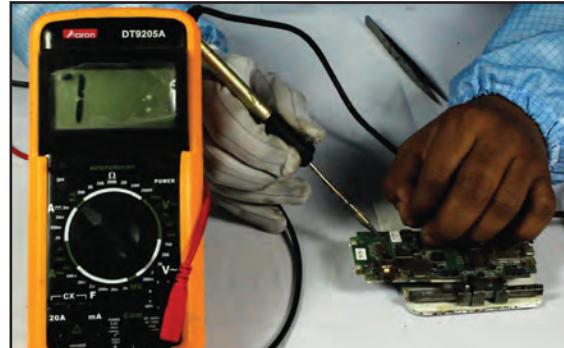
By doing this process we can resolve mobile charging problem.



3.3.14.3: Jumpering of Speaker, Ringer and Mic

Step 1: In this section we are going to learn jumpering process of Speaker, Ringer and Mic. This is mobile ringer and you can see Mic on the lower side of the ringer.

First we will do the jumpering of the Ringer. This is (+) plus and (-) minus point of ringer. When we remove ringer and during removal process if track is broken or there is no supply on track, then we need to give supply on backward registration point. We have to search reading for (+) plus and beep for (-) minus. As we can see at this point it is showing reading and at this point it is showing beep thus we from here we can give connection to (+) plus and (-) minus.



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We need to apply flux on the point then cut the required length of the jumpering wire. Then do the soldering of one end at (+)Plus and another end at (+) plus point. As you can see we, finshed the soldering of (+) plus.

Step 2: Now we are going to do the jumpering of (-) minus. Apply flux on (-) minus point cut the jumper wire as per required length. Connect one end of jumpering wire on (-) minus and another end on (-) minus point by proper soldering. Now we have given connection of (+) plus from (+) plus and (-) minus from (-) minus. Now place the ringer back to its designated location.



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We can do the same process for Mic. As it is also having one (+) plus and (-) minus point. If we do not observe reading then we can give the connection of (+) plus and (-) minus from upward registration to get the reading.

For speaker also we have to do the same process as it is also having one (+) plus and one (-) minus point and we can given connection using same process from upward registration.

3.3.14.4: Headphone Connector Jumpering

In this section we are going to learn headphone connector jumpering process. Before doing the jumpering of headphone first we need to understand the problem.

Step 1: Headphone jack connector may be damaged – This problem can be resolved by replacing head phone jack. If even after changing the headphone jack in which headphone connector is getting connected is showing headphone sign but still not properly working then we need to do further testing to resolve the issue.

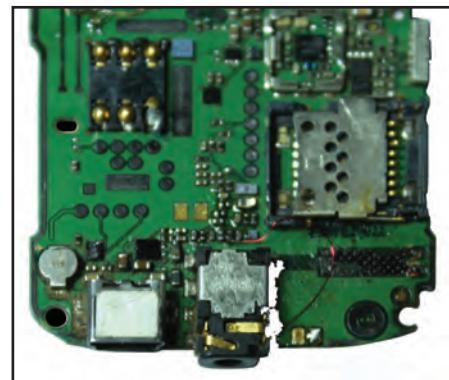


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Step 2: Headphone track is broken – If the track of headphone is broken then we need to do the jumpering of headphone connector.

Step 3: Even after removing headphone jack mobile stay back in headphone mode in such a situation we need to do the jumpering of headphone connector.

Step 4: Usually there are eight tracks of headphone connector, some headphones are having 6 tracks also. Out of these tracks there are two main tracks. We need to test this track using multimeter. While testing we need to observe reading on multimeter. This track is (+) plus and the track giving beep is (-) minus. This means in main track this is (+) plus and this is (-) minus.



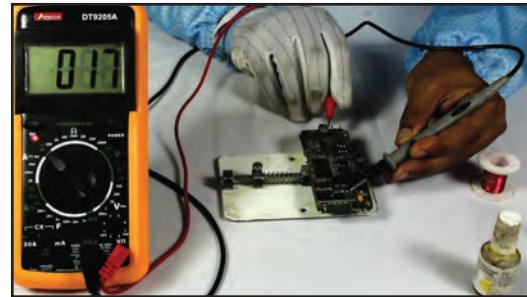
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If even after changing headphone connector we are not getting (+) plus and (-) minus track then we need to connect these track together.

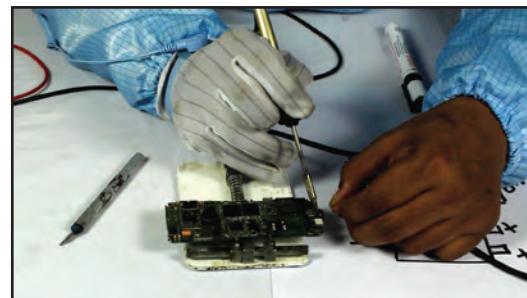
In this headphone jack we can see the reading. This point is showing reading, it means it is (+) plus and on this point it is showing beep this means it is (-) minus. If beep is not coming from (-) minus point then we can give supply to this point from any ground point available on the board.

This is a ground point, from this track top second and second from the bottom are ground points. All these First, second, third and forth points are (+) plus points. Without doing anything with ground we have to give supply to (+) plus. We have to give supply to (+) plus from these registrations. We need to search (+) plus point from this number 2 registration. This is registration (+) plus . We need to do jumpering from this registration (+) plus point.

Step 5: In order to do the jumpering first we need flux. Cut the jumper wire using cutter and rub the end to remove plastic coating now cut the jumper wire as per required length. This (+) plus point needs to be connected to number 2 point. This is the solution for the first problem.

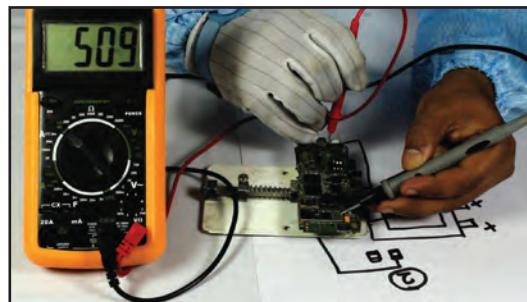


Step 6: In-case even after changing headphone connector, left side and right side is not working or sometimes left side is working whereas sometimes right side is working in these situation we need to check these two tracks, 2nd from top and 2nd from bottom. If left or right side is not working then we need to check these tracks.



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Step 7: We are going to check these two tracks. From this point we can see the reading and also from number 2 we will see the reading. Now we need to give connection to these points. From the point of first register of charging IC to number 2 point and from registration first point to this number 2 point



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connection will be made through jumpering. Exactly the same way we need to give connection from this point to that point and again for this point to that point we need to do the jumepring for connectivity. This is the solution we can do if even after replacing headphone connecter left side or right side is not working.

Now for the 3rd problem we need to connect these track with each other, this will resolve headphone mode marking from display and headphone will work properly.

3.3.15: Types of IC jumpering

Understand & learn the following:

3.3.15.1: Charging IC

This IC consist of 4 balls. Charging IC is always placed on top of charging connector. We cannot replace it but can do the jumpering process if required.

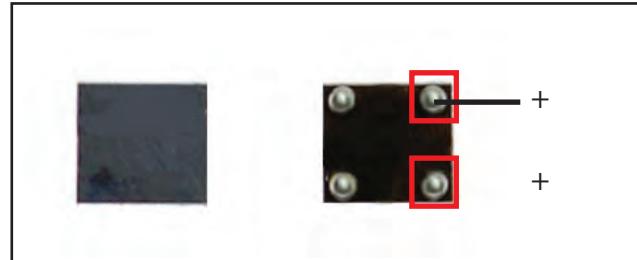


Fig: 3.3.15.1 Charging IC

3.3.15.2: Headphone IC

This IC is consist of 5 balls. Headphone IC is always placed on top of headphone connector. We cannot replace it but can do the jumpering process if required.

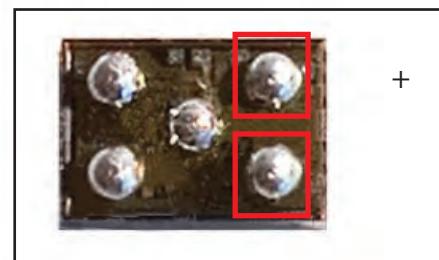


Fig: 3.3.15.2 Headphone IC

3.3.15.3: Light IC

This IC consist of 8 balls. IF there is no light in Display and Keypad, we need to change this IC as we can not do jumpering for this IC. This IC is located next to LED coil.

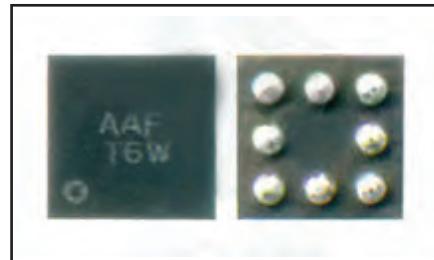


Fig: 3.3.15.3 Light IC

3.3.15.4: MIC IC

This IC consist of 8 balls. This can be changed and we can also do jumpering for this IC.

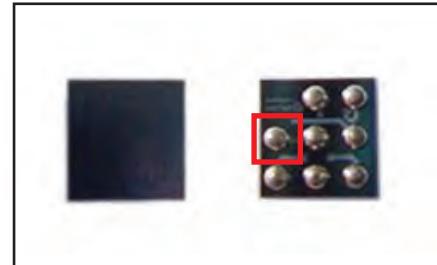


Fig: 3.3.15.4 Mic. IC

3.3.15.5: Ringer IC

This IC consist of 9 balls. This can be changed and we can also do jumpering for this IC. This IC is located on top of Ringer.

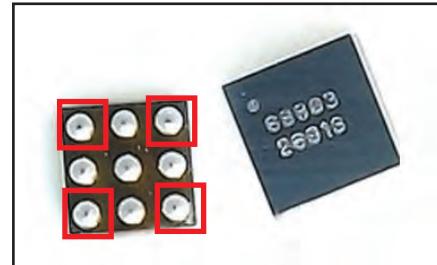


Fig: 3.3.15.5 Ringer IC

3.3.15.6: SIM IC

This IC consist of 8 balls. This can be changed and we can also do jumpering for this IC. This IC is located on top of SIM reader.

3.3.15.7: MMC IC

Types of MMC IC

Silver MMC IC

This IC consist of 11 balls. This is located next to SIM tray. This can be changed and we can also do jumpering for this IC.

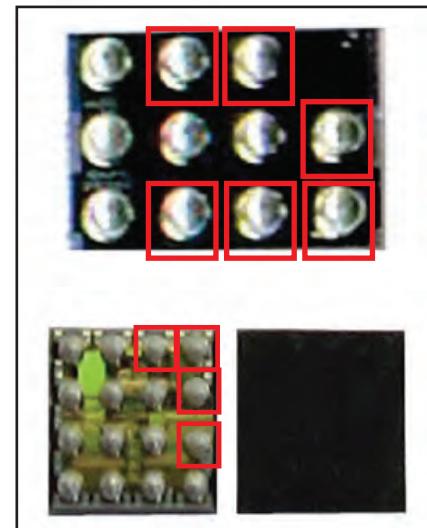


Fig: 3.3.15.7 MMC IC

Black MMC IC

This IC consist of 16 balls and located next to silver IC. This can be changed and we can also do jumpering for this IC.

3.3.15.8: Keypad IC

In case buttons are spoiled in a single line then this IC can give problem.

Normal Keypad IC

This IC consist of 24 balls and it is one of the basic component of mobile. This can be changed or we can also do jumpering for this IC

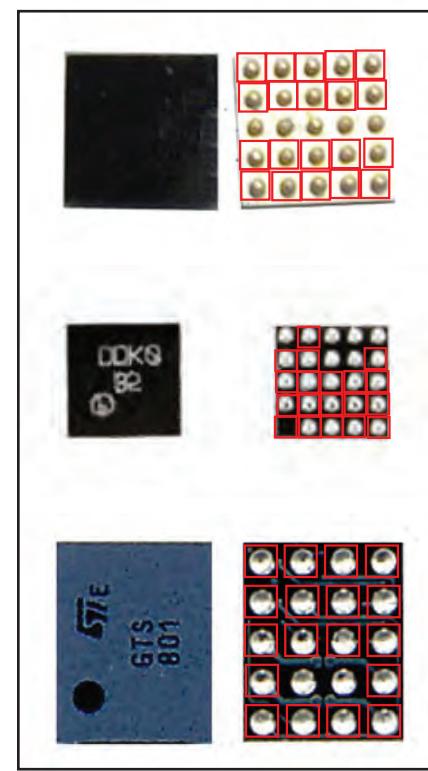


Fig: 3.3.15.8 Keypad IC

Regular Keypad IC

This IC consist of 24 balls. This can be changed or we can also do jumpering for this IC

Multimedia Keypad IC

This IC consist of 18 balls and this can be changed or we also can do the jumpering for this IC.

3.3.15.9: Display IC

Regular Display IC

This IC is normally available in old multimedia mobile phone.

This IC consist of 24 balls and this can be changed or we can also do jumpering for this IC.

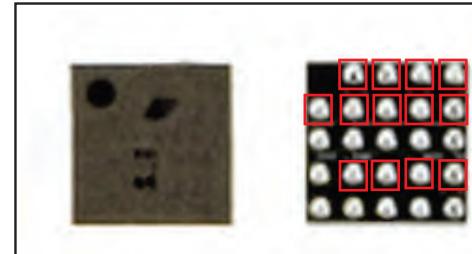


Fig: 3.3.15.9 Display IC

3.3.15.10: Certain Rules for Placing IC on Board

Step 1: We need to search the IC on mother-board and for that we can take help from any internet search engine. Search by model name and IC name and click on image result.



For E.g. If we have to search for SIM IC the go to internet search engine and in search bar type 3110 SIM IC type and search for the result.



Step 2: Do not remove IC until and unless we understand the reason behind damage.

Step 3: Before removing IC, it is necessary to observe the upper point on IC as it will help to place it back.

Step 4: During placing IC on board next to IC you will observe that identification marks are inside IC

Step 5: If all buttons in the straight line are not working this means IC is faulty

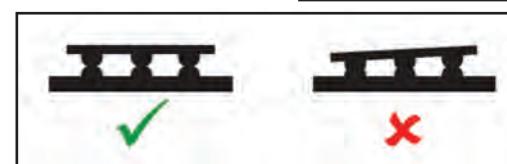
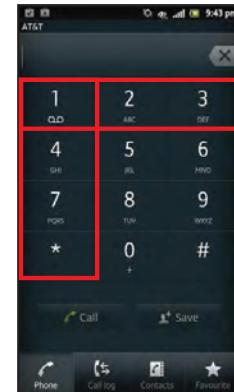
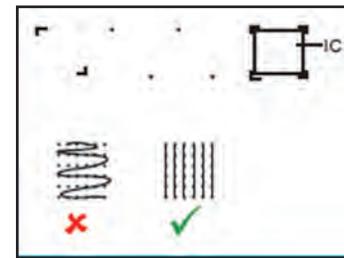
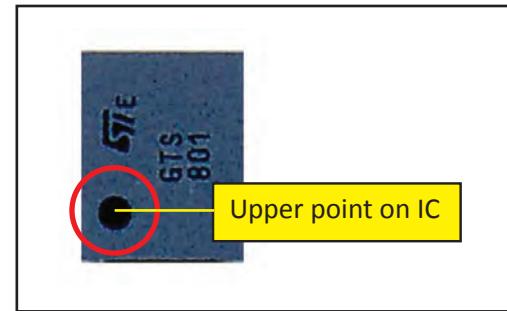
Step 6: Make sure while removing IC surrounding components should not get damaged and to protect those components we can place thermal observant sheet on surrounding component

Step 7: Post removal of IC, we should clean the track of PCB board in one level otherwise IC may not work properly.

Step 8: While placing IC on board keep the heat / temperature of hot air gun at 350 degree Centigrade and to protect the IC from getting burnt, keep air off.

Step 9: If IC is not placed properly it may not work. Therefore before placing it we should clean it properly.

Step 10. While placing the iC give heat from hot air gun as per the requirements and also at right interval.



3.3.16: Types of Sensor

In this session we will learn different types of sensors used in mobile phone.

Proximity Sensor – This sends infrared rays to identify whether mobile phone is with user or not.



Gesture Sensor – This type of sensor mainly reads the movement of body parts and works accordingly like Eyes, Hand etc...

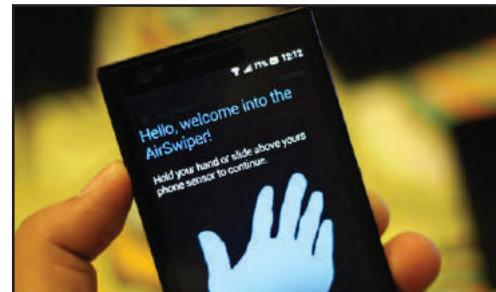


Fig: 3.3.16.1 Gesture Sensor

RGB Light Sensor – This sensor measures the colour intensity of light like Red, Green, White etc... It is used in camera for light adjustment

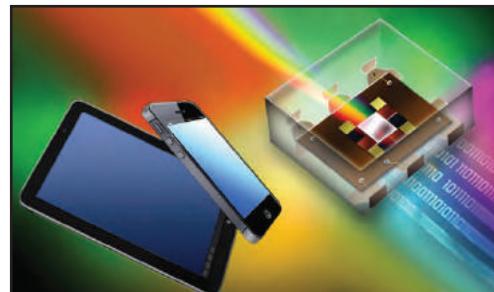


Fig: 3.3.16.2 RGB Light Sensor

Gyro Sensor – This sensor is used to sense the rotation of mobile in three different direction.



Fig: 3.3.16.3 Gyro Sensor

Accelerometer – This sensor helps in identifying orientation of mobile phone in three different angles. This sensor is widely used in most of the portable gadgets.



Fig: 3.3.16.4 Accelerometer

Geomagnetic Sensor - This sensor is used to identify magnetic field intensity in maps and search the direction.



Fig: 3.3.16.5 Geomagnetic Sensor

Temperature / Humidity sensor – This sensor is used to check temperature and humidity level.



Fig: 3.3.16.6 Temperature / Humidity sensor

Barometer – This sensor is used to check atmospheric pressure of users location.

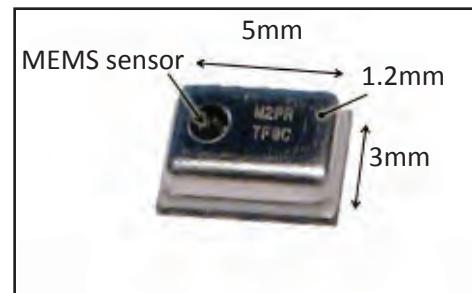


Fig: 3.3.16.7 Barometer

Hall Sensor – This sensor is used to identify whether cover is open or closed.

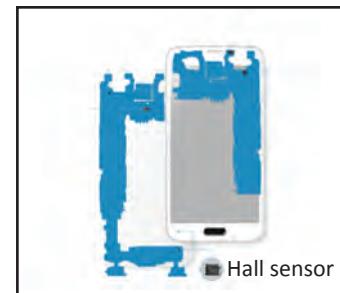


Fig: 3.3.16.8 Hall Sensor

Motion Sensor – This sensor checks motion in phone specially in gaming and opening phone lock



Fig: 3.3.16.9 Motion Sensor

Ambient Light Sensor – This sensor is used to check light intensity in outer atmosphere and accordingly adjust brightness of display.

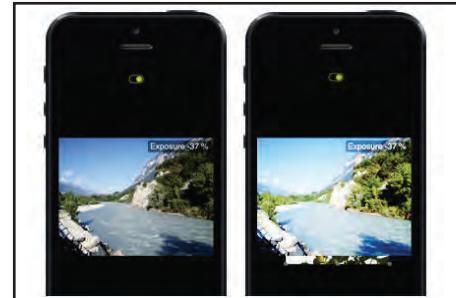


Fig: 3.3.16.10 Ambient Light Sensor

Gravity Sensor – This is a kind of accelerometer, having some weight or a tube inside. When the weight moves it tells us whether phone is moving to left or right or upwards or downwards. It is mainly used in gaming.

3.3.17: Call Setting

Understand & learn the following:

3.3.17.1: Blacklist

If you do not want to receive call from somebody then put that number in the blacklist
(Unwanted Call)

Process –

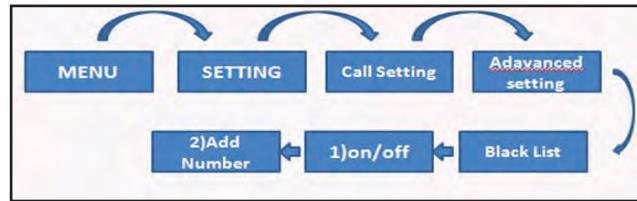


Fig: 3.3.17.1.1 Call Setting Process-1

Note : - In-case blacklist is on and we have not added any number to the blacklist then in such case all incoming calls will be restricted.

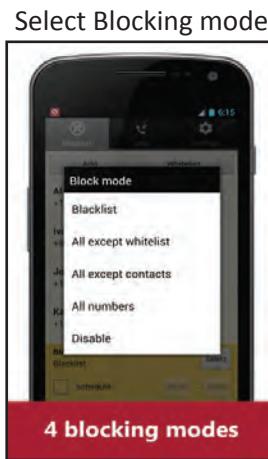


Fig: 3.3.17.1.2 Call Setting Process-2

Go to Add to blacklist and add contact for blocking

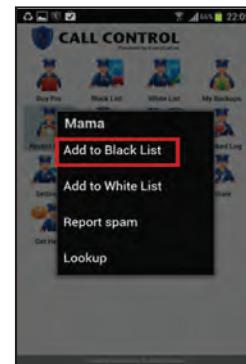


Fig: 3.3.17.1.3 Call Setting Process-3

3.3.17.2: White List

In case you want to receive call then turn that contact into white list

Select option “Add to White List”

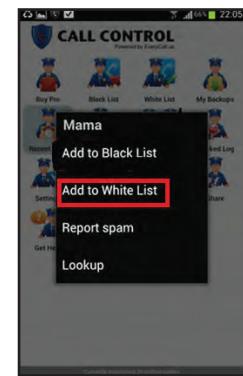


Fig: 3.3.17.2 White list Contact

3.3.17.3: Hide ID

“Hide ID” option is used to restrict outgoing call

It gives following five types of errors :-

- 1) Call Failed
- 2) Check Operator Service
- 3) Check Network Setting
- 4) Show ID
- 5) Call Rejected

Process of opening “Hide ID” option

Got to :- Menu – Setting – Call Setting – Advance Setting

You will get three options

- Send by network
- Yes/On>Show ID
- No/Off/Hide ID

- 1) If first two options i.e. Send by network & Yes/On>Show ID are selected then outgoing call work properly
- 2) If No/Off/Hide ID option is selected then outgoing calls will be restricted.

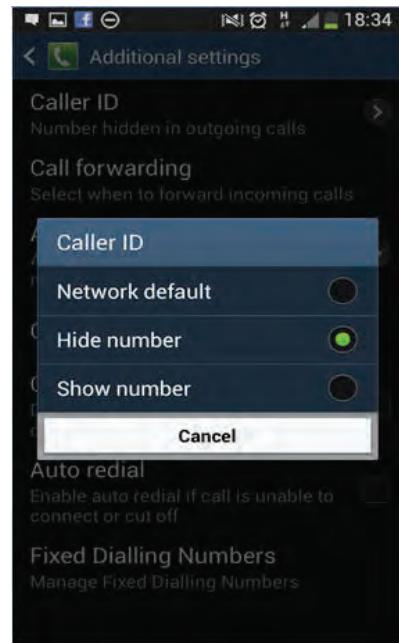


Fig: 3.3.17.3 Hide ID Process

3.3.17.4: Call Conferencing

Call conferencing is used to connect call to multiple mobile simultaneously

How to do conference call

- A. Call one of the participant in the conference call
Go to your contact list, or simply use the keypad to dial the number. When that call is established, tap Add Call. The first caller is placed on hold
- B. Call the second Participant Again, you can use your contact list, or just dial the number to connect another participant
- C. Tap on Merge Call
This will add second participant to the call



Fig: 3.3.17.4 Call Conferencing

3.3.17.5: Call Divert

Using this option we can divert incoming call to another number Procedure :-

Go to Menu – Setting – Call Setting – Call Divert

All Voice Calls

- A) Active
 - Add Voice Mail
 - Add Voice Number
- A) Cancel
- B) Check Status
 - Active
 - Deactive



Fig: 3.3.17.5 Call Divert

When call will get diverted

1. If Busy
 2. If Not answer
 3. If Not reach
 4. If not available
 5. Cancel all Divert Calls
- 1) If Busy – In this option, if phone is busy then call will be diverted to another number
 - 2) If not Answer – In this option if incoming call will not be responded then call will be diverted to another number
 - 3) If not Reach – In this option if phone is outside of network coverage area then call will be diverted to another number.
 - 4) If Not Available – In this option if phone is switched Off then call will be diverted to another number.
 - 5) Cancel all Divert Calls – In this option all diverted call will be canceled

3.3.17.6: Call Barring

Call barring feature allows user to block certain incoming or outgoing calls

When Call barring is required ?

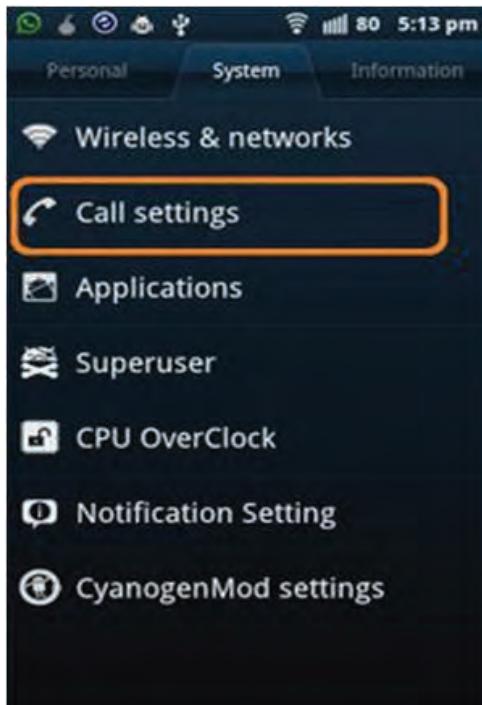
- Use barring if your employees are making too many personal calls
- To prevent employees from making international calls during regular business hours.
- After a case in which someone was harassed by an ex lover or friend with phone calls or visits, police typically recommend call barring that person to help diffuse the situation.



Fig: 3.3.17.6 Call Barring

3.3.17.7: Call Barring Steps

Step 1: Go to Call settings



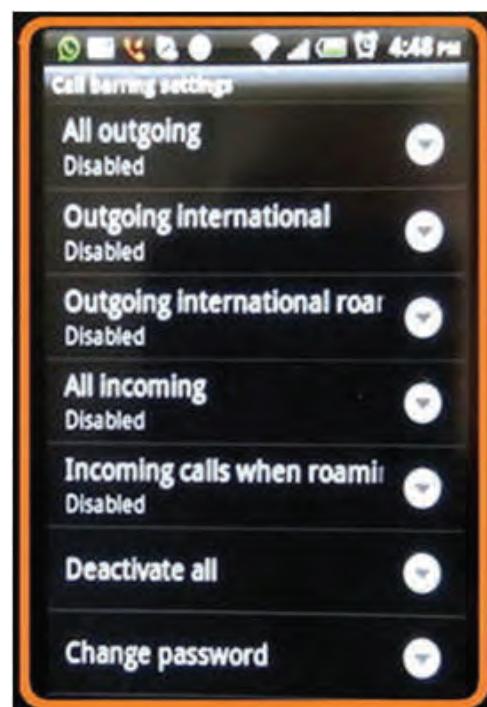
Step 2: Go to Additional Settings



Step 3: Go to Call Barring Settings



Step 4: Now choose option



3.3.17.8: Call Barring using Blocking Mode

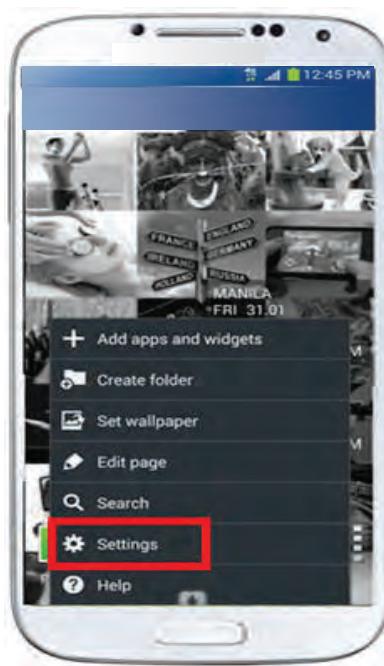
Step 1



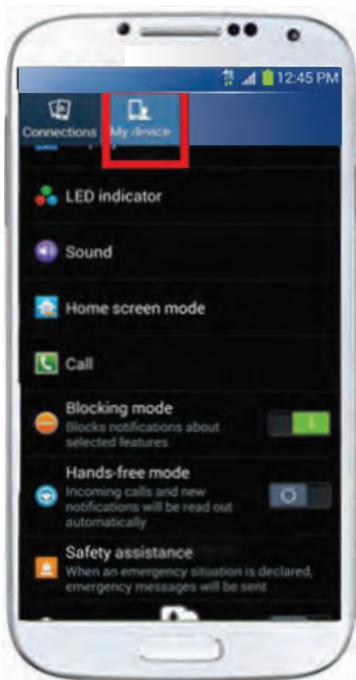
Step 2



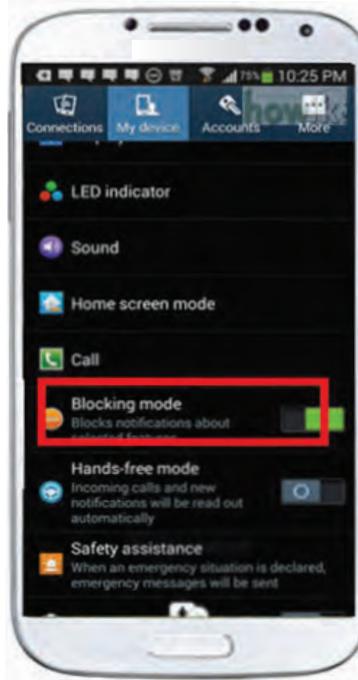
Step 3



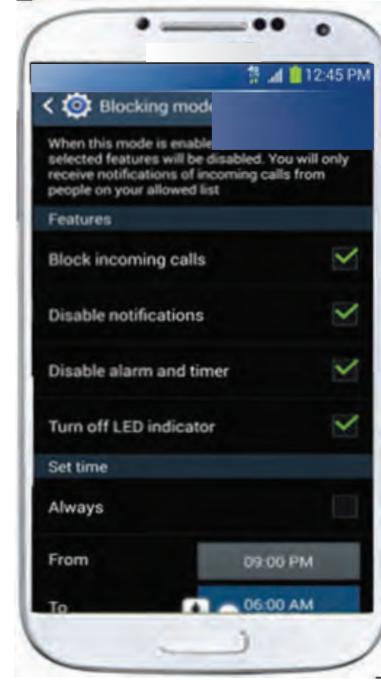
Step 4



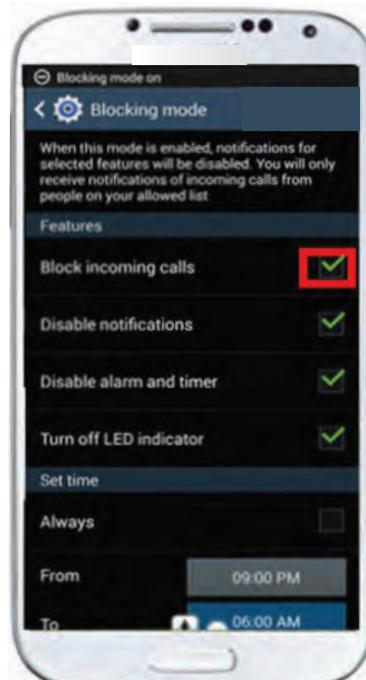
Step 5



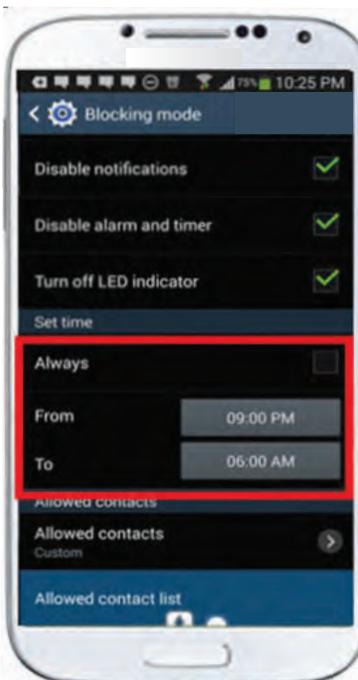
Step 6



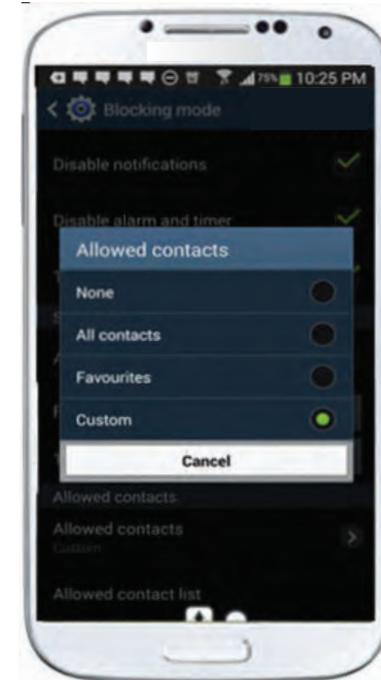
Step 7



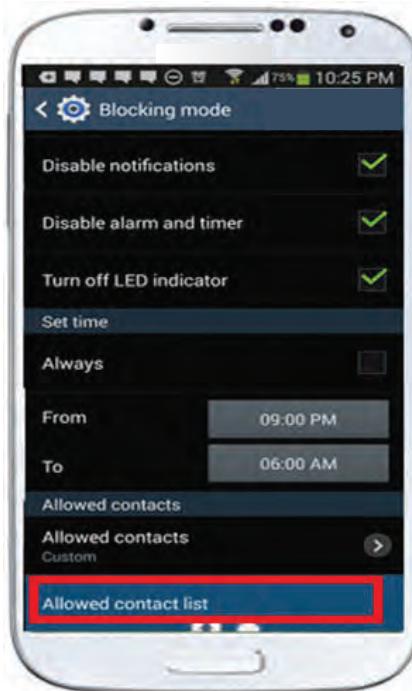
Step 8



Step 9



Step 10



3.3.17.9: No Screening Call

- It means that when the person you put in the screened list will make a call to you You won't get any alerts from that number
- You can see the incoming number on display but you can't hear the ringtone or vibration for that number

How to add Number in Screen List

- Menu
- Phonebook
- Contact list
- Choose contact Settings
- Screened option

3.3.18: Lock Setting

Understand & learn the following:

3.3.18.1: Phone Lock

This lock is used for protecting mobile phone and also to avoid misuse of our mobile phone
How to set Password?

For Android Phone – Menu – Setting – Security – Change Screen Lock

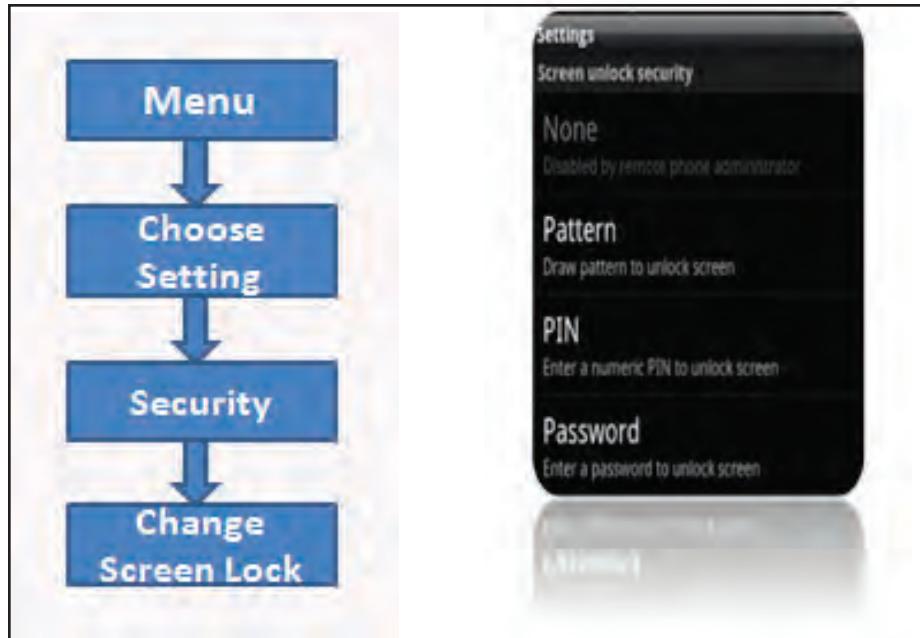


Fig: 3.3.18.1.1 Lock Setting for Android

For iPhone – Menu – Setting – Change Passcode – Set Passcode

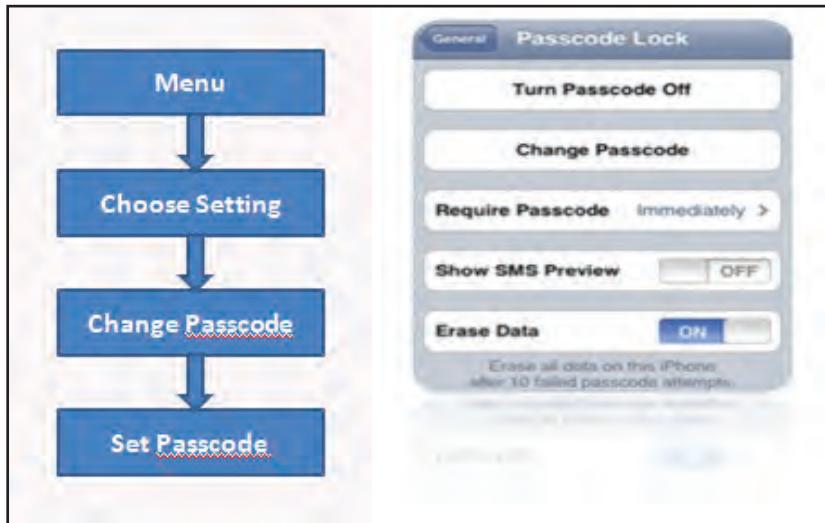


Fig: 3.3.18.1.2 Lock Setting for iPhone

3.3.18.2: SIM Lock

This lock is used for protection of SIM card.

After applying SIM lock ,If you put this SIM card in another mobile then this SIM card does not work until and unless you put the SIM pin on which it was locked. Pin is nothing but the password.

Procedure of SIM Lock

- Go to Settings
- Tap Security option
- Tap Set up SIM card lock
- Tap Lock SIM card
- Enter the SIM PIN to lock the SIM card
- Tap OK

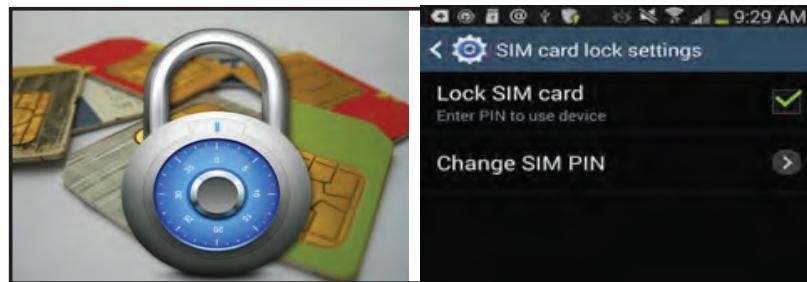


Fig: 3.3.18.2 SIM Lock

3.3.18.3: Privacy Lock

This lock is used to lock private menu like SIM, Call history, Image, Video

3.3.18.4: PUK (Pin Unlock Key)

This lock is used to lock private menu like SIM, Call history, Image, Video

This lock is used to protect SIM owner. If the lock is ON then incoming and outgoing calls are stops or on display it displays PUK code

Procedure of setting PUK

Go to – Menu – Setting – Security – PIN

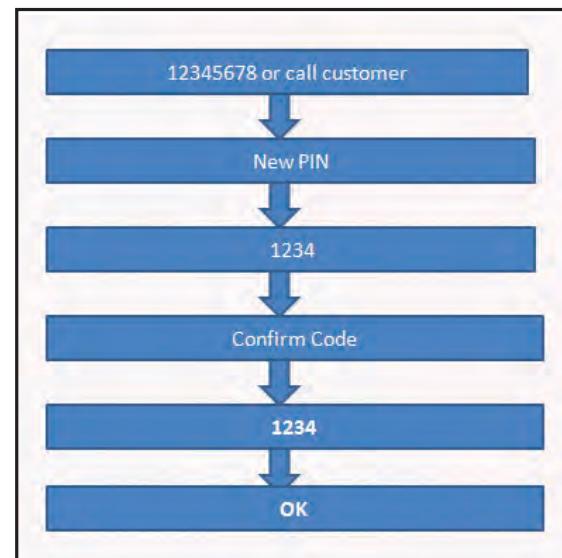


Fig: 3.3.18.4 Pin Unlock Key

3.3.18.5: Security Lock

Security lock is for the safety and security of mobile phone. If security lock is activated in the security settings, the phone will ask it while booting it every time or when the phone is locked and needs to unlock the keypad.

Default security code for various brand and model of Cell phones :-

0000 / 00 00 00 / 00 00 00 00

12345

0000 / 1234

1122 / 0000 / 1234 / 4321

3.3.18.6: Pattern Lock

This lock is used to protect the mobile from any other person except the owner of mobile.

Procedure of Pattern Lock

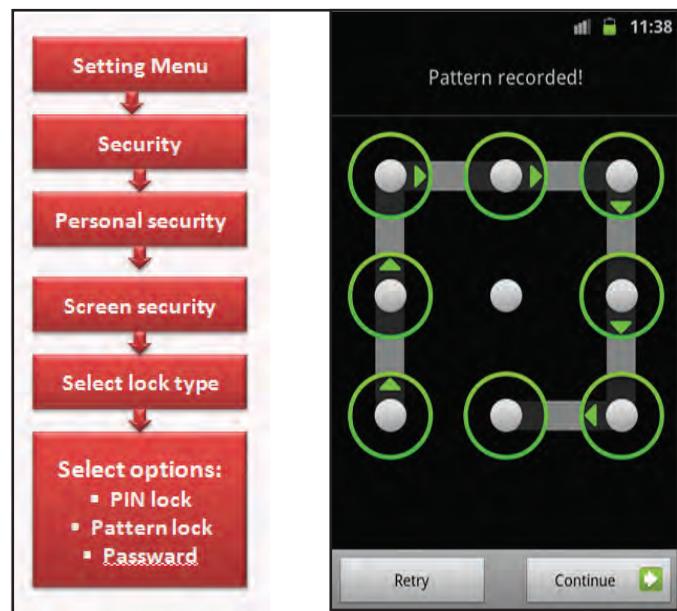


Fig: 3.3.18.6 Pattern Lock Process

3.3.18.7: Finger Lock for iPhone

How to set figure lock ?

Tap Settings

Touch ID & Passcode,

Enter your passcode.

Tap Add a Fingerprint and hold your device as you normally do when touching the Home button.

Touch your finger to the Home button—but don't press. Hold it there until you feel a quick vibration, or until you're asked to lift your finger.

3.3.18.8: Mobile Tracker

Mobile tracker is a software used in mobile phone to locate the location of mobile phone

If mobile is lost then this software helps in locating mobile phone

How to activate Mobile Tracer Software in Mobile Phone ?

Menu	Add No. 1
Settings	Add No. 2
Mobile Tracker	Message
Enter Password	Save
Open Form	Close
On/Off	

Why Mobile Tracker ?

Once the mobile tracker is active on mobile phone and then if someone put another SIM card in it then because of mobile tracker you get to know that who is using your mobile phone.

3.3.19: Hard Reset (Only Android)

What is Hard Reset ?

A hard reset, also known as a factory reset or master reset, is the restoration of a device to the state it was in when it left the factory without opening the mobile phone or connecting to computer. All settings, applications and data added by the user are removed during hard reset.

When to do Hard Reset ?

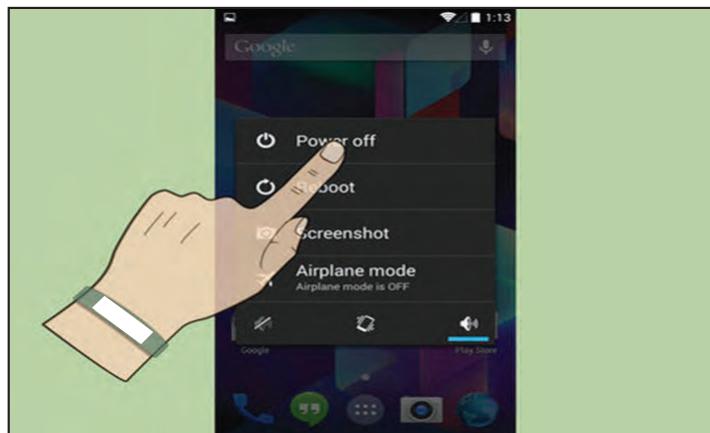
- When mobile takes more time to open any apps on mobile
- Mobile gets hang very frequently
- Mobile not working properly
- Mobile is infected by the Virus
- Mobile restarts automatically.
- Stops at Logo
- To break Phone Lock, Privacy Lock, mobile tracker, Pattern Lock
- To delete phone memory

3.3.19.1: How to do Hard Reset in Android Phone



Step 1: Power down your device

(If device is frozen, you can pull the battery out to turn it off.)

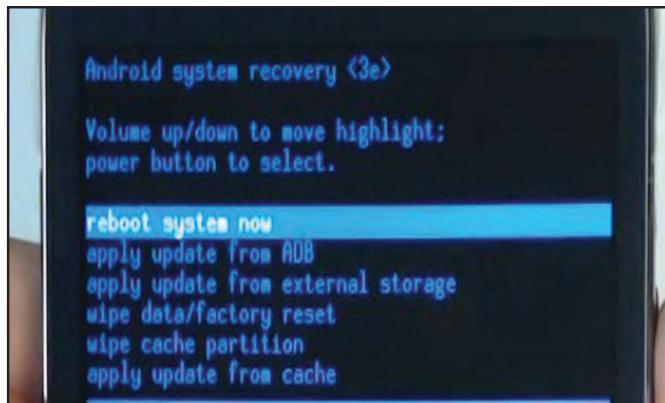


Step 2: Press the combination buttons simultaneously. For different brand and model it differs

Volume Up + Home +Power

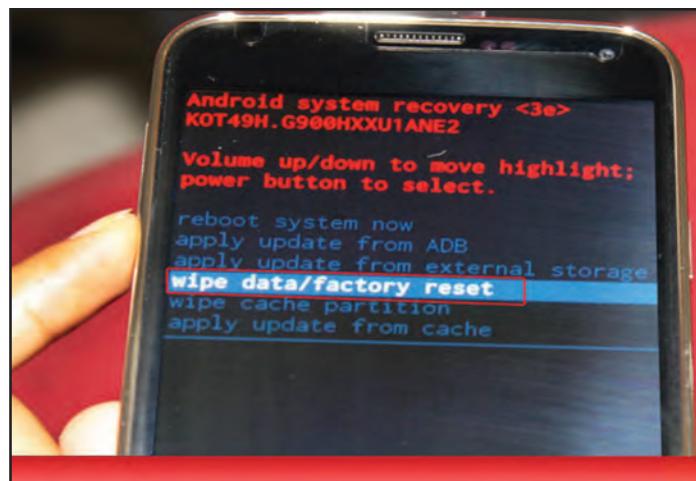
Volume Down + Power

Home + Power

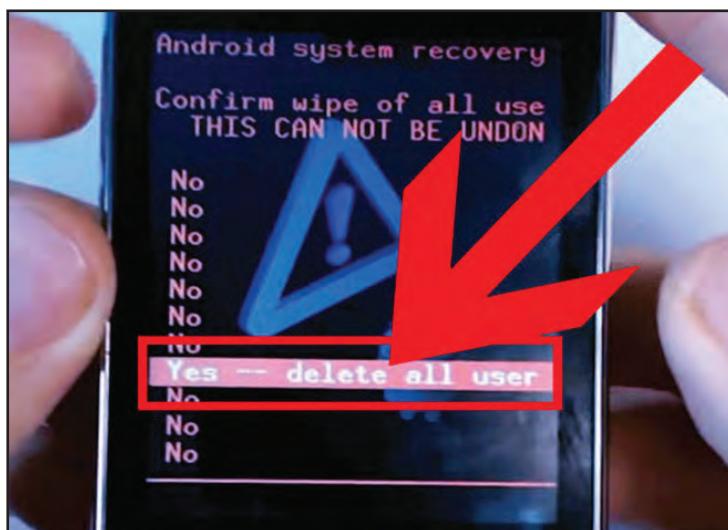


Step 3: Select Factory reset

(use up/down button to select factory reset)



Step 4: You will be asked for the confirmation to do the factory reset



Step 5: Once confirmed you will get this screen



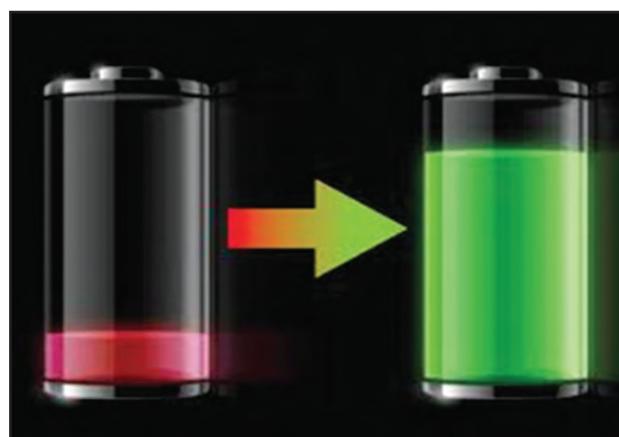
Wait for the restore process to complete

Now your hard reset process is over and you can power On the mobile

3.3.19.2: How to do Hard Reset for Windows Phone



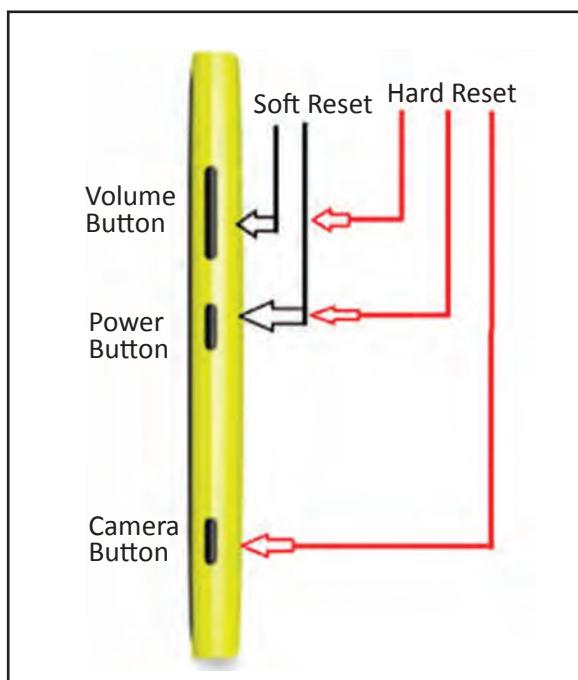
Step 1: Before doing the hard reset make sure your phone battery is fully charged



Step 2: Turn off the phone by pressing the power button and holding it for a few seconds then scroll down



Step 3: Press the Volume Down Key + Power Key to turn on the unit



Step 4: Wait for the startup screen booting with an exclamation mark "!" then release the volume down key



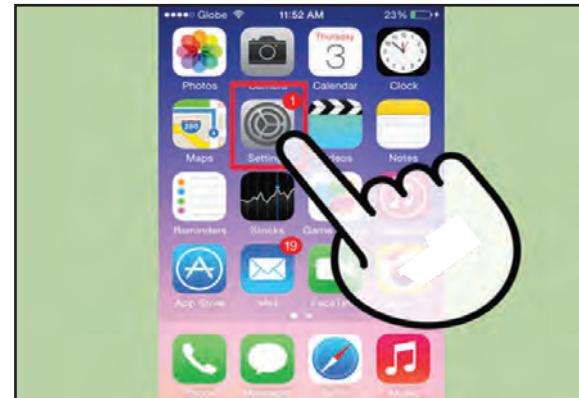
Step 5: Press the following buttons in the following order:

1. Press the volume up (high volume key)
2. Press volume key down (low volume key)
3. Press the power key
4. Press volume down key.
5. Wait a moment and look at the screen, a message such as loading new software will start the hard reset process.

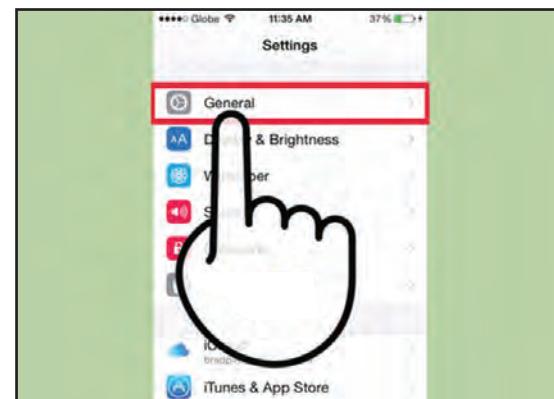


3.3.19.3: How to do hard Reset of iPhone

Step 1: Go to setting



Step 2: Select General



Step 3: Scroll down and select Reset

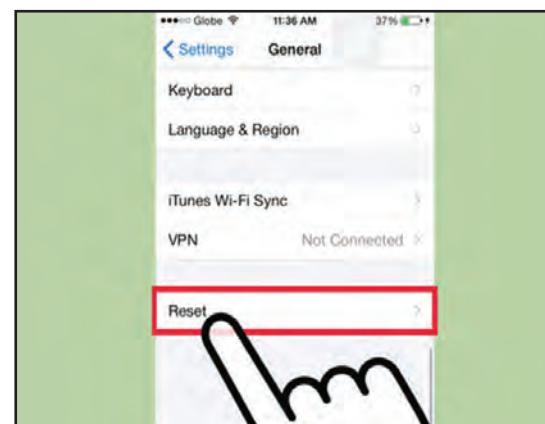
Step 4: Here you will get various options like

Reset all settings

Reset Network settings

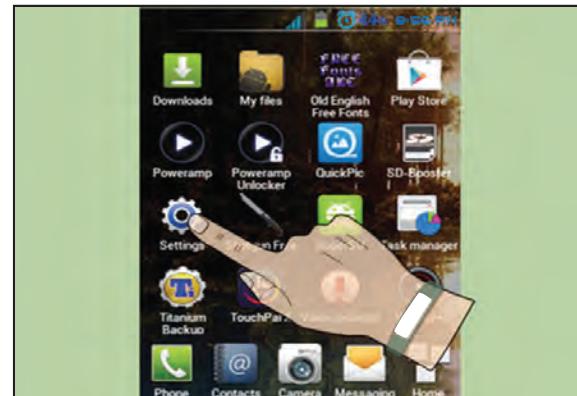
Erase all content and settings

Step 5: Select Option - Erase all content and settings

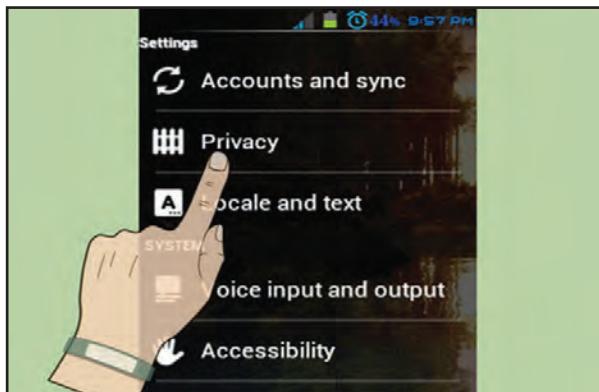


3.3.19.4: How to do Soft Reset of Android Phone

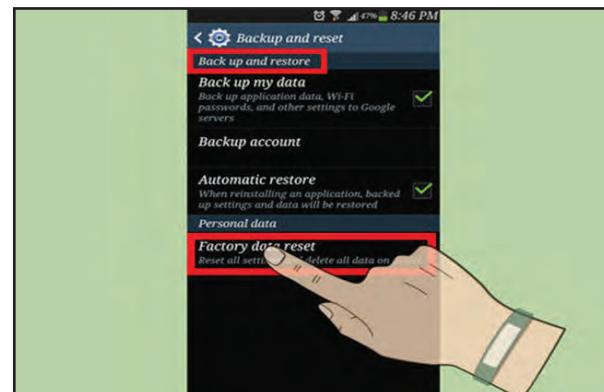
Step 1: Go to the setting option of Mobile



Step 2: Select Backup and Reset in Personal Section

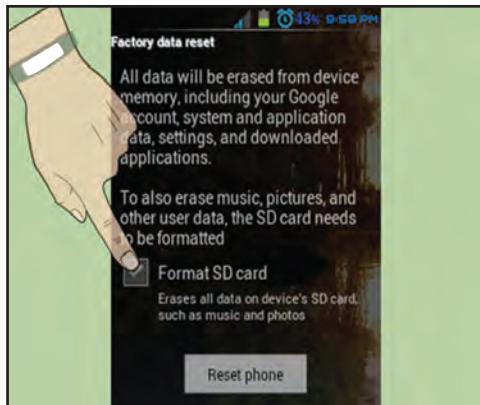


Step 3: Select Factory Data Reset

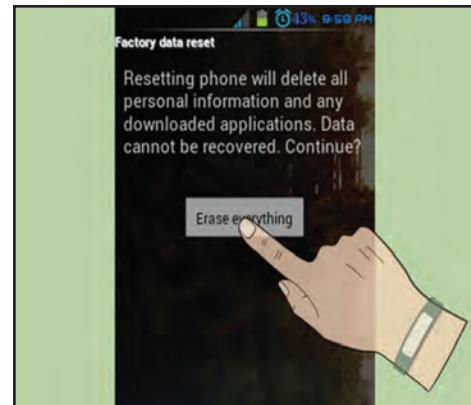


Step 4: Select Reset Phone to delete all data and restore your device factory settings

Step 5: Now tick on the “format SD card” and then reset phone



Step 6: Confirm the process by selecting “Erase everything



3.3.19.5: How to do Soft Reset of Windows Phone



Step 1: Open the terminal (removing the box as necessary)

Step 2: Remove the battery to let the phone without power

Step 3: Wait a few seconds for the phone fully discharged

Step 4: Replace the battery and the corresponding case

Step 5: Boot the phone normally

3.3.19.6: How to do Soft Reset of iPhone

Step 1: Press and hold the home button(big circle below the screen)and the sleep/wake(on the top of the i-phone)simultaneously.



Step 2: Continue holding both buttons until the iphone shuts off and begins to restart



Step 3: You may let go when you see the silver apple logo.



Step 4: Now you have completed soft reset successfully.

3.3.20: Security Code (Secret Code)

What is security code:

1. This is a type of code which are used to solve many types of problem related to mobile
2. When we use secret code there is no requirement to connect mobile to computer

Why we use security Code ?

1. Mobile Hang
2. Virus comes
3. Automatically get restart When go in any menu
4. To break Phone Lock, SIM Lock, Privacy Lock, Mobile Tracker, Pattern Lock
5. Hang at Logo during startup.??
6. To delete Phone Memory

3.3.20.1: International Mobile Equipment Identity Code (IMEI Code)

- a. This number is unique for each mobile.
- b. This number is of 15 digits.
- c. It is usually found printed on the phones back panel under the battery.
- d. This number starts with 35 or 91.
- e. If there are 15 zero's or blank spaces appear then the IMEI number of that mobile is either lost or there is no IMEI number in the mobile phone

How to see IMEI number of Mobile Phone

Dial *#06# to see IMEI number

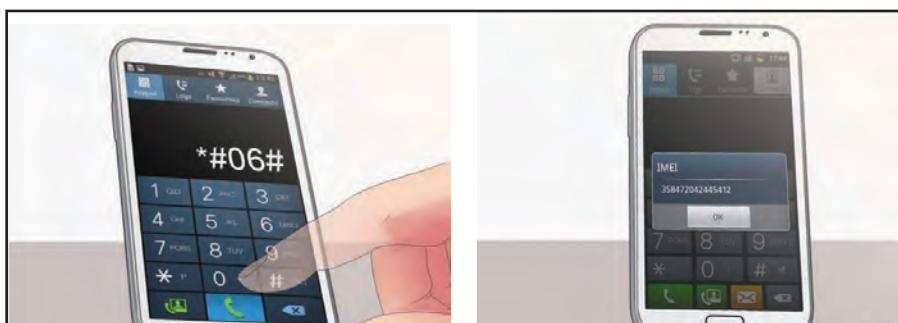


Fig: 3.3.20.1 IMEI Code

3.3.21: USB debugging

The primary function of USB debugging mode is to facilitate a connection between an Android device and a computer with Android SDK (Software Development Kit). USB Debugging Mode, in some versions of Android, is also called Developer Mode.

USB debugging required while rooting, backing-up, custom ROM installation, taking screenshot from computer using ADB.

It is best for you to keep USB Debugging Mode disabled and only enable it when you really need it. Leaving it enabled all the time is kind of a security risk for that this mode grants you high-level access to your device.

3.3.21.1: How to Enable USB debugging Mode in Android

a. Android 2.0 – 2.3 X

Setting – Applications – Development – USB Debugging

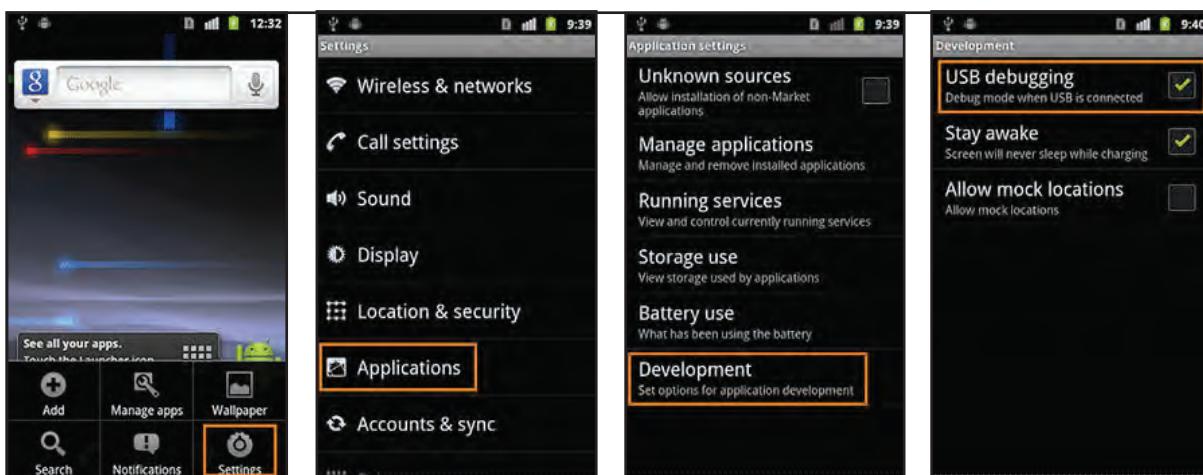


Fig: 3.3.21.1.1 USB Debugging Mode -Android 2.0 - 2.3X

b. Android 3.0 – 4.1 X

Setting – Development – USB Debugging

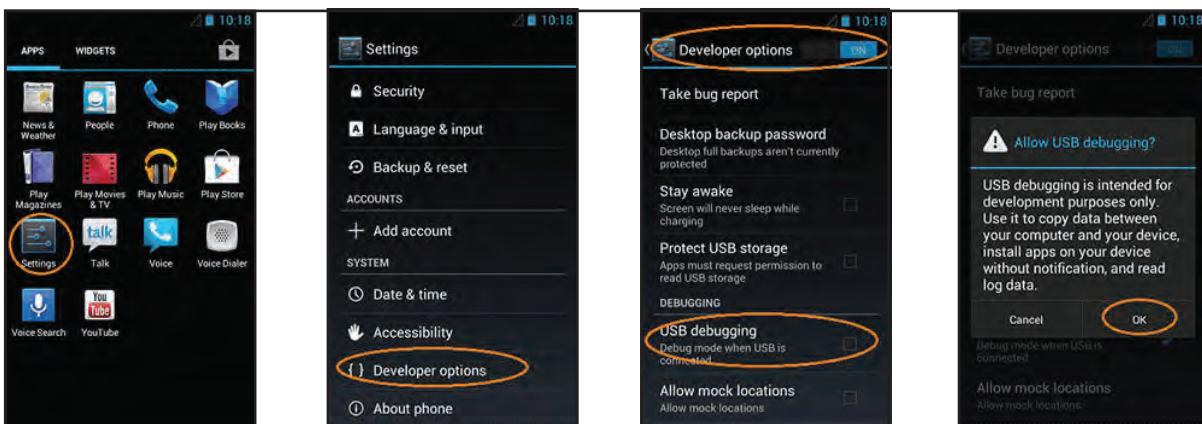


Fig: 3.3.21.1.2 USB Debugging Mode -Android 3.0 - 4.1 X

c. Android 4.2 X and higher

Setting – Development – USB Debugging

In Android 4.2 and higher versions, the Developer Options menu and USB Debugging option have been hidden. In former 4.X versions of Android, USB Debugging option is under Developer Options menu.

First, you need to enable "Developer Options Menu".



Fig: 3.3.21.1.3 USB Debugging Mode -Android 4.2

- Go to "Settings".
- Scroll down to the bottom and tap "About phone" or "About tablet",
- Scroll down to the bottom of the "About phone" and locate the "Build Number" field.
- Tap the Build number field seven times to enable Developer Options. Tap a few times and you'll see a countdown that reads "You are now 3 steps away from being a developer."
- When you are done, you'll see the message "You are now a developer!".
- Tap the Back button and you'll see the Developer options menu under System on your Settings screen

Now, you can enable USB Debugging mode.

- Go to Settings>Developer Options>USB Debugging. Tap the USB Debugging checkbox.

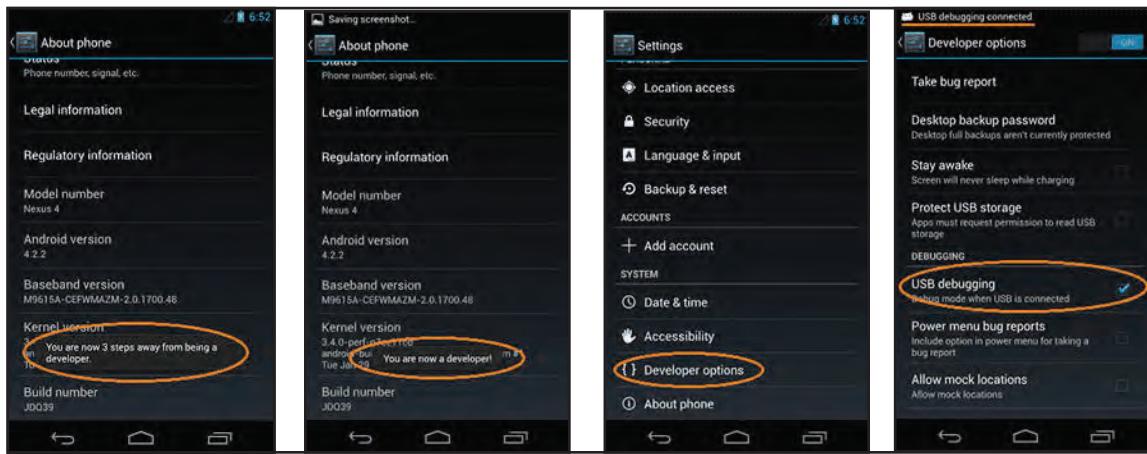


Fig: 3.3.21.1.4 USB Debugging Mode -Android 3.0 - 4.1 X

d. Android 5.0 Lollipop

To enable USB Debugging on Android 5.0 Lollipop is the same as Android 4.2.x.

1. Settings > About Phone > Build number > Tap it 7 times to become developer

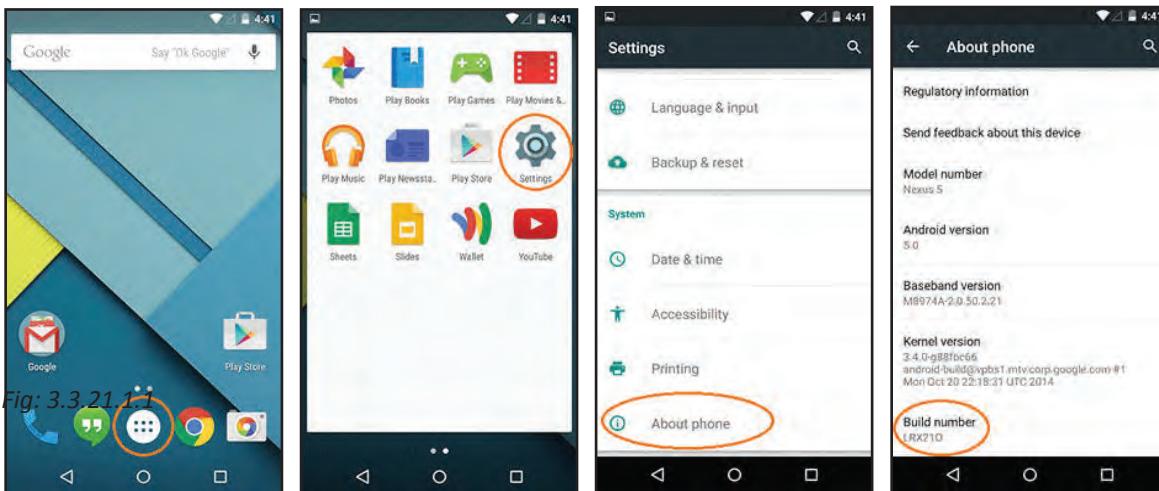


Fig: 3.3.21.1.5 USB Debugging Mode -Android Lollipop

2. Settings > Developer Options > USB Debugging

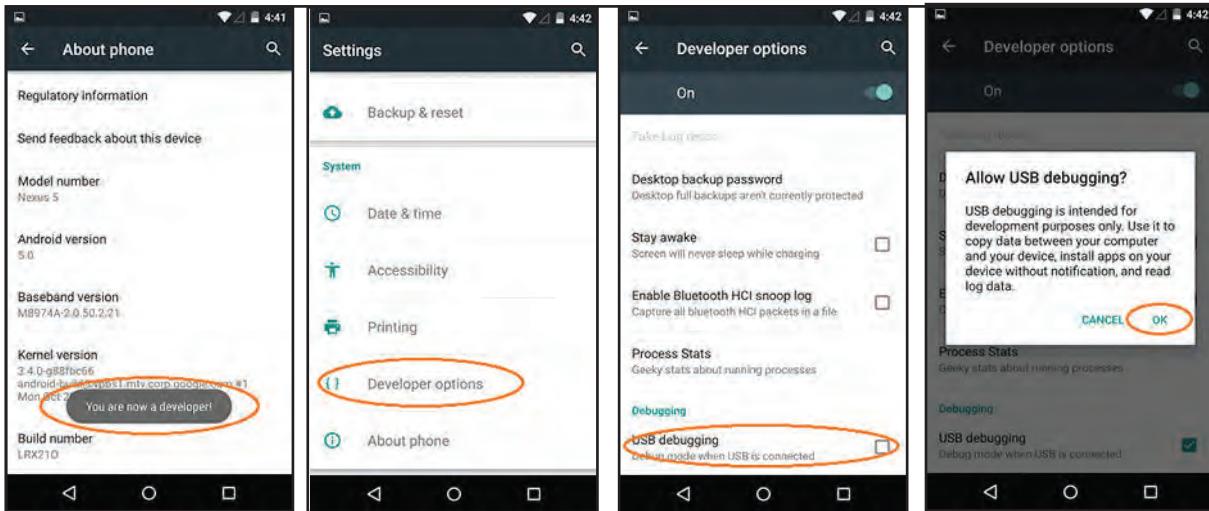


Fig: 3.3.21.1.6 USB Debugging

Before touching motherboard or any component of Mobile phone make sure you have grounded yourself for ESD and have also take necessary action for ESD like use of Antistatic Mat / Hand Gloves / Wrist Strap to prevent any damage to components of mobile phone.

3.3.22: BGA Rework Stations

BGA is a ball grid array type of surface-mount packaging (a chip carrier) used for integrated circuits. BGA packages are used to permanently mount devices such as microprocessors. Rework stations are designed for quick BGA repairs.

3.3.22.1: Electrostatic Discharge (ESD) and Preventive Measures

Electrostatic discharge (ESD) is the sudden flow of electricity between two electrically charged objects caused by contact, an electrical short, or dielectric breakdown.

- a. Why ESD occurs?
- b. ESD Voltage range classification :

The ESD occurs when differently-charged objects are brought close together or when the dielectric between them breaks down, often creating a visible spark

ESD IMMUNITY CLASSIFICATION FOR HBM	
Class	Voltage Range
Class 0	<250 V (fails for ESD pulse of 250 V)
Class 1A	250 V to <500 V (passes 250 V and fails 500 V)
Class 1B	500 V to <1000 V (passes 500 V and fails 1000 V)
Class 1C	1000 V to <2000 V (passes 1000 V and fails 2000 V)
Class 2	2000 V to <4000 V (passes 3000 V and fails 4000 V)
Class 3A	4000 V to <8000 V (passes 4000 V and fails 8000 V)
Class 3B	≥8000 V (passes 8000 V or above)

Tab: 3.3.22.1 ESD Immunity Classification for HBM

(N. B. HBM stands for Human Body Model)

Many electronic components, especially microchips, can be damaged by ESD.

- c. How to minimize ESD?

Sensitive components need to be protected during and after manufacture, during shipping and device assembly, and in the finished device.

Grounding is especially important for effective ESD control. It should be clearly defined, and regularly evaluated.

Sensitive devices need to be protected during shipping, handling, and storage. The buildup and discharge of static can be minimized by controlling the surface resistance and volume resistivity of packaging materials.

3.3.22.2: Documentation of the Repairs

All the repair works should be clearly documented as per the company's procedures.

The following points are important and should be noted carefully :

- New product specifications and their spares and repair details
- Document the spares movement note and capture activity performed
- Handling procedure of display systems in mobile phone (LCD and LED)
- Terminologies and procedures mentioned in repair manual
- Software and operating system related to mobile phone
- Applications including games that can be installed in mobile phone and the authentic source to download them
- Licensed versions of software and application, its terms and conditions associated with it
- Estimate cost of repair and verify Beyond Economic Repair (BER) value
- Service level agreement (SLA) and conditions associated with it
- Documentation procedure to record customer, mobile phone and repair details
- Check and test various electronic components on their functionality

3.3.22.3: 5S

Strictly implement 5 S principles for improved work practices.



Fig: 3.3.23.3 5S

UNIT 3.4: Skills (Optional)

Unit Objectives



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

1. Prepare job card having information of customer, mobile phone brand & model and repair requirement
2. Prepare document for the action taken based on the complain registered in the job card

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits, Different Mobile Handsets for experiments
- Repair tools & equipment
- Quality components for replacing the defective ones

Do



- Explain the core / generic skills involved in the repair operations.
- Explain the technical skills required for repairing & replacing the defective components
- Let them practice some important skills required in repair operations during practical exercises.

Demonstrate



- The practical skills operations during exercises.
- Call a volunteer and let him explain the repair actions.
- Demonstrate the skills for repairs.

Say



- Explain the difference between knowledge & skills

3.4.1: Core Skills / Generic Skills

The following core / generic skills are important for repair operations

3.4.1.1: Reading & Writing Skills

Understand & learn the following skills:

- Read the standard operating or repair procedure manual for different equipment
- Note the process done for diagnose
- Document the completed work

3.4.1.2: Teamwork & Multitasking Skills

Understand & learn the following skills:

- Share work load as required
- Achieve the target

3.4.2: Professional Skills

This lock is used to lock private menu like SIM, Call history, Image, Video

3.4.2.1: Computer & Hardware Operating Skills

Understand & learn the following skills:

- Operate computer and laptop
- Operate the different software related to mobile phone
- Download software and applications from company's website and from cloud appropriately

3.4.2.2: Using Tools & Machines Skills

Understand & learn the following skills:

- Operate tools such as manual and electric screw drivers for disassembling and assembling of equipment
- Use hot air blower / gun for de-soldering
- Use semi-automated or automated BGA work station
- Use other specific devices for repairs such as soldering iron, multimeter, POST cards
- Use metal or plastic ply to open the panel of mobile phone
- Use antistatic device such as ESD wrist strips

3.4.2.3: Reflective Thinking Skills

Understand & learn the following skills:

- Improve work processes
- Reduce errors and correct themselves with the experienced mistakes

3.4.2.4: Critical Thinking Skills

Understand & learn the following skills:

- Spot process disruptions and delays
- Report on any issues faced to superiors without delay

Notes



Exercise-1: Fill in the Blanks



1. Open the outer panel of the smart phone using opening tools
A. Screw driver B. Metal / plastic case. C. Hot air gun

2. Use hot air gun to remove the
A. LCD screen B. Outer Panel C. Inner Panel

3. From 1973 to 1993 system was used to control the operation of mobile phones
A. Hardware B. Embedded C. Operating

4. In first mobile phone "IBM Simon" was launched
A. 1994 B. 1995 C. 1996 D. 1997

5. Google launched Android 5.0 Lollipop
A. 2012 B. 2014 C. 2015 D. 2011

6. Solder the component on the PCB using.....
A. Soldering Stations B. Hot Air Gun C. Soldering iron

7. Mobile network operates on..... waves
A. 300 MHz to 1.6 GHz B. 900 MHz to 3.6 GHz C. 700 MHz to 2.6 GHz.

8. In Apple launched iPhone with iOS
A. 2004 B. 2007 C. 2008

9. In..... Windows launched its mobile phone with windows OS
A. 2010 B. 2012 C. 2009

10. InGoogle launched Android KitKat 4.4
A. 2012 B. 2013 C. 2011

Exercise-2: Fill in the Blanks



1. IMEI stand for

- A. International Mobile Equipment Identity
- B. Non-Internal Mobile Equipment Identity
- C. Indian Mobile Equipment Identity

2. PCB stand for.....

- A. Phone Circuit Board
- B. Personal Circuit Board
- C. Printed Circuit Board

3. Soldering Gun works onVolt Dc

- A. 10
- B. 12
- C. 14

4. device used to measure voltage, Ohms, battery, continuity

- A. Multi Meter
- B. Micro Meter
- C. Alti Meter

5. Connector is used to connect mobile phone with external power source.

- A. Battery Connector
- B. Charging Connector
- C. Display Connector

6.connector is used to connect display unit of mobile phone with PCB board

- A. Battery Connector
- B. Charging Connector
- C. Display Connector

7. Ringer resistance range isOhm

- A. 8-10
- B. 4-8
- C. 12-14

8. In-case it shows readingohm it means vibration motor is not working

- A. 15
- B. 0
- C. 6

9. Wire used in jumpering process is awire

- A. Silver
- B. copper
- C. aluminum

10. Charging IC consist ofballs

- A. 8
- B. 5
- C. 4

Exercise-3: Fill in the Blanks



1. Head phone IC consist ofballs

- A. 8 B . 5 C. 4

2. Ringer IC consist ofballs

- A. 8 B . 9 C. 4

3. Silver MMC IC consist ofballs

- A. 8 B . 5 C. 11

4. Black MMC IC consist ofballs

- A. 16 B . 5 C. 4

5. Normal Keypad IC consist ofballs

- A. 18 B . 15 C. 24

6.Sensor is used to identify magnetic field intensity in maps and search the direction

- A. Gyro Sensor B . Geomagnetic C. Accelerometer

7. PUK stand for.....

- A. Phone Unlock key B . Password Unlock key C. Pin Unlock Key

8. SIM is acronym of.....

- A. Subscriber identity module
B. System identity module
C. Subscriber information module

9. Soldering paste gives good while soldering

- A. Connectivity B. Finishing C. Clearnity

10. ESD is hardlyto the human body

- A. Visible B. Noticeable C. Harm

Exercise-2: Answer the Following Questions



1. How to use soldering Gun?

2. What is multimeter and explain the different type of multimeter ?

3. How to Use BGA Reballing Kit?

4. Define the process of soldering and de-soldering Battery Connector?

5. Explain the mobile strips and type of strips ?

6. How to test component using multimeter ?

7. Define type of IC ?





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सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



N·S·D·C
National
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Transforming the skill landscape

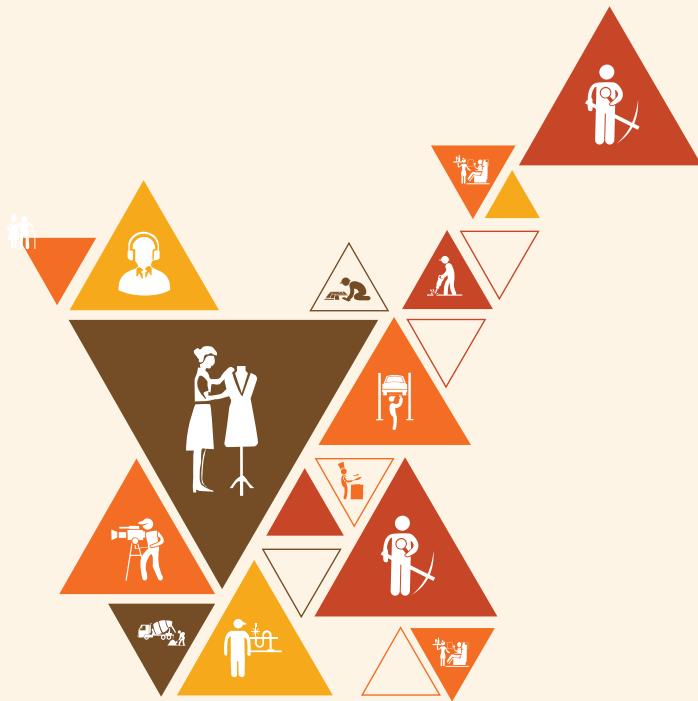


4. Coordinate with Colleagues

Unit 4.1 – Performance Criteria for Working Effectively as Team

Unit 4.2 – Knowledge & Understanding: Working Effectively as Team

Unit 4.3 – Skills: Working Effectively as Team



ELE/ N 9909

Key Learning Outcomes

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

1. Interact & communicate effectively with colleagues including member in the own group as well as other groups
2. Use all forms of verbal and non-verbal communication to communicate clearly and effectively with your colleagues, supervisors, customers and other stakeholders
3. Demonstrate communication skills
4. Judge your customers' body language and accordingly use an appropriate approach to deal with them
5. Apply the best practices for grooming to look presentable and make good impression on your customers
6. Use proper personal etiquettes at workplace
7. Acquire knowledge and understanding required for team working

UNIT 4.1: Performance Criteria for Working Effectively as Team

Unit Objectives



Understand the performance criteria for Working effectively as team:

1. Interact & communicate effectively with colleagues including member in the own group as well as other groups

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits for Team building exercises

Do



- Let the participants play some Team Building Exercises.
- For example let the participants in teams of 2, maneuver through a difficult path, with one of their legs tied together.
- Let the participants assemble some difficult artifacts from its broken pieces.

The winner of the game should be recognized & rewarded.

Say



- Tell them what makes a good team member & a good team leader.
- Thank the participants for their involvement.
- Enthuse the participants by telling them, what is planned next.

Notes for Facilitation



- You could ask the participants to describe the attributes of successful teams.

4.1.1: Learn To

Writing Skills

- Maintain clear communication with colleagues (by all means including face-to-face, telephonic as well as written)
- Work with colleagues to integrate work
- Pass on information to colleagues in line with organizational requirements both through verbal as well as non-verbal means
- Work in ways that show respect for colleagues
- Carry out commitments made to colleagues
- Let colleagues know in good time if cannot carry out commitments, explaining the reasons
- Identify problems in working with colleagues and take the initiative to solve these problems
- Follow the organization's policies and procedures for working with colleagues

UNIT 4.2: Knowledge & Understanding - Working Effectively as Team

Unit Objectives



Understand the performance criteria for Working effectively as team:

- Use all forms of verbal and non-verbal communication to communicate clearly and effectively with your colleagues, supervisors, customers and other stakeholders
- Discuss the importance of communication skills
- Judge your customers' body language and accordingly use an appropriate approach to deal with them
- Apply the best practices for grooming to look presentable and make good impression on your customers
- Use proper personal etiquettes at workplace

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits for Team building exercises

Do



- Let the participants play some Team Building Exercises.
- For example let participants in teams of 2, maneuver through a difficult path, with one of them blind folded.
- The winner of the game should be recognized & rewarded.

Say



- Let them describe attributes of a good team member & a good team leader.
- Thank the participants for their involvement.
- Enthuse the participants by telling them, what is planned next.

Demonstrate 

- Traits of a good team leader during role play exercises.
- Traits of a good team member during role play exercises.
- Let the participants demonstrate their skills during the practical exercises.

Notes for Facilitation 

- Seek the participants' feedback on their learning gains.

4.2.1: Communication Skills**Why Communication Skills?**

Formal education is not a guarantee for achieving success in your life. Without special qualifications also people can become successful in their respective fields.

Many famous personalities, such as our Prime Minister Narendra Modi, had basic educational qualification, yet they became famous because of their amazing communication skills. This emphasizes the importance of communication skills in achieving your goal to work effectively with:

- External parties such as customers, vendors, etc
- Internal stakeholders such as your peers and supervisors



Fig: 4.2.1.1 Communication Skills Matter



Fig: 4.2.1.2 Why Communication Skills?

4.2.2: Technical Knowledge

Different types of information that colleagues might need and the importance of providing this information when it is required

- Importance of helping colleagues with problems, in order to meet quality and time standards as a team

4.2.1.1: What is Communication?

Communication is the process of exchanging information from one person to another using a medium. People exchange information by speaking, writing or using body signals or languages.



Fig: 4.2.1.1 What is Communication?

4.2.1.2: Process of Communication?

The major elements of communication process are sender, message, receiver and feedback.

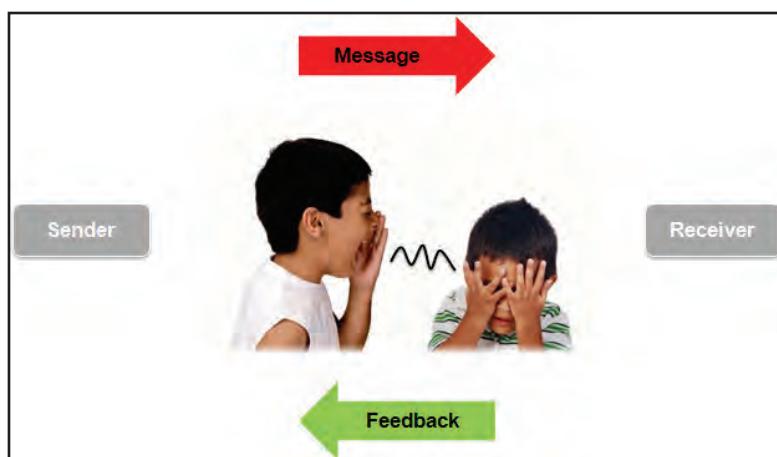


Fig: 4.2.1.2 Process of Communication

(1) Sender:

The person who intends to convey the message with the intention of passing information and ideas to others is known as sender or communicator.

(2) Message:

This is the ideas or information of the communication.

(3) Receiver:

Receiver is the person who receives the message or for whom the message is meant for. It is the receiver who tries to understand the message in the best possible manner in achieving the desired objectives.

(4) Feedback:

Feedback is the process of ensuring that the receiver has received the message and understood in the same sense as sender meant it.

4.2.1.3: Components of Effective Communication

Various researches have shown that an effective communication consists of:

- 93% Non-Verbal Communication or How You Say
 - 55% Body Language
 - 38% Voice
- 7% Verbal Communication or What You Say

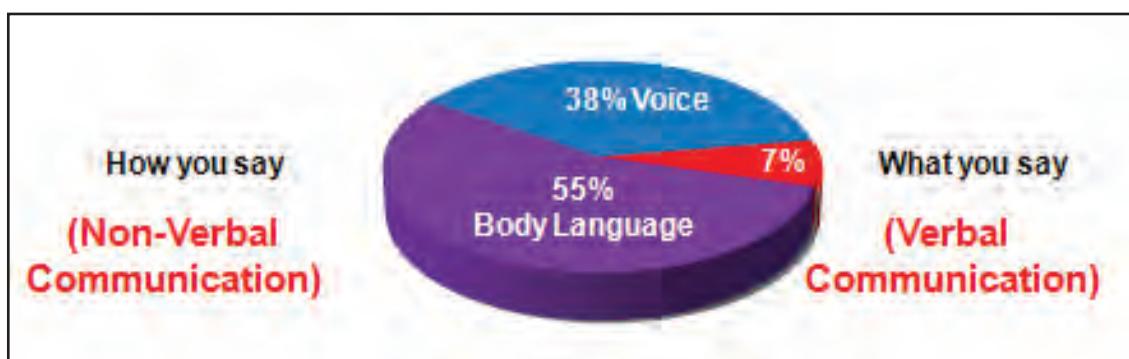


Fig: 4.2.1.3 Process of Communication

4.2.2: Verbal Communication

Importance of Verbal Communication :

Do you agree that whenever we start a conversation with someone, we are more focused towards what we say? But, words account for 7% importance in a conversation.

Our Dealership Executives are not that educated and hence have poor vocabulary.

Because of this our Dealership Executives feel inferior and lack confidence. But, they should understand that words account for only 7% in conversations and do not matter that much. Instead by improving their voice and body language, they can do a better job of communicating.

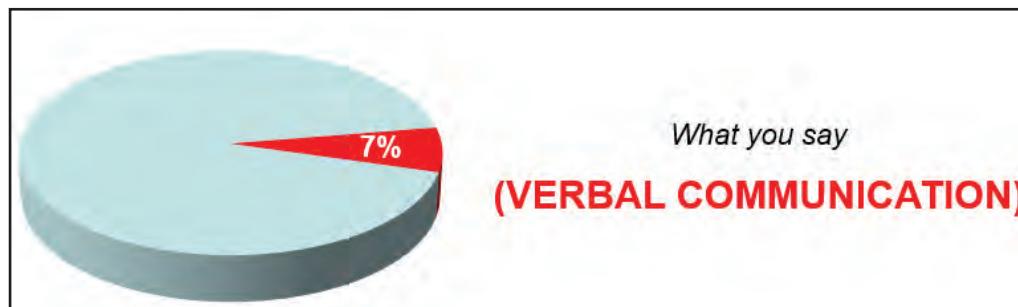


Fig: 4.2.2 Importance of Verbal Communication

Words :

Verbal communication consists of sharing thoughts through the meaning of words.

Words are a set of alphabets, to express our feelings or emotions. Verbal communications are of two types: written and oral communication.

4.2.2.1: How to Improve Verbal Communication

Some of the ways through which you can improve your verbal communication are:

- Read newspapers/magazines, etc.
- Practice using 10-15 new words everyday
- Avoid using slangs
- Think before you speak

While communicating always try to think about how someone else will understand what you are trying to communicate.

4.2.3: Non-verbal Communication

Components of Non-verbal Communication :

How you say (Non-verbal Communication) includes:

- Voice
- Body language



Fig: 4.2.3.1 Voice



Fig: 4.2.3.2 Body Language

4.2.3.1: Voice

Components of Non-verbal Communication: Voice :

Speech requires the presence of a voice that can be modulated. Vocal features that contribute to our interpretation of spoken language such as voiced pauses or intonation plays an important part to help us understand what is said to us. For instance, if the volume of your friend's speech is decidedly low, then there's a good chance he's sad over something. Likewise, if your teacher ends a sentence with a raise in pitch, or an upward inflection, then she's most likely asking a question.

What is Voice?

It is a specified quality, pitch and tone of vocal sound.

Relevance of Voice :

For an effective communication, voice has 38% importance. So, "The way you say" matters a lot.

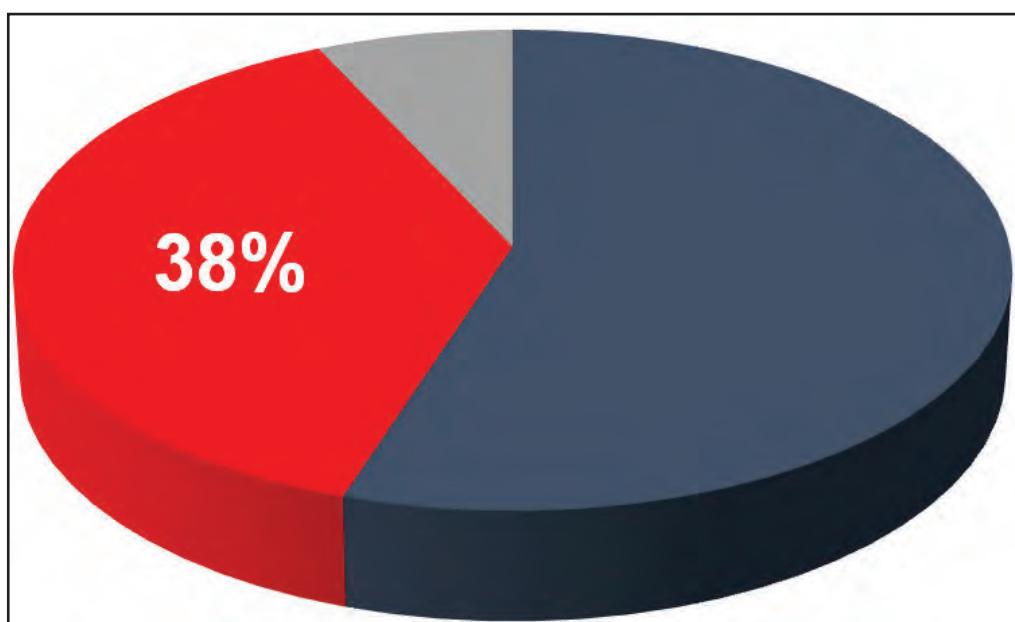
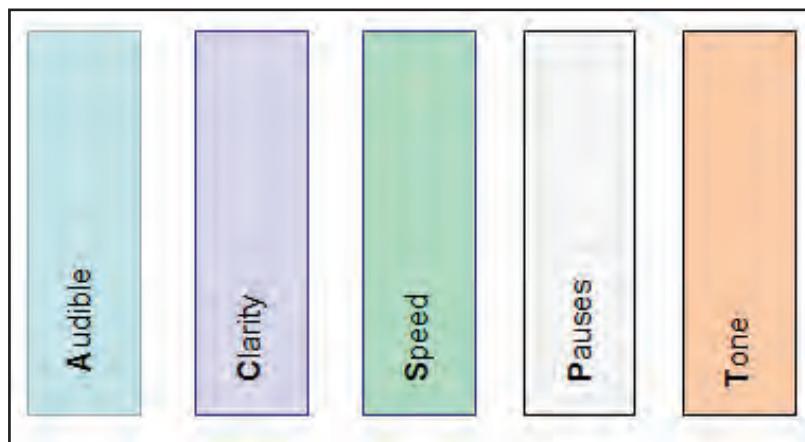


Fig: 4.2.3.1.1 Relevance of Voice

Characteristics of a Good Voice :*Fig: 4.2.3.1.2 Characteristics of a Good Voice*

Keep the following principles in mind using voice for your communication:

- Audible: To be heard
- Clarity: To convey the right message
- Speed: To be understood
- Pauses: To gain attention before an important message
- Tone: To convey the information with as much vocal energy and enthusiasm as possible

4.2.3.2: Body Language

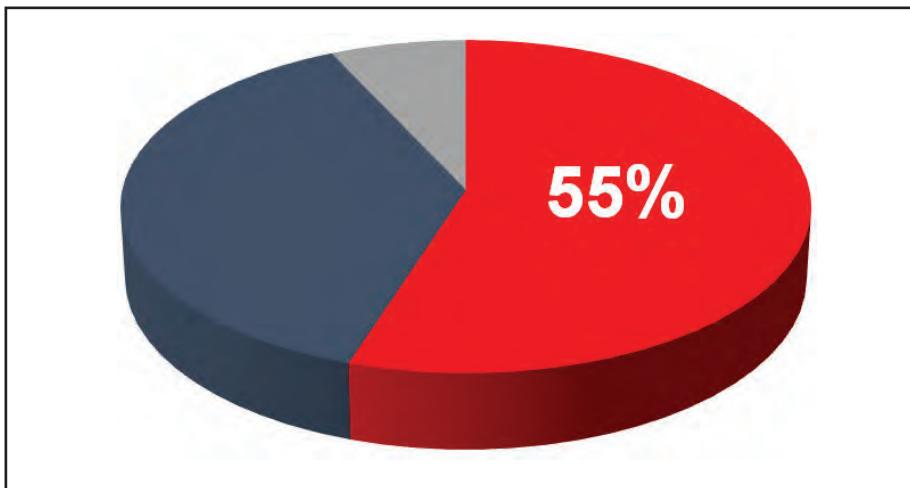
Components of Non-verbal Communication: Body Language :

Some estimates suggest that speech only makes up small part of communication. The rest of the information is conveyed non-verbally, by tone of voice, facial expressions, eye-contact and gestures, how we stand, and so on. Body movements can be used to reinforce or emphasize what a person is saying and also offer information about the emotions and attitudes of a person. However, it is also possible for body movements to conflict with what is said. A skilled observer may be able to detect such discrepancies in behaviour and use them as a clue to what someone is really feeling and thinking.

The human face is capable of all manner of articulations and distortions, and each of them can be interpreted in a unique way depending on the situation. For example, a smirk could convey a sense of self-satisfaction or could be a shy response to an embarrassing. A smirk could convey a sense of self satisfaction or could be a shy response to an embarrassing question.

Let's explore the second component of the non-verbal communication–body language.

For an effective communication, Body Language has 55% importance.

Importance of Body Language :*Fig: 4.2.3.2.1 Importance of Body Language*

A lot of our communication happens without speaking through our body language, it is important that you adopt a proper body language in your communication.

Components of Body Language :

The key components of body language are:

- Body Posture
- Gestures
- Facial Expressions
- Eye Movements

Do's of Body Language :

Always follow these do's of body language in your communication:

*Fig: 4.2.3.2.2 Shake hands firmly**Fig: 4.2.3.2.3 Smile**Fig: 4.2.3.2.4 Make eye contact**Fig: 4.2.3.2.5 Pay attention**Fig: 4.2.3.2.6 Stand straight*

Don'ts of Body Language :

Avoid these don'ts of body language in your communication:



Fig: 4.2.3.2.7 Do not avoid the customer's gaze



Fig: 4.2.3.2.8 Do not hide your hands and palms



Fig: 4.2.3.2.9 Do not look at your watch



Fig: 4.2.3.2.10 Do not stare

Observe Your Customer's Body Language :

During your interactions with customers, you should understand their body language by observing:

- How they sit
- How they stand
- How they use their hands and legs
- What they do while talking to you

Customers touching their hair or yawning while interacting, for instance, can indicate boredom. By understanding the customer's feelings through their body language, you can change the manner in which you interact with them.

You can use mirroring technique to help the customer into his comfort zone. For example, if the customer's arms are crossed, you too should cross your arms to mimic the customer's action. You will then come across as friendly and helpful to your customers.

4.2.4: Listening Skill

Listening :

Active listening is an important skill and yet, as communicators, people tend to spend far more energy considering what they are going to say rather than listening to what the other person is trying to say. Listening is the ability to accurately receive and interpret messages in the communication process. Listening is key to all effective communication, without the ability to listen effectively messages are easily misunderstood – communication breaks down and the sender of the message can easily become frustrated or irritated.



Fig: 4.2.4.1 Listening

Let's now learn to use effectively each of these for successful interactions with others. Let's start the discussion by exploring about listening skills.

Overview :

Listening is basically the ability to accurately receive and interpret messages. Adults spend an average of 70% of their time engaged in some sort of communication, of this an average of 45% is spent listening compared to 30% speaking, 16% reading and 9% writing. (Adler, R. et al. 2001)



Fig: 4.2.4.2 Overview of Listening

Most of us do not listen, which leads to a communication gap. You should wait for your turn to speak rather than interrupt in between!

If you interrupt before your speakers have finished their sentences, then the focus has shifted to you from the speakers. Also, you are communicating to the speakers that your ideas are more important. Besides, it's rude to interrupt.

Tips for Listening :

Follow these tips to become an attentive listener:

- Focus on the speaker. Pay attention to what the speaker is saying. Look directly in the eye of your speaker.
- Take notes: This will help you stay alert.
- Reconfirm and ask questions: Always reconfirm your understanding by repeating the information that was shared with you. Ask questions to understand the message better. These tips will ensure that you heard what was said.
- Remove Distractions: Focus on what is being said. Don't use mobile phone, shuffle papers, look out the window, pick your fingernails or similar. These behaviours disrupt the listening process and send messages to the speaker that you are bored or distracted.

Remember, if we were to talk more than we listen, we would have two tongues and one ear.

4.2.5: Writing Skill

Writing :

This is an important part of communication. Good writing skills allow you to communicate your message with clarity and ease to a far larger audience than through face-to-face or telephone conversations. Writing is a medium of human communication that represents language and emotion through the inscription or recording of signs and symbols. In most languages, writing is a complement to speech or spoken language.

Overview :

Written Communication is a medium through which the message of the sender is conveyed with the help of written words.

You need to use written communications mainly for these activities:



Fig: 4.2.5 Overview of Writing

Do's and Don'ts of Written Communication :

Use the following do's and don'ts for written communication:

- Use simple language
- Highlight important words
- Use appropriate salutation and greeting
- Keep your sentences short and to the point
- Proof read the text before sharing

Here are the additional tips that you may consider for your written communication:

- Do write with the reader in mind. If you're writing about a technical subject for a non-technical reader, avoid using technical jargon and acronyms they may not know. If possible, explain concepts in a way that your reader can relate to.
- Be clear about what you are actually trying to communicate. Use short words and sentences to get across your point. It can be useful to use a list of bullet points rather than paragraph to make it easier to read and understand the information.
- Use salutation – Sir/Ma'am, Mr./Mrs./Ms., etc. – and Greeting – Good Morning, Hi, etc.
- Choose an appropriate font and size for your writing. Wingdings and Comic Sans are obviously out and anything less than 8-point will give your readers a headache.

4.2.6: Grooming

Outward appearance is the window of your personality to the world. You not only dress for others but for yourself too. External appearance is important because that gives the first impression to others about your personality.

Overview :

Grooming is basically the state, condition, manner or style in which a person appears.

Good personal grooming can make you look good. Looking good usually improves your self-esteem and confidence.

Importance of Grooming :

Do you know 4 seconds are enough to make the first Impression! This means we need to act quickly in order to make a brilliant first impression on our customers.



Dressing :

Fig: 4.2.6.1 Importance of Grooming

Dressing is also an important part of personal grooming. Clothes should be clean and free of stains, holes, and wrinkles. Properly fitting clothes look best. Wearing clothing that is too big or small in size can make a person look untidy.

For lady sales executive, dress code would be Salwar kurta/Saree/T-Shirt with Jeans.

Let's now learn about tips for using correctly different parts of your dressing.

T-shirt

- Wear well-ironed T-shirt
- Make sure the collars are clean
- Tuck the shirt in the pant
- Wear normal fit, fit shouldn't be too loose or too tight

Trousers/Jeans

- Wear well-ironed trousers/jeans
- Make sure it's not low waist
- Avoid boot cut styles
- Avoid stuffing the pockets

Shoes

- Make sure they are neat and clean
- Ensure they are not too colourful
- Wear clean socks

- Ensure your shoes fit well, neither too tight or too loose

Belt

- Wear a Black color belt
- Ensure it's made of good leather
- Ensure it's not too long and not too short
- Avoid belts with flashy buckles

Watch

- Wear a good quality watch
- Ensure it's simple with straight or classy lines
- Make sure it's not flashy

Personal Hygiene :

Always follow these do's and dont's for maintaining personal hygiene:



Fig: 4.2.6.2 Take Shower Everyday



Fig: 4.2.6.3 Shave your facial hair regularly



Fig: 4.2.6.4 No Smoking



Fig: 4.2.6.5 Apply deodorant to prevent body odour



Fig: 4.2.6.6 Brush your teeth twice everyday



Fig: 4.2.6.7 Rinse every time after eating

Maintaining Yourself :

You can look presentable at all times by following these tips:

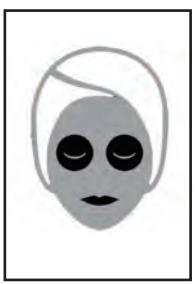


Fig: 4.2.6.8 Take care of your skin



Fig: 4.2.6.9 Stand Upright



Fig: 4.2.6.10 Wear well fitted clothes



Fig: 4.2.6.11 Keep yourself updated



Fig: 4.2.6.12 Exercise regularly

4.2.7: Etiquette

How you present yourself to others in the business world speaks volumes. People often form first impressions about others within seconds of first meeting them therefore it is crucial to ensure you are properly prepared to present yourself as a professional.

Overview :

Office etiquette is important because bad manners at work can be bad for business by negatively affecting employee morale and productivity.

Etiquette is basically polite behavior and courtesy, a person is expected to follow.

Tips for Personal Etiquette :

Follow these do's and don'ts for personal etiquettes at workplace:



Fig: 4.2.7.1 Do's and Don'ts Personal Etiquettes

Follow these tips to practice proper professional etiquettes at workplace.



Fig: 4.2.7.2 Practice Proper Professional Etiquettes at workplace

Additionally,

- Always show up on time for meetings.
- Keep meetings to the scheduled amount of time.
- Pay attention during meetings and avoid multi-tasking, such as scrolling through emails on your smart phone or computer.
- Do respect people's personal space while on the phone. A 'safe cell distance' is considered to be 10 feet.
- Don't hold meetings in your cubicle and distract those sitting nearby. For meetings with three or more people, go to a conference room or a break area.
- Eat lunch in the cafeteria or break room. Avoid eating smelly food at your desk.
- Be aware of how loud you speak on the telephone if you work in a cubicle environment.
- Respect your co-worker's property.
- Don't yell and scream at others.

4.2.8: Rapport Building

Overview :

By improving your overall communication skills, you can build rapport with people at your work. Rapport is basically “Getting along well with others”.

Rapport building helps us:

- Establish feelings of Harmony, Goodwill and Trust
- Know more about the prospect’s mood, attitude, style, needs, values and interests
- Get the prospect talking
- Promote open communication, develop trust and improve the probability of deal closure



Fig: 4.2.8 Overview of Rapport Building

Barriers to Rapport Building :

The key barriers to rapport building are:

- Lack of interest
- Lack of understanding
- Hesitation

To overcome these barriers and to build rapport, you need to understand the different types of customers, which brings us to our next topic “Customer Types”.

4.2.9: Working in Team

Overview :

In this topic, you will get an overview of why team work is important, what are the important behaviours in effective teams and how you can help build up an effective team.



Fig: 4.2.9.1 Overview of Working in Team

Lessons from the Geese :

Teams are much more effective than individuals for work. Let's look at an example from Mother Nature to learn how an effective team works.

The geese actually fly in a group on their long flight of migration.



Fig: 4.2.9.2 Lessons from Geese

The flapping of the geese that are in front of the formation creates a draft for the geese at the rear reducing air resistance. This indicates their true sense of responsibility towards the fellow beings.

When the leader of the formation of the geese is tired, it goes back and another goose then comes in the front to lead the group of Geese. So, these Geese have no fixed leadership or hierarchy.

No goose likes to fly out of formation because it would get tired easily. Even if it does fly out of formation, it quickly comes back to its place. So, Geese have amazing team sense!

Geese also make a lot of noise while they fly. But it's interesting to note that the noise is not made by the geese leading the formation, but by the Geese in the back of the formation, which serve to support and keep everyone going. Isn't that the unique vocal support?

If one goose is ill and falls out of formation, a few of others stay with it, to be with it until it gets well or dies. Now, that's what we call team spirit!

Geese are unique as a team. The team behaves as a cohesive whole with a common goal of reaching a particular destination in mind. Team members help each other since they can collectively achieve much more than they can alone.



Fig: 4.2.9.3 Lessons from Swan

Just like the Geese the people who share a common direction and sense of community can get where they are going more quickly and easily because they are traveling on the thrust of one another.

If we have as much sense as a Goose, we will stay in formation with those headed where we want to go. We will also be willing to accept other's help and give our help to others.

It pays to take turns in doing the hard tasks and share the leadership. As with Geese, people are interdependent on each other's skills, capabilities and unique arrangements of gifts, talents and resources.

We need to make sure we are encouraging each other in the team. In teams where there is encouragement, the production is much higher.

If we have as much sense as Geese, we will stand by each other in difficult times as well as when we are strong. Now, what do you say to that!!!

Team Player Styles :

You need to be a good team player to work in a team.



Fig: 4.2.9.4 Team Player Styles

Contributors :

The first team player style is Contributors.

The following are the key characteristics of Contributors:

- Logical
- Efficient
- Organized
- Proficient
- Relevant
- Pragmatic
- Systematic
- Dependable
- Responsible

Contributors tend to be task-oriented. Their strengths lie in sharing information with the team and making sure every aspect of a work is taken care of. Contributors are thorough and detail-oriented.

Collaborators :

The second team player style is Collaborator.

The following are the key characteristics of Collaborators:

- Cooperative
- Flexible
- Confident
- Forward-looking
- Conceptual
- Accommodating
- Generous
- Open
- Visionary
- Imaginative

Collaborators are highly goal-oriented.

If you're the ones who make sure work stays on track, you're likely to be a Collaborator.

Communicator :

The third Team Player Style is Communicator.

Here are the key characteristics of Communicators:

- Tactful
- Helpful
- Friendly
- Patient

- Informal
- Relaxed
- Supportive
- Encouraging
- Considerate
- Spontaneous

The Communicator is a process-oriented member who is an effective listener.

If you focus on making sure the overall process goes smoothly, then you're likely to be a Communicator.

Challenger :

The fourth Team Player Style is Challenger.

The key characteristics of Challengers are:

- Candid
- Ethical
- Questioning
- Honest
- Truthful
- Outspoken
- Principled
- Adventurous
- Aboveboard
- Brave

The Challenger is a member who questions the goals, methods and even the ethics of the team. He is willing to disagree with the leader and encourages the team to take calculated risks.

If you're always looking at the bigger picture and questioning how and why things are done, then you may be a Challenger.

Commitment & Task Sharing Based on Individual's Skills :

A committed team treats the work like their own garden or pet – they obsess over it, they care for it, they own it. If a leader is trying to build a team who can give commitment to finish the assigned task, then it is important to align team member's personal visions to that of the organization.

4.2.10: Resolving Conflict

Conflict - a serious disagreement or argument. Conflict exists in every organization and to a certain extent indicates a healthy exchange of ideas and creativity. However, counter-productive conflict can result in employee dissatisfaction, reduced productivity, poor service to customers.

Importance of Resolving Conflict:

You must avoid conflict at the work place as it brings negativity all around.



Fig: 4.2.10 Importance of Resolving Conflict

By deciding not to say something that would make you sound aggressive or frustrated, you can avoid unnecessary conflicts.

Conflicts take place when people are rigid and are not willing to cooperate with each other.

Let's look at some ways through which you can prevent and resolve conflicts.

Best Practices Resolving Conflict:

To resolve conflicts in a team, you should use these steps:

- Examine what is causing trouble
- Discuss the issue with the conflicting party
- Clarify expectations and roles
- Find an option which benefits all
- Utilize constructive feedback
- Reach agreements

You should always maintain a positive relationship while trying to reach an agreement.

Depersonalizing Conflicts:

You should always depersonalize conflicts by adopting these steps:

- Focus on issues not personalities
- Encourage both sides to be objective
- Evaluate concerns of both sides
- Encourage people to listen to other's view
- Encourage points of agreement
- Don't dwell on anger

When individuals find it difficult to adjust with each other, the best way is to sit together and discuss among themselves to reach the middle path. Instead of fighting with each other, it is better to discuss things and come to a solution which benefits all. For example, when the boss sets the timeline for completing a given task and the team member finds it unachievable, the team member should negotiate with his boss to slightly extend the timeline to make it practically achievable. Through discussion they can then reach the timeline that suits all.

Resolving Complaints:

Use the following do's to resolve complaints:

- Be warm to the others
- Show empathy
- Acknowledge the other's feelings
- Listen actively
- Isolate the core problem
- Provide a satisfactory resolution and an alternative
- Follow-up after the resolution

Avoid the following don'ts to resolve complaints.

Don't:

- Take a confrontational attitude
- Make assumptions
- Use technical or professional jargon
- Pass the blame
- Make unrealistic commitments
- Exceed your authority
- Sacrifice your company's interest

Responding to a Transactional Crisis:

Use the following do's to respond to a Transactional Crisis:

- Tell the whole story:
 - Openly
 - Completely
 - Honestly
- Apologize, if you are at fault
- Show your concern with:
 - Words
 - Actions

Avoid the following don'ts to respond to a Transactional Crisis.

Don't:

- Blame others
- Speculate in public
- Refuse to answer questions
- Release confidential information without permission
- Use the crisis to promote yourself

Giving Feedback:

Follow these best practices for giving feedback effectively:

- Hold the discussion in private
- Remain calm
- Show empathy
- Discuss the most important issues only
- Support your argument with facts, figures and observed behaviour
- Try to reach an agreement
- Summarise your understanding

4.2.11 Coordinate with Co Workers

There are various employees working in a showroom. The previous chapter has already covered some glimpse of the same. The host/hostess has to be really good in interpersonal skills to ensure a good relationship with all the coworkers.

Hostess to keep monitoring & inform respective staff as & when required -

Store Manager- Everything should be placed in right places

House Keeping- All the display vehicle, floors etc. are neat & clean

Sales Staff- Sufficient product brochures are available in the showroom for customers

RTO Executive- Queries related to RC Book, Number plate etc.

Billing Executive- Escort the customer to complete billing process

Sales Consultant- For information on product in detail

Participating in daily briefings/meetings:

Attending & participation in daily meetings & briefings are very important for a Host/Hostess. Meetings are the platform where everybody can share their experience. This will also help the host/ hostess to understand the various issues and concerns at the same time will be able to learn how to address them. Some of the business figures are also brought into limelight which can be used as a promotion tool while talking to the customer.

Importance of attending the meeting:

- Meetings unify the team
- Employees keep each other updated
- Meeting generates suggestions from the employees
- Daily meetings set the agenda for the day, basis that Manager decides individual targets
- Better decision making with consent of all
- Complete resolutions of conflicts

UNIT 4.3: Skills - Working Effectively as Team

Unit Objectives



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

- Explain knowledge and understanding required for Team Working
- Demonstrate professional requirement for Team Working

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits for Team building exercises

Do



- Explain the core / generic skills required for team success.
- Explain the professional skills required for team success.
- Take them through role play exercises.

Say



- Individuals can not work in isolation.
- Everybody has to be a team player in ensuring success.
- Bad team member could ruin the team efforts.

Demonstrate



- Successful teams during team exercises.
- Show some videos to demonstrate successful teams.
- Let the participants demonstrate their skills during the practical exercises.

Notes for Facilitation



- Seek the participants' feedback on their learning gains.
- Enthuse the participants by telling them what is going come next

4.3.1: Core Skills / Generic Skills

Learn to:

• **Writing Skills**

- Complete written work with attention to detail

• **Reading Skills**

- Read instructions, guidelines / procedures

• **Oral Communication (Listening and Speaking skills)**

- Listen effectively and orally communicate information
- Ask for clarification and advice from the concerned person while meeting commitments

4.3.2: Professional Skills

Decision Making

- Make decisions on a suitable course of action or response keeping inview resource utilization while meeting commitments
- Plan and Organize
- Plan and Organize work to achieve targets and deadlines
- Customer Centricity
- Check that the work meets customer requirements
- Deliver consistent and reliable service to customers
- Problem Solving
- Apply problem solving approaches in different situations
- Critical Thinking
- Apply balanced judgements to different situations

Notes



Exercise-1: Answer the Following Questions:



1. Write are process of communication?

2. How to improve verbal communication?

3. What are the components of non-verbal communication?

4. What are the best practices to resolve conflict?



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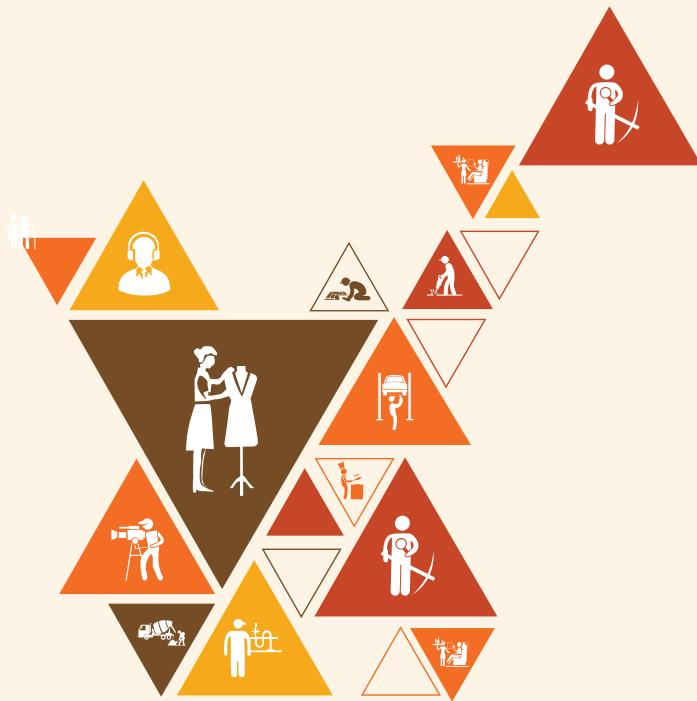
Transforming the skill landscape



5. Maintain Safe and Secure Environment

Unit 5.1 – Performance Criteria for Healthy, Safe & Secure Work Environment

Unit 5.2 – Knowledge & Understanding: Healthy, Safe & Secure Work Environment



Key Learning Outcomes

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

1. Perform as per the need of resources to maintain a safe, secure working environment
2. Maintain safe & secure workplace
3. Assess your responsibilities for workplace safety
4. Use best practices to remove potential hazards from your workplace and prevent accidents
5. Apply appropriate strategies to deal with emergencies at workplace

UNIT 5.1: Performance Criteria for Healthy, Safe & Secure Work Environment

Unit Objectives



Understand the performance criteria for Working effectively as team:

1. Perform as per the need of resources to maintain a safe, secure working environment

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits for Health & Safety exercises

Do



- Let the participants play some Safety Exercises like fire extinguishing.
- Ask participants to elaborate on the Health, Safety & Security precautions.
- Educate the participants about the safety signages.

Say



- Tell them "Safety First".
- Thank the participants for their involvement.
- Enthuse the participants by telling them, what is planned next.

Notes for Facilitation



- You could ask the participants some safety issues dealt by them.
- Emphasize the importance of Japanese techniques of "5S".

Performance Criterion:

Resources needed to maintain a safe, secure working environment Study and Learn to:

- Comply with organization's current health, safety and security policies and procedures
- Report any identified breaches in health, safety, and security policies and procedures to the designated person
- Coordinate with other resources at the workplace to achieve the healthy, safe and secure environment for all, incorporating all government norms esp. for emergency situations like fires, earthquakes etc.
- Identify and correct any hazards like illness, accidents, fires or any other natural calamity safely and within the limits of individual's authority
- Report any hazards outside the individual's authority to the relevant person in line with organizational procedures and warn other people who may be affected
- Follow organization's emergency procedures for accidents, fires or any other natural calamity. Identify and recommend opportunities for improving health, safety, and security to the designated person
- Complete all health and safety records are updates and procedures well defined

UNIT 5.2: Knowledge & Understanding - Healthy, Safe & Secure Work Environment

Unit Objectives



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

1. Maintain safe & secure workplace
2. Assess your responsibilities for workplace safety
3. Use best practices to remove potential hazards from your workplace and prevent accidents
4. Apply appropriate strategies to deal with emergencies at workplace

Resources to be Used



- Available objects such as a Black Board, Projector, Screen, Power point, duster, pen, notebook etc.
- Audio Visual Aids as applicable
- Exhibits for Health & Safety exercises

Do



- Let the participants play some Safety Exercises.
- Let them try doing “5S” on the area around them.
- The winner of the game should be recognized & rewarded.

Say



- Health, Safety & Security are the major concerns for any enterprise.
- Thank the participants for their involvement.
- Enthuse the participants by telling them, what is planned next.

Demonstrate



- Use of Safety Signages at appropriate locations.
- Some security lapse / risks in their area of work.
- Let the participants demonstrate their firefighting skills during the practical exercises.

Notes for Facilitation



- Seek the participants' feedback on their learning gains.
- Summarize their course gains
- Ask them how they will put their training gains in actual practice
- Guide them about way ahead

5.2.1: Importance of Safe & Secure Working Place

When you feel safe and secure, you can remain motivated and feel happy at your workplace. Workplace safety is important for the very reason of improved productivity. It is only when you feel safe at work that you can invest the fullest of your capacities and exploit the best of your potentials to work. A feeling of security and safety while working leads to positivism.

Therefore, measures should be taken to eliminate risks at work and ensure a safe and comfortable environment for the employees

5.2.1.1: Employer's Responsibilities

The responsibilities of the employers for maintaining safe workplace are:

- Provide a safe and healthy workplace
- Ensure that workers are adequately trained
- Keep written records of training (who, what and when)
- Establish and maintain a comprehensive occupational health and safety program, including a written health & safety policy and an incident investigation procedure
- Support supervisors, safety co-ordinators and workers in their health and safety activities
- Take action immediately when a worker or supervisor reports a potentially hazardous situation
- Initiate an immediate investigation into incidents
- Provide adequate first aid facilities and services
- Provide personal protective equipment where required

Worker training is usually carried out by the supervisor. However, the employer has the legal responsibility to ensure that every worker receives adequate training. The employer must follow up to see that the supervisor is carrying out all the required training. Employers should also work with supervisors to help foster positive worker attitudes to safety.

5.2.1.2: Supervisor's Responsibilities

The responsibilities of the supervisors for maintaining safe workplace are:

- Instruct workers in safe work procedures
- Train workers for all tasks assigned to them, and check that their work is being done safely
- Ensure that only authorized, adequately trained workers operate tools and equipment or use hazardous chemicals
- Ensure that equipment and materials are properly handled, stored and maintained
- Enforce health and safety requirements
- Correct unsafe acts and conditions
- Identify workers with problems that could affect safety at the worksite
- Develop health and safety rules and inspect the workplace for hazards

5.2.1.3: Worker's Responsibilities

The responsibilities of the workers for maintaining safe workplace are:

- Know and follow health and safety requirements affecting your job
- If you don't know how to do something safely, ask for training before you begin work
- Work safely, and encourage your co-workers to do the same
- Correct any unsafe conditions or immediately report them to your supervisor
- Immediately report any injury to a first aid attendant or supervisor
- Take the initiative. Make suggestions to improve health and safety



Fig: 5.2.1.3 Worker's Responsibilities

5.2.2: Workplace Hazards

A hazard is a situation that poses a level of threat to life, health, property or environment. Most hazards are dormant or potential, with only a theoretical risk of harm; however, once a hazard becomes “active”, it can create an emergency. A hazardous situation that has come to pass is called an incident. Hazard and possibility interact together to create risk.

Identification of hazard risks is the first step in performing a risk assessment.

5.2.2.1: Modes of Hazard

Hazards are sometimes classified into three modes:

- Dormant: The situation presents a potential hazard, but no people, property, or environment is currently affected. For instance, a hillside may be unstable, with the potential for a landslide, but there is nothing below or on the hillside that could be affected.
- Armed: People, property or environment is in potential harm's way.
- Active: A harmful incident involving the hazard has actually occurred. Often this is referred to not as an “active hazard”, but as an accident, emergency, incident or disaster

5.2.2.2: Types of Hazard

The common types of hazard are:

- Physical hazards are conditions or situations that can cause the body physical harm or intense stress. Physical hazards can be both natural and human made elements.
- Chemical hazards are substances that can cause harm or damage to the body, property or the environment. Chemical hazards can be both natural and human made origin.
- Biological hazards are biological agents that can cause harm to the human body. These biological agents can be viruses, parasites, bacteria, food, fungi and foreign toxins.
- Psychological hazards are created during work related stress or a stressful environment. A person can be a hazard when he/she has affected psychological disturbance through stress or shift patterns and when a person is under the influence of alcohol, illness and lack of training.
- Electrical hazards are dangerous condition where a worker can or does make electrical contact with equipment or a conductor. From that contact, the person may sustain an injury from shock, and there is a potential for the worker to receive burn or blast injury.

5.2.2.3: Reporting of any Hazard Incidents

Follow your organization structure to report any hazards/incident to the relevant person.

Structure could be different from organization to organization.

Warn/inform your co-workers about any hazardous incidents for extra safety measurements.

5.2.3: Organization's Emergency Procedures

Every workplace should have a plan for dealing with emergencies. You should be instructed in that plan within your first few days on the job and have refresher training from time to time.

5.2.3.1: Questions to be asked for Emergency Procedures

Once you have been trained, you should be able to answer these questions:

- Where the emergency phone numbers are posted?
- Where are the fire extinguishers and how and when should they be used?
- What other specialized equipment may be needed in an emergency, and how it is used?
- Where are the fire alarms and fire exits?
- What is the evacuation plan for the building?
- What should you do during an earthquake?
- In case of evacuation, where outside the building is the assembly point and who should you report to?

5.2.3.2: Emergency Preparedness

It is the discipline of dealing with and avoiding both natural and manmade disasters.

5.2.3.3: Emergency Service Number

Dial the service number of these departments in case of emergency:

- Fire Brigade Department
- Police Department
- Ambulance Department
- Women Safety Department
- Security Department
- Pest Control Department



Fig: 5.2.3.3 Emergency Service Number

5.2.3.4: Medical Emergency Procedures

You should follow these steps for medical emergency procedures:

- An emergency medical service should be available near to your dealership
- At least one person should be trained enough to handle any medical emergency
- First-aid supplies should be available at the dealership
- Check – Call – Care route should be followed

5.2.3.5: Fire Preparedness Procedures

You should follow these emergency instructions in case of fire:

- Activate the ALARM.
- Evacuate the area.
- Call the fire department.
- Fight the fire only if:
 - You know how.
 - The fire is small.
 - You are confined to the area where it started.
 - You have a way out.
 - You can work with your back to the exit.
 - You have the right type of extinguisher.
 - You feel confident that you can operate it effectively.
- DO NOT fight the fire if:
 - You have any doubts about fighting it.
 - It is spreading beyond the area where it started.
 - It could block your escape route.



Fig: 5.2.3.5 Emergency Service Number

EVACUATE THE BUILDING IMMEDIATELY

Confine a fire to the zone of origin, for a specified time, thereby preventing fire spread and leaving more time for safe evacuation of the building occupants.

If a fire breaks out, smoke containment systems prevent the movement of smoke and heat from one area to another.

5.2.3.6: Fire Prevention

Follow these steps for fire prevention:

- Don't allow trash and litter to accumulate unnecessarily
- Keep the workplace areas neat and clean
- Know where fire alarm boxes and extinguishers are located
- Make sure you know the different types of fire extinguishers and how to use them
- Store hazardous materials in designated areas
- Keep exits free of obstructions
- Know location of emergency exits and procedures
- Handle flammable liquids with caution

5.2.4: Evacuation Procedures in Emergency

Let's now learn about the evacuation procedures for workers & visitors in case of emergency

As the first step a layout must be made of the building, including:

- Evacuation Routes
- Fire Extinguisher (locations)
- Fire Alarm Stations (locations)
- First Aid Kit (locations)

The second step for evacuation procedures for workers & visitors in case of emergency includes creating a map of the parking lot and surrounding buildings.

This must show the Rally Point. Rally Point must be a safe distance from the building. It must be easily accessible, out of the way of emergency services, and should not be beside the fire hydrant.

Both the layout and the Rally Point must be posted conspicuously throughout the facility and made available to all employees upon request.

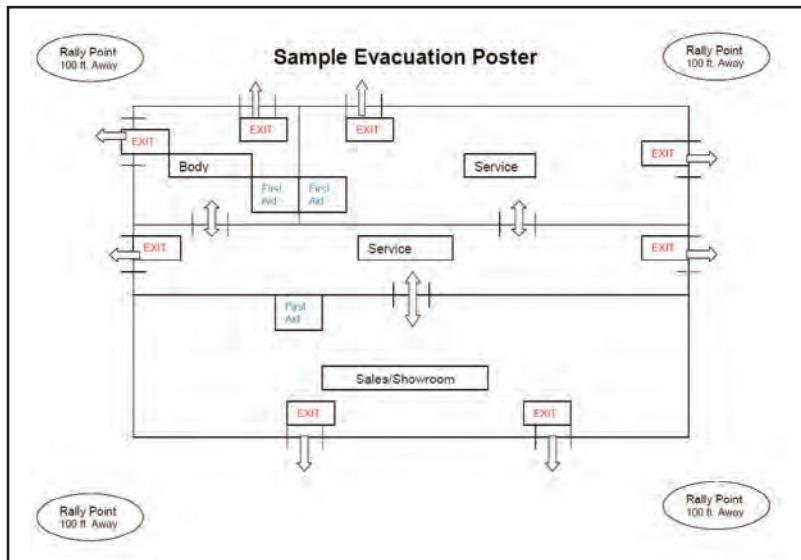


Fig: 5.2.4 Evacuation Procedures for Workers & Visitors

5.2.4.1: Roles of First Responder

A first responder is an employee of an emergency service who is likely to be among the first people to arrive and assist at the scene of an emergency, such as fire.

They should be aware of what the first aid for burns is, and should be able to use the same, immediately, at the site of the fire accident to the injured people.

They should try to put out the fire using fire extinguisher or other means.

They should rescue the victim from the burning premises.

They should have knowledge on different types of fires like chemical, electrical etc., and should take the appropriate measures to contain and put out these fires.

Notes 

Exercise-1: Answer the Following Questions:



1. Write are responsibilities of the workers for maintaining safe workplace?

2. Write are the types of hazard at workplace?

3. Write are the questions to be asked for emergency procedure?





6. Employability & Entrepreneurship Skills

- Unit 6.1 – Personal Strengths & Value Systems
- Unit 6.2 – Digital Literacy: A Recap
- Unit 6.3 – Money Matters
- Unit 6.4 – Preparing for Employment & Self Employment
- Unit 6.5 – Understanding Entrepreneurship
- Unit 6.6 – Preparing to be an Entrepreneur



Key Learning Outcomes



At the end of this unit, 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. Understand 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. Understand 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 how to maintain a positive attitude
15. Discuss the role of attitude in self-analysis
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. Explain 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. Understand 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 government's role in the entrepreneurship ecosystem
83. Discuss the current entrepreneurship ecosystem in India
84. Understand the purpose of the Make in India campaign
85. Discuss the relationship between entrepreneurship and risk appetite
86. Discuss the relationship between entrepreneurship and resilience
87. Describe the characteristics of a resilient entrepreneur
88. Discuss how to deal with failure
89. Discuss how market research is carried out
90. Describe the 4 Ps of marketing
91. Discuss the importance of idea generation
92. Recall basic business terminology
93. Discuss the need for CRM
94. Discuss the benefits of CRM
95. Discuss the need for networking
96. Discuss the benefits of networking
97. Understand the importance of setting goals
98. Differentiate between short-term, medium-term and long-term goals
99. Discuss how to write a business plan
100. Explain the financial planning process
101. Discuss ways to manage your risk
102. Describe the procedure and formalities for applying for bank finance
103. Discuss how to manage your own enterprise
104. List important questions that every entrepreneur should ask before starting an enterprise

UNIT 6.1: Personal Strengths & Value Systems

Unit Objectives



At the end of this unit, 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. Understand 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. Understand 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 how to maintain a positive attitude
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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

6.1.1 Health, Habits, Hygiene: What is Health

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. You also need to think about whether you are feeling calm, relaxed and happy.

Common Health Issues

Some common health issues are:

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

Tips to Prevent Health Issues

Taking measures to prevent ill health is always better than curing a disease or sickness. You can stay healthy by:

- 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

How many of these health standards do you follow? Tick the ones that apply to you.

1. Get minimum 7-8 hours of sleep every night.
2. Avoid checking email first thing in the morning and right before you go to bed at night.
3. Don't skip meals – eat regular meals at correct meal times.
4. Read a little bit every single day.
5. Eat more home cooked food than junk food.

6. Stand more than you sit.
7. Drink a glass of water first thing in the morning and have at least 8 glasses of water through the day.
8. Go to the doctor and dentist for regular checkups.
9. Exercise for 30 minutes at least 5 days a week.
10. Avoid consuming lots of aerated beverages.

What is Hygiene?

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.

For instance, think about the kitchen in your home. Good hygiene means ensuring that the kitchen is always spick and span, the food is put away, dishes are washed and dustbins are not overflowing with garbage. Doing all this will reduce the chances of attracting pests like rats or cockroaches, and prevent the growth of fungus and other bacteria, which could spread disease.

How many of these health standards do you follow? Tick the ones that apply to you.

1. Have a bath or shower every day with soap – and wash your hair with shampoo 2-3 times a week.
2. Wear a fresh pair of clean undergarments every day.
3. Brush your teeth in the morning and before going to bed.
4. Cut your fingernails and toenails regularly.
5. Wash your hands with soap after going to the toilet.
6. Use an anti-perspirant deodorant on your underarms if you sweat a lot.
7. Wash your hands with soap before cooking or eating.
8. Stay home when you are sick, so other people don’t catch what you have.
9. Wash dirty clothes with laundry soap before wearing them again.
10. Cover your nose with a tissue/your hand when coughing or sneezing.

See how healthy and hygienic you are, by giving yourself 1 point for every ticked statement!

Then take a look at what your score means.

Your Score

0-7/20: You need to work a lot harder to stay fit and fine! Make it a point to practice good habits daily and see how much better you feel!

7-14/20: Not bad, but there is scope for improvement! Try and add a few more good habits to your daily routine.

14-20/20: Great job! Keep up the good work! Your body and mind thank you!

Swachh Bharat Abhiyan

We have already discussed the importance of following good hygiene and health practices for ourselves. But, it is not enough for us to be healthy and hygienic. We must also extend this standard to our homes, our immediate surroundings and to our country as a whole.

The ‘Swachh Bharat Abhiyan’ (Clean India Mission) launched by Prime Minister Shri Narendra Modi on 2nd October 2014, believes in doing exactly this. 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. You should take the pledge too, and do everything possible to keep our country clean!

What are Habits?

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.

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
- Smiling! Make it a habit to smile as often as possible
- Making time for family and friends
- Going to bed early and waking up early

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
- Smoking, drinking alcohol and doing drugs
- Spending more money than you can afford
- Worrying about unimportant issues
- Staying up late and waking up late

Tips



- Following healthy and hygienic practices every day will make you feel good mentally and physically.
- Hygiene is two-thirds of health – so good hygiene will help you stay strong and healthy!

6.1.2: Safety: Tips to Design a Safe Workplace

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

Non-Negotiable Employee Safety Habits

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:

- Immediately report unsafe conditions to a supervisor
- Recognize and report safety hazards that could lead to slips, trips and falls
- Report all injuries and accidents to a supervisor
- Wear the correct protective equipment when required
- Learn how to correctly use equipment provided for safety purposes
- Be aware of and avoid actions that could endanger other people
- Take rest breaks during the day and some time off from work during the week

Tips



- Be aware of what emergency number to call at the time of a workplace emergency
- Practice evacuation drills regularly to avoid chaotic evacuations

6.1.3 Self Analysis – Attitude, Achievement Motivation: What is Self-Analysis

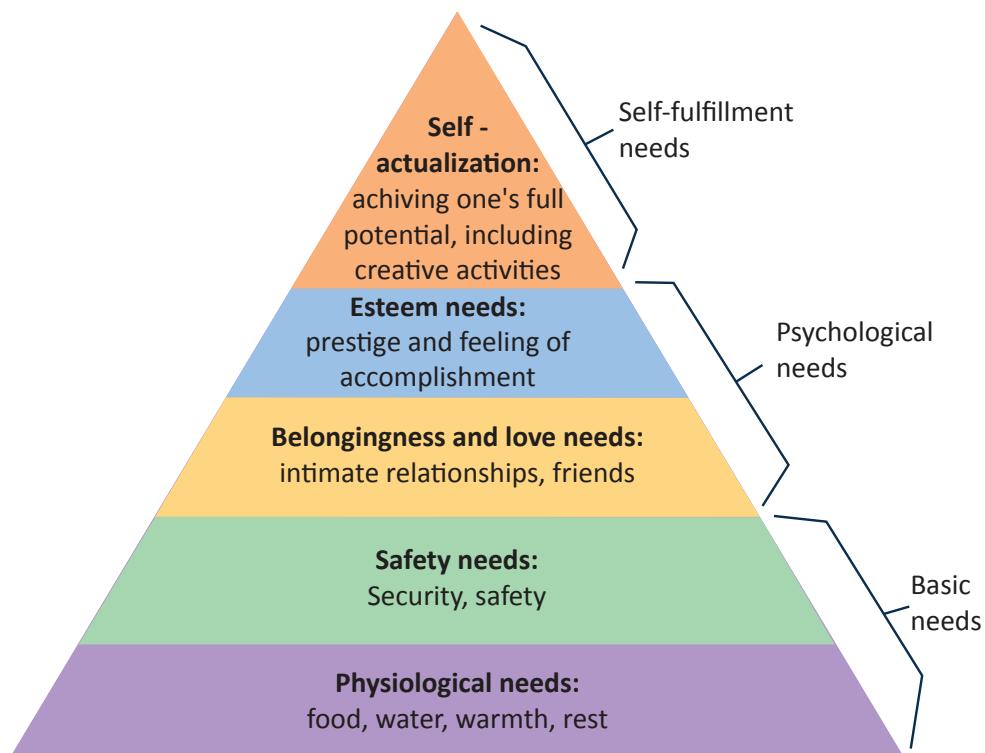
To truly achieve your full potential, you need to take a deep look inside yourself and find out what kind of person you really are. This attempt to understand your personality is known as self-analysis. Assessing yourself in this manner will help you grow, and will also help you to identify areas within yourself that need to be further developed, changed or eliminated. You can better understand yourself by taking a deep look at what motivates you, what your attitude is like, and what your strengths and weaknesses are.

What is Motivation?

Very simply put, 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 many, many different things. We can understand this better by looking at Maslow's Hierarchy of Needs.

Maslow's Hierarchy of Needs

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. These needs are usually shown as a pyramid with five levels and are known as Maslow's Hierarchy of Needs.



As you can see from the pyramid, the lowest level depicts the most basic needs. Maslow believed that our behaviour is motivated by our basic needs, until those needs are met. Once they are fulfilled, we move to the next level and are motivated by the next level of needs. Let's understand this better with an example.

Rupa comes from a very poor family. She never has enough food, water, warmth or rest. According to Maslow, until Rupa is sure that she will get these basic needs, she will not even think about the next level of needs – her safety needs. But, once Rupa is confident that her basic needs will be met, she will move to the next level, and her behaviour will then be motivated by her need for security and safety. Once these new needs are met, Rupa will once again move to the next level, and be motivated by her need for relationships and friends. Once this need is satisfied, Rupa will then focus on the fourth level of needs – her esteem needs, after which she will move up to the fifth and last level of needs – the desire to achieve her full potential.

Understanding Achievement Motivation

We now know that people are motivated by basic, psychological and self-fulfillment needs. However, certain people are also motivated by the achievement of highly challenging accomplishments. This is known as Achievement Motivation, or 'need for achievement'.

The level of motivation achievement in a person differs from individual to individual. It is important that entrepreneurs have a high level of achievement motivation – a deep desire to accomplish something important and unique. It is equally important that they hire people who are also highly motivated by challenges and success.

What Motivates You?

What are the things that really motivate you? List down five things that really motivate you. Remember to answer honestly!

I am motivated by:

Characteristics of Entrepreneurs with Achievement Motivation

Entrepreneurs with achievement motivation can be described as follows:

- Unafraind to take risks for personal accomplishment
- Love being challenged
- Future-oriented
- Flexible and adaptive
- Value negative feedback more than positive feedback
- Very persistent when it comes to achieving goals
- Extremely courageous
- Highly creative and innovative
- Restless - constantly looking to achieve more
- Feel personally responsible for solving problems

Think about it:

- How many of these traits do you have?
- Can you think of entrepreneurs who display these traits?

How to Cultivate a Positive Attitude

The good news is attitude is a choice. So it is possible to improve, control and change our attitude, if we decide we want to! 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
- Stop thinking of yourself as a victim and start being proactive
- Imagine yourself succeeding and achieving your goals

What is Attitude?

Now that we understand why motivation is so important for self-analysis, let's look at the role our attitude plays in better understanding ourselves. 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.”

When you start a business, you are sure to encounter a wide variety of emotions, from difficult times and failures to good times and successes. Your attitude is what will see you through the tough times and guide you towards success. Attitude is also infectious. It affects everyone around you, from your customers to your employees to your investors. A positive attitude helps build confidence in the workplace while a negative attitude is likely to result in the demotivation of your people.

What Are Your Strengths and Weaknesses?

Another way to analyze yourself is by honestly identifying your strengths and weaknesses. This will help you use your strengths to your best advantage and reduce your weaknesses.

Note down all your strengths and weaknesses in the two columns below. Remember to be honest with yourself!

Strengths	Weaknesses

Tips



- Achievement motivation can be learned.
- Don't be afraid to make mistakes.
- Train yourself to finish what you start.
- Dream big.

6.1.4 Honesty & Work Ethics: What is Honesty?

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.

Qualities of Honest People

Honest individuals have certain distinct characteristics. Some common qualities among honest people are:

1. 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.
2. 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.
3. They are think skinned. This means they are not affected by others judging them harshly for their honest opinions.
4. 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.

- Honesty and employees: When entrepreneurs build honest relationships with their employees, it leads to more transparency in the workplace, which results in higher work performance and better results.
- Honesty and investors: For entrepreneurs, being honest with investors means not only sharing strengths but also candidly disclosing current and potential weaknesses, problem areas and solution strategies. Keep in mind that investors have a lot of experience with startups and are aware that all new companies have problems. Claiming that everything is perfectly fine and running smoothly is a red flag for most investors.
- Honesty with oneself: The consequences of being dishonest with oneself can lead to dire results, especially in the case of entrepreneurs. For entrepreneurs to succeed, it is critical that they remain realistic about their situation at all times, and accurately judge every aspect of their enterprise for what it truly is.

Importance of Honesty in Entrepreneurs

One of the most important characteristics of entrepreneurs is honesty. When entrepreneurs are honest with their customers, employees and investors, it shows that they respect those that they work with. It is also important that entrepreneurs remain honest with themselves. Let's look at how being honest would lead to great benefits for entrepreneurs.

- Honesty and customers: When entrepreneurs are honest with their customers it leads to stronger relationships, which in turn results in business growth and a stronger customer network.

What are Work Ethics?

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.

Elements of a Strong Work Ethic

An entrepreneur must display strong work ethics, as well as hire only those individuals who believe in and display the same level of ethical behavior in the workplace. Some elements of a strong work ethic are:

- **Professionalism:** This involves everything from how you present yourself in a corporate setting to the manner in which you treat others in the workplace.
- **Respectfulness:** This means remaining poised and diplomatic regardless of how stressful or volatile a situation is.
- **Dependability:** This means always keeping your word, whether it's arriving on time for a meeting or delivering work on time.
- **Dedication:** This means refusing to quit until the designated work is done, and completing the work at the highest possible level of excellence.
- **Determination:** This means embracing obstacles as challenges rather than letting them stop you, and pushing ahead with purpose and resilience to get the desired results.
- **Accountability:** This means taking responsibility for your actions and the consequences of your actions, and not making excuses for your mistakes.
- **Humility:** This means acknowledging everyone's efforts and hard work, and sharing the credit for accomplishments.

How to Foster a Good Work Ethic

As an entrepreneur, it is important that you clearly define the kind of behaviour that you expect from each and every team member in the workplace. You should make it clear that you expect employees to display positive work ethics like:

- **Honesty:** All work assigned to a person should be done with complete honesty, without any deceit or lies.
- **Good attitude:** All team members should be optimistic, energetic, and positive.
- **Reliability:** Employees should show up where they are supposed to be, when they are supposed to be there.
- **Good work habits:** Employees should always be well groomed, never use inappropriate language, conduct themselves professionally at all times, etc.
- **Initiative:** Doing the bare minimum is not enough. Every team member needs to be proactive and show initiative.
- **Trustworthiness:** Trust is non-negotiable. If an employee cannot be trusted, it's time to let that employee go.

- **Respect:** Employees need to respect the company, the law, their work, their colleagues and themselves.
- **Integrity:** Each and every team member should be completely ethical and must display above board behaviour at all times.
- **Efficiency:** Efficient employees help a company grow while inefficient employees result in a waste of time and resources.

Tips



- Don't get angry when someone tells you the truth and you don't like what you hear.
- Always be willing to accept responsibility for your mistakes.

6.1.5 Creativity & Innovation : What is Creativity

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.

Characteristics of Highly Creative People

Some characteristics of creative people are:

- They are imaginative and playful
- They see issues from different angles
- They notice small details
- They have very little tolerance for boredom
- They detest rules and routine
- They love to daydream
- They are very curious

What is Innovation?

There are many different definitions of innovation. In simple terms, 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.

Characteristics of Highly Innovative People

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

Tips



- Take regular breaks from your creative work to recharge yourself and gain fresh perspective.
- Build prototypes frequently, test them out, get feedback, and make the required changes.

6.1.6 Time Management: What is Time Management?

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.

Benefits of Time Management

Time management can lead to huge benefits like:

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

Not managing time effectively can result in undesirable consequences like:

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

Traits of Effective Time Managers

Some traits of effective time managers are:

- They begin projects early
- They set daily objectives
- They modify plans if required, to achieve better results
- They are flexible and open-minded
- They inform people in advance if their help will be required
- They know how to say no
- They break tasks into steps with specific deadlines
- They continually review long term goals
- They think of alternate solutions if and when required
- They ask for help when required
- They create backup plans

Effective Time Management Techniques

You can manage your time better by putting into practice certain time management techniques.

Some helpful tips are:

- Plan out your day as well as plan for interruptions. Give yourself at least 30 minutes to figure out your time plan. In your plan, schedule some time for interruptions.
- Put up a “Do Not Disturb” sign when you absolutely have to complete a certain amount of work.
- Close your mind to all distractions. Train yourself to ignore ringing phones, don’t reply to chat messages and disconnect from social media sites.

- Delegate your work. This will not only help your work get done faster, but will also show you the unique skills and abilities of those around you.
- Stop procrastinating. Remind yourself that procrastination typically arises due to the fear of failure or the belief that you cannot do things as perfectly as you wish to do them.
- Prioritize. List each task to be completed in order of its urgency or importance level. Then focus on completing each task, one by one.
- Maintain a log of your work activities. Analyze the log to help you understand how efficient you are, and how much time is wasted every day.
Create time management goals to reduce time wastage.

Tips



- Always complete the most important tasks first.
- Get at least 7 – 8 hours of sleep every day.
- Start your day early.
- Don't waste too much time on small, unimportant details.
- Set a time limit for every task that you will undertake.
- Give yourself some time to unwind between tasks.

6.1.7 Anger Management: What is Anger Management

Anger management is the process of:

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

Anger management does not mean suppressing anger.

Importance of Anger Management

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.

Anger Management Strategies

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

Strategy 1: Relaxation

Something as simple as breathing deeply and looking at relaxing images works wonders in calming down angry feelings. Try this simple breathing exercise:

1. Take a deep breath from your diaphragm (don't breathe from your chest)
2. Visualize your breath coming up from your stomach
3. Keep repeating a calming word like 'relax' or 'take it easy' (remember to keep breathing deeply while repeating the word)
4. Picture a relaxing moment (this can be from your memory or your imagination)

Follow this relaxation technique daily, especially when you realize that you're starting to feel angry.

Strategy 2: Cognitive Restructuring

Cognitive restructuring means changing the manner in which you think. Anger can make you curse, swear, exaggerate and act very dramatically. When this happens, force yourself to replace your angry thoughts with more logical ones. For instance, instead of thinking 'Everything is ruined' change your mindset and tell yourself 'It's not the end of the world and getting angry won't solve this'.

Strategy 3: Problem Solving

Getting angry about a problem that you cannot control is a perfectly natural response. Sometimes, try as you may, there may not be a solution to the difficulty you are faced with. In such cases, stop focusing on solving the problem, and instead focus on handling and facing the problem. Remind yourself that you will do your best to deal with the situation, but that you will not blame yourself if you don't get the solution you desire.

Strategy 4: Better Communication

When you're angry, it is very easy to jump to inaccurate conclusions. In this case, you need to force yourself to stop reacting, and think carefully about what you want to say, before saying it. Avoid saying the first thing that enters your head. Force yourself to listen carefully to what the other person is saying. Then think about the conversation before responding.

Strategy 5: Changing Your Environment

If you find that your environment is the cause of your anger, try and give yourself a break from your surroundings. Make an active decision to schedule some personal time for yourself, especially on days that are very hectic and stressful. Having even a brief amount of quiet or alone time is sure to help calm you down.

Tips for Anger Management

- 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.
- Do some form of physical exercise like running or walking briskly when you feel yourself getting angry.
- Make short breaks part of your daily routine, especially during days that are stressful. Focus on how to solve a problem that's making you angry, rather than focusing on the fact that the problem is making you angry.

Tips

- Try to forgive those who anger you, rather than hold a grudge against them.
- Avoid using sarcasm and hurling insults. Instead, try and explain the reason for your frustration in a polite and mature manner.

6.1.8 Stress Management: What is Stress

We say we are ‘stressed’ when we feel overloaded and unsure of our ability to deal with the pressures placed on us. 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.

Causes of Stress

Stress can be caused by internal and external factors.

Internal causes of stress

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

External causes of stress

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

Symptoms of Stress

Stress can manifest itself in numerous ways. Take a look at the cognitive, emotional, physical and behavioral symptoms of stress.

Cognitive Symptoms	Emotional Symptoms
<ul style="list-style-type: none"> • Memory problems • Concentration issues • Lack of judgement • Pessimism • Anxiety • Constant worrying 	<ul style="list-style-type: none"> • Depression • Agitation • Irritability • Loneliness • Anxiety • Anger

Physical Symptoms	Behavioral Symptoms
<ul style="list-style-type: none"> • Aches and pain • Diarrhea or constipation • Nausea • Dizziness • Chest pain and/or rapid heartbeat • Frequent cold or flu like feelings 	<ul style="list-style-type: none"> • Increase or decrease in appetite • Over sleeping or not sleeping enough • Withdrawing socially • Ignoring responsibilities • Consumption of alcohol or cigarettes • Nervous habits like nail biting, pacing etc.

Tips to Manage Stress

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.
- Plan your day so that you can manage your time better, with less stress.
- Say no to people and things when required.
- Schedule time to pursue your hobbies and interests.
- Ensure you get at least 7-8 hours of sleep.
- Reduce your caffeine intake.
- Increase the time spent with family and friends.

Tips



- Force yourself to smile even if you feel stressed. Smiling makes us feel relaxed and happy.
- Stop yourself from feeling and thinking like a victim. Change your attitude and focus on being proactive.

6.2: Digital Literacy: A Recap

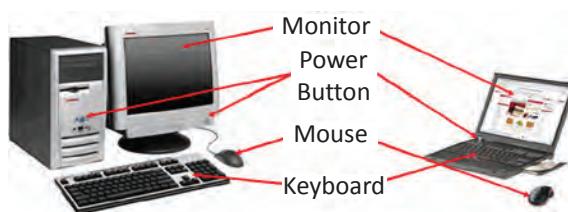
Unit Objectives



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

1. Identify the basic parts of a computer
2. Identify the basic parts of a keyboard
3. Recall basic computer terminology
4. Recall basic computer terminology
5. Recall the functions of basic computer keys
6. Discuss the main applications of MS Office
7. Discuss the benefits of Microsoft Outlook
8. Discuss the different types of e-commerce
9. List the benefits of e-commerce for retailers and customers
10. Discuss how the Digital India campaign will help boost e-commerce in India
11. Describe how you will sell a product or service on an e-commerce platform

6.2.1: Computer and Internet basics: Basic Parts of a Computer



Basic Parts of a Keyboard



Basic Parts of a Computer

- **Central Processing Unit (CPU):** The brain of the computer. It interprets and carries out program instructions.
- **Hard Drive:** A device that stores large amounts of data.
- **Monitor:** The device that contains the computer screen where the information is visually displayed.
- **Desktop:** The first screen displayed after the operating system loads.
- **Background:** The image that fills the background of the desktop.

Basic Parts of a Computer

- **Mouse:** A hand-held device used to point to items on the monitor.
- **Speakers:** Devices that enable you to hear sound from the computer.
- **Printer:** A device that converts output from a computer into printed paper documents.
- **Icon:** A small picture or image that visually represents something on your computer.
- **Cursor:** An arrow which indicates where you are positioned on the screen.
- **Program Menu:** A list of programs on your computer that can be accessed from the Start menu.
- **Taskbar:** The horizontal bar at the bottom of the computer screen that lists applications that are currently in use.
- **Recycle Bin:** A temporary storage for deleted files.

Basic Internet Terms

- **The Internet:** A vast, international collection of computer networks that transfers information.
- **The World Wide Web:** A system that lets you access information on the Internet.
- **Website:** A location on the World Wide Web (and Internet) that contains information about a specific topic.
- **Homepage:** Provides information about a website and directs you to other pages on that website.
- **Link/Hyperlink:** A highlighted or underlined icon, graphic, or text that takes you to another file or object.
- **Web Address/URL:** The address for a website.
- **Address Box:** A box in the browser window where you can type in a web address.

Basic Computer Keys

- **Arrow Keys:** Press these keys to move your cursor.
- **Space bar:** Adds a space.
- **Enter/Return:** Moves your cursor to a new line.
- **Shift:** Press this key if you want to type a capital letter or the upper symbol of a key.
- **Caps Lock:** Press this key if you want all the letters you type to be capital letters. Press it again to revert back to typing lowercase letters.
- **Backspace:** Deletes everything to the left of your cursor.

Tips



- When visiting a .com address, there no need to type http:// or even www. Just type the name of the website and then press Ctrl + Enter. (Example: Type 'apple' and press Ctrl + Enter to go to www.apple.com)
- Press the Ctrl key and press the + or - to increase and decrease the size of text.
- Press F5 or Ctrl + R to refresh or reload a web page.

6.2.2 MS Office and Email: About MS Office

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.

Most Popular Office Products

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.

Why Choose Microsoft Outlook

A popular email management choice especially in the workplace, Microsoft Outlook also includes an address book, notebook, web browser and calendar. Some major benefits of this program are:

- **Integrated search function:** You can use keywords to search for data across all Outlook programs.
- **Enhanced security:** Your email is safe from hackers, junk mail and phishing website email.
- **Email syncing:** Sync your mail with your calendar, contact list, notes in One Note and...your phone!
- **Offline access to email:** No Internet? No problem! Write emails offline and send them when you're connected again.

Tips



- Press Ctrl+R as a shortcut method to reply to email.
- Set your desktop notifications only for very important emails.
- Flag messages quickly by selecting messages and hitting the Insert key.
- Save frequently sent emails as a template to reuse again and again.
- Conveniently save important emails as files.

6.2.3 E -Commerce: What is E-Commerce

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.”

Examples of E-Commerce

Some examples of e-commerce are:

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

Types of E-Commerce

E-commerce can be classified based on the types of participants in the transaction. 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.

Benefits of E-Commerce

The e-commerce business provides some benefits for retailers and customers.

Benefits for retailers:

- Establishes an online presence
- Reduces operational costs by removing overhead costs
- Increases brand awareness through the use of good keywords
- Increases sales by removing geographical and time constraints

Benefits for customers:

- Offers a wider range of choice than any physical store
- Enables goods and services to be purchased from remote locations
- Enables consumers to perform price comparisons

Digital India Campaign

Prime Minister Narendra Modi launched the Digital India campaign in 2015, with the objective of offering every citizen of India access to digital services, knowledge and information. The campaign aims to improve the country's online infrastructure and increase internet connectivity, thus boosting the e-commerce industry.

Currently, the majority of online transactions come from tier 2 and tier 3 cities. Once the Digital India campaign is in place, the government will deliver services through mobile connectivity, which will help deliver internet to remote corners of the country. This will help the e-commerce market to enter India's tier 4 towns and rural areas.

E-Commerce Activity

Choose a product or service that you want to sell online. Write a brief note explaining how you will use existing e-commerce platforms, or create a new e-commerce platform, to sell your product or service.

Tips



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

6.3: Money Matters

Unit Objectives



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

1. Discuss the importance of saving money
2. Discuss the benefits of saving money
3. Discuss the main types of bank accounts
4. Describe the process of opening a bank account
5. Differentiate between fixed and variable costs
6. Describe the main types of investment options
7. Describe the different types of insurance products
8. Describe the different types of taxes
9. Discuss the uses of online banking
10. Discuss the main types of electronic funds transfers

6.3.1 Personal Finance – Why to Save: Importance of Saving

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.

Benefits of Saving

Inculcating the habit of saving leads to a vast number of benefits. Saving helps you:

- **Become financially independent:** When you have enough money saved up to feel secure you can start making your choices, from taking a vacation whenever you want, to switching careers or starting your own business.
- **Invest in yourself through education:** Through saving, you can earn enough to pay up for courses that will add to your professional experience and ultimately result in higher paying jobs.
- **Get out of debt:** Once you have saved enough as a reserve fund, you can use your savings to pay off debts like loans or bills that have accumulated over time.
- **Be prepared for surprise expenses :** Having money saved enables you to pay for unforeseen expenses like sudden car or house repairs, without feeling financially stressed.
- **Pay for emergencies:** Saving helps you deal with emergencies like sudden health issues or emergency trips without feeling financially burdened.

- **Afford large purchases and achieve major goals:** Saving diligently makes it possible to place down payments towards major purchases and goals, like buying a home or a car.
- **Retire:** The money you have saved over the years will keep you comfortable when you no longer have the income you would get from your job.

Tips



- Break your spending habit. Try not spending on one expensive item per week, and put the money that you would have spent into your savings.
- Decide that you will not buy anything on certain days or weeks and stick to your word.

6.3.2 Types of Bank Accounts, Opening a Bank Account: Types of Bank Accounts

In India, banks offer four main types of bank accounts. These are:

- Current Accounts
- Savings Accounts
- Recurring Deposit Accounts
- Fixed Deposit Accounts

Current Accounts

Current accounts offer the most liquid deposits and thus, are best suited for businessmen and companies. As these accounts are not meant for investments and savings, there is no imposed limit on the number or amount of transactions that can be made on any given day. Current account holders are not paid any interest on the amounts held in their accounts. They are charged for certain services offered on such accounts.

Savings Accounts

Savings accounts are meant to promote savings, and are therefore the number one choice for salaried individuals, pensioners and students. While there is no restriction on the number and amount of deposits made, there are usually restrictions on the number and amount of withdrawals. Savings account holders are paid interest on their savings.

Recurring Deposit Accounts

Recurring Deposit accounts, also called RD accounts, are the accounts of choice for those who want to save an amount every month, but are unable to invest a large sum at one time. Such account holders deposit a small, fixed amount every month for a pre-determined period (minimum 6 months). Defaulting on a monthly payment results in the account holder being charged a penalty amount. The total amount is repaid with interest at the end of the specified period.

Fixed Deposit Accounts

Fixed Deposit accounts, also called FD accounts, are ideal for those who wish to deposit their savings for a long term in return for a high rate of interest. The rate of interest offered depends on the amount deposited and the time period, and also differs from bank to bank. In the case of an FD, a certain amount of money is deposited by the account holder for a fixed period of time. The money can be withdrawn when the period expires. If necessary, the depositor can break the fixed deposit prematurely. However, this usually attracts a penalty amount which also differs from bank to bank.

Opening a Bank Account

Opening a bank account is quite a simple process. Take a look at the steps to open an account of your own:

Step 1: Fill in the Account Opening Form

This form requires you to provide the following information:

- Personal details (name, address, phone number, date of birth, gender, occupation, address)
- Method of receiving your account statement (hard copy/email)
- Details of your initial deposit (cash/cheque)
- Manner of operating your account (online/mobile banking/traditional via cheque, slip books)

Ensure that you sign wherever required on the form.

Step 2: Affix your Photograph

Stick a recent photograph of yourself in the allotted space on the form.

Step 3: Provide your Know Your Customer (KYC) Details

KYC is a process that helps banks verify the identity and address of their customers. To open an account, every individual needs to submit certain approved documents with respect to photo identity (ID) and address proof. Some Officially Valid Documents (OVDs) are:

- Passport
- Driving License
- Voters' Identity Card
- PAN Card
- UIDAI (Aadhaar) Card

Step 4: Submit All your Documents

Submit the completed Account Opening Form and KYC documents. Then wait until the forms are processed and your account has been opened!

Tips

- Select the right type of account.
- Fill in complete nomination details.
- Ask about fees.
- Understand the rules.
- Check for online banking – it's convenient!
- Keep an eye on your bank balance.

6.3.3 Costs: Fixed vs Variable: What are Fixed and Variable Costs

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.

Differences Between Fixed and Variable Costs

Let's take a look at some of the main differences between fixed and variable costs:

Criteria	Fixed Costs	Variable Costs
Meaning	A cost that stays the same, regardless of the output produced.	A cost that changes when the output produced.
Nature	Time related.	Volume related.
Incurred	Incurred irrespective of units being produced.	Incurred only when units are produced.
Unit cost	Inversely proportional to the number of units produced.	Remains the same, per unit.
Examples	Depreciation, rent, salary, insurance, tax etc.	Material consumed, wages, commission on sales, packing expenses, etc.

Tips



- When trying to determine whether a cost is fixed or variable, simply ask the following question: Will the particular cost change if the company stopped its production activities? If the answer is no, then it is a fixed cost. If the answer is yes, then it is probably a variable cost.

6.3.4 Investment, Insurance and Taxes:

Investment

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:** Bonds are instruments used by public and private companies to raise large sums of money – too large to be borrowed from a bank. These bonds are then issued in the public market and are bought by lenders.
- **Stocks:** Stocks or equity are shares that are issued by companies and are bought by the general public.
- **Small Savings Schemes:** Small Savings Schemes are tools meant to save money in small amounts. Some popular schemes are the Employees Provident Fund, Sukanya Samriddhi Scheme and National Pension Scheme.
- **Mutual Funds:** Mutual Funds are professionally managed financial instruments that invest money in different securities on behalf of investors.
- **Fixed Deposits:** A fixed amount of money is kept aside with a financial institution for a fixed amount of time in return for interest on the money.
- **Real Estate:** Loans are taken from banks to purchase real estate, which is then leased or sold with the aim of making a profit on the appreciated property price.
- **Hedge Funds:** Hedge funds invest in both financial derivatives and/or publicly traded securities.
- **Private Equity:** Private Equity is trading in the shares of an operating company that is not publicly listed and whose shares are not available on the stock market.
- **Venture Capital:** Venture Capital involves investing substantial capital in a budding company in return for stocks in that company.

Insurance

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

Life Insurance

Life Insurance deals with all insurance covering human life.

Life Insurance Products

The main life insurance products are:

- **Term Insurance:** This is the simplest and cheapest form of insurance. It offers financial protection for a specified tenure, say 15 to 20 years. In the case of your death, your family is paid the sum assured. In the case of your surviving the term, the insurer pays nothing.
- **Endowment Policy:** This offers the dual benefit of insurance and investment. Part of the premium is allocated towards the sum assured, while the remaining premium gets invested in equity and debt. It pays a lump sum amount after the specified duration or on the death of the policyholder, whichever is earlier.
- **Unit-Linked Insurance Plan (ULIP):** Here part of the premium is spent on the life cover, while the remaining amount is invested in equity and debt. It helps develop a regular saving habit.

- **Money Back Life Insurance:** While the policyholder is alive, periodic payments of the partial survival benefits are made during the policy tenure. On the death of the insured, the insurance company pays the full sum assured along with survival benefits.
- **Whole Life Insurance:** It offers the dual benefit of insurance and investment. It offers insurance cover for the whole life of the person or up to 100 years whichever is earlier.

General Insurance

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

General Insurance Products

The main general insurance products are:

- **Motor Insurance:** This can be divided into Four Wheeler Insurance and Two Wheeler Insurance.
- **Health Insurance:** The main types of health insurance are individual health insurance, family floater health insurance, comprehensive health insurance and critical illness insurance.
- **Travel Insurance:** This can be categorised into Individual Travel Policy, Family Travel Policy, Student Travel Insurance and Senior Citizen Health Insurance.
- **Home Insurance:** This protects the house and its contents from risk.
- **Marine Insurance:** This insurance covers goods, freight, cargo etc. against loss or damage during transit by rail, road, sea and/or air.

Taxes

There are two types of taxes – Direct Taxes and Indirect Taxes.

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:** This tax is levied on your earning in a financial year. It is applicable to both, individuals and companies.
- **Capital Gains Tax:** This tax is payable whenever you receive a sizable amount of money. It is usually of two types – short term capital gains from investments held for less than 36 months and long term capital gains from investments held for longer than 36 months.
- **Securities Transaction Tax:** This tax is added to the price of a share. It is levied every time you buy or sell shares.
- **Perquisite Tax:** This tax is levied on perks that have been acquired by a company or used by an employee.
- **Corporate Tax:** Corporate tax is paid by companies from the revenue they earn.

Indirect Tax

Indirect taxes are levied on goods or services.

Some examples of Indirect Taxes are:

- **Sales Tax:** Sales Tax is levied on the sale of a product.

- **Service Tax:** Service Tax is added to services provided in India.
- **Value Added Tax:** Value Added Tax is levied at the discretion of the state government. The tax is levied on goods sold in the state. The tax amount is decided by the state.
- **Customs Duty & Octroi:** Customs Duty is a charge that is applied on purchases that are imported from another country. Octroi is levied on goods that cross state borders within India.
- **Excise Duty:** Excise Duty is levied on all goods manufactured or produced in India.

Tips



- Think about how quickly you need your money back and pick an investment option accordingly.
- Ensure that you are buying the right type of insurance policy for yourself.
- Remember, not paying taxes can result in penalties ranging from fines to imprisonment.

6.3.5 Online Banking , NEFT, RTGS etc.: What is Online Banking

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

Electronic Funds Transfers

Electronic funds transfer is a convenient way of transferring money from the comfort of one's own home, using integrated banking tools like internet and mobile banking.

Transferring funds via an electronic gateway is extremely convenient. With the help of online banking, you can choose to:

- Transfer funds into your own accounts of the same bank.
- Transfer funds into different accounts of the same bank.
- Transfer funds into accounts in different banks, using NEFT.
- Transfer funds into other bank accounts using RTGS.
- Transfer funds into various accounts using IMPS.

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.

In order to transfer funds via NEFT, two things are required:

- A transferring bank
- A destination bank

Before you can transfer funds through NEFT, you will need to register the beneficiary who will be receiving the funds. In order to complete this registration, you will require the following

- | | |
|--|---|
| <ul style="list-style-type: none"> • Recipient's name • Recipient's account number | <ul style="list-style-type: none"> • Recipient's bank's name • Recipient's bank's IFSC code |
|--|---|

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.

RTGS can be used by individuals, companies and firms to transfer large sums of money. Before remitting funds through RTGS, you will need to add the beneficiary and his bank account details via your online banking account. In order to complete this registration, you will require the following information:

- Name of the beneficiary
- Beneficiary's account number
- Beneficiary's bank address
- Beneficiary's bank's IFSC code

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.

To transfer money through IMPS, the you need to:

- Register for IMPS with your bank
- Receive a Mobile Money Identifier (MMID) from the bank
- Receive a MPIN from the bank

Once you have both these, you can login or make a request through SMS to transfer a particular amount to a beneficiary.

For the beneficiary to receive the transferred money, he must:

1. Link his mobile number with his respective account
2. Receive the MMID from the bank

In order to initiate a money transfer through IMPS, you will need to enter the following information:

- | | |
|------------------------------------|---------------------------|
| 1. The beneficiary's mobile number | 2. The beneficiary's MMID |
| 3. The transfer amount | 4. Your MPIN |

As soon as money has been deducted from your account and credited into the beneficiary's account, you will be sent a confirmation SMS with a transaction reference number, for future reference.

Differences Between NEFT, RTGS & IMPS

Criteria	NEFT	RTGS	IMPS
Settlement	Done in batches	Real-time	Real-time
Full form	National Electronic Fund Transfer	Real Time Gross Settlement	Immediate Payment Service
Timings on Monday – Friday	8:00 am – 6:30 pm	9:00 am – 4:30 pm	24x7
Timings on Saturday	8:00 am – 1:00 pm	9:00 am – 1:30 pm	24x7
Minimum amount of money transfer limit	` 1	` 2 lacs	` 1
Maximum amount of money transfer limit	` 10 lacs	` 10 lacs per day	` 2 lacs
Maximum charges as per RBI	Upto 10,000 – ` 2.5 above 10,000 – 1 lac – ` 5 above 1 – 2 lacs – ` 15 above 2 – 5 lacs – ` 25 above 5 – 10 lacs – ` 25	above 2 – 5 lacs – ` 25 above 5 – 10 lacs – ` 50	Upto 10,000 – ` 5 above 10,000 – 1 lac – ` 5 above 1 – 2 lacs – ` 15

Tips



- Never click on any links in any e-mail message to access your online banking website.
- You will never be asked for your credit or debit card details while using online banking.
- Change your online banking password regularly.

6.4. Preparing for Employment & Self Employment

Unit Objectives



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

1. Discuss the steps to prepare for an interview
2. Discuss the steps to create an effective Resume
3. Discuss the most frequently asked interview questions
4. Discuss how to answer the most frequently asked interview questions
5. Discuss basic workplace terminology

6.4.1 Interview Preparation: How to Prepare for an Interview

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:

1. **Research the organization that you are having the interview with.**
 - Studying the company beforehand will help you be more prepared at the time of the interview. Your knowledge of the organization will help you answer questions at the time of the interview, and will leave you looking and feeling more confident. This is sure to make you stand out from other, not as well informed, candidates.
 - Look for background information on the company. Try and find an overview of the company and its industry profile.
 - Visit the company website to get a good idea of what the company does. A company website offers a wealth of important information. Read and understand the company's mission statement. Pay attention to the company's products/services and client list. Read through any press releases to get an idea of the company's projected growth and stability.
 - Note down any questions that you have after your research has been completed.
2. **Think about whether your skills and qualifications match the job requirements.**
 - Carefully read through and analyze the job description.
 - Make a note of the knowledge, skills and abilities required to fulfill the job requirements.
 - Take a look at the organization hierarchy. Figure out where the position you are applying for fits into this hierarchy.
3. **Go through the most typical interview questions asked, and prepare your responses.**
 - Remember, in most interviews a mix of resume-based, behavioral and case study questions are asked.
 - Think about the kind of answers you would like to provide to typical questions asked in these three areas.
 - Practice these answers until you can express them confidently and clearly.

4. Plan your attire for the interview.

- It is always safest to opt for formal business attire, unless expressly informed to dress in business casual (in which case you should use your best judgement).
- Ensure that your clothes are clean and well-ironed. Pick neutral colours – nothing too bright or flashy.
- The shoes you wear should match your clothes, and should be clean and suitable for an interview.
- Remember, your aim is to leave everyone you meet with the impression that you are a professional and highly efficient person.

5. Ensure that you have packed everything that you may require during the interview.

- Carry a few copies of your resume. Use a good quality paper for your resume print outs.
- Always take along a notepad and a pen.
- Take along any information you may need to refer to, in order to fill out an application form.
- Carry a few samples of your work, if relevant.

6. Remember the importance of non-verbal communication.

- Practice projecting confidence. Remind yourself to smile and make eye contact. Practice giving a firm handshake.
- Keep in mind the importance of posture. Practice sitting up straight. Train yourself to stop nervous gestures like fidgeting and foot-tapping.
- Practice keeping your reactions in check. Remember, your facial expressions provide a good insight into your true feelings. Practice projecting a positive image.

7. Make a list of questions to end the interview with.

- Most interviews will end with the interviewer(s) asking if you have any questions. This is your chance to show that you have done your research and are interested in learning more about the company.
- If the interviewer does not ask you this question, you can inform him/her that you have some queries that you would like to discuss. This is the time for you to refer to the notes you made while studying the company.
- Some good questions to ask at this point are:
 - What do you consider the most important criteria for success in this job?
 - How will my performance be evaluated?
 - What are the opportunities for advancement?
 - What are the next steps in the hiring process?
- Remember, never ask for information that is easily available on the company website.

Tips



- Ask insightful and probing questions.
- When communicating, use effective forms of body language like smiling, making eye contact, and actively listening and nodding. Don't slouch, play with nearby items, fidget, chew gum, or mumble.

6.4.2 Preparing an Effective Resume: How to Create an Effective Resume

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 résumé that is effective. Take a look at the steps to create an effective resume:

Step 1: Write the Address Section

The Address section occupies the top of your resume. It includes information like your name, address, phone number and e-mail address. Insert a bold line under the section to separate it from rest of your resume.

Example:

Jasmine Watts
Breach Candy, Mumbai – India
Contact No: +91 2223678270
Email: jasmine.watts@gmail.com

Step 2: Add the Profile Summary Section

This part of your resume should list your overall experiences, achievements, awards, certifications and strengths. You can make your summary as short as 2-3 bullet points or as long as 8-10 bullet points.

Example:

Profile Summary

- A Content Writer graduated from University of Strathclyde having 6 years of experience in writing website copy.
- Core expertise lies in content creation for e-learning courses, specifically for the K-12 segment.

Step 3: Include Your Educational Qualifications

When listing your academic records, first list your highest degree. Then add the second highest qualification under the highest one and so on. To provide a clear and accurate picture of your educational background, it is critical that include information on your position, rank, percentage or CPI for every degree or certification that you have listed.

If you have done any certifications and trainings, you can add a Trainings & Certifications section under your Educational Qualifications section.

Example:

Educational Qualifications

- Masters in International Management (2007) from Columbia University with 8.8 CPI.
- Bachelor of Management Studies (2004) from Mumbai University with 87% marks.
- 10+2 with Math, Stats (2001) from Maharashtra Board with 91% marks.
- High School (1999) from Maharashtra Board with 93% marks.

Step 4: List Your Technical Skills

When listing your technical skills, start with the skills that you are most confident about. Then add the skills that you do not have as good a command over. It is perfectly acceptable to include just one skill, if you feel that particular skill adds tremendous value to your résumé. If you do not have any technical skills, you can omit this step.

Example:

Technical Skills

- Flash
- Photoshop

Step 5: Insert Your Academic Project Experience

List down all the important projects that you have worked on. Include the following information in this section:

- | | | |
|-----------------|----------------|-----------------|
| • Project title | • Organization | • Platform used |
| • Contribution | • Description | |

Example:

Academic Projects

Project Title: Different Communication Skills

Organization: True Blue Solutions

Platform used: Articulate

Contribution: Content writing and graphic visualization

Description: Development of storyboards for corporate induction & training programs

Step 6: List Your Strengths

This is where you list all your major strengths. This section should be in the form of a bulleted list.

Example:

Strengths

- Excellent oral, written and presentation skills
- Action-oriented and result-focused
- Great time management skills

Step 7: List Your Extracurricular Activities

It is very important to show that you have diverse interests and that your life consists of more than academics. Including your extracurricular activities can give you an added edge over other candidates who have similar academic scores and project experiences. This section should be in the form of a bulleted list.

Example:

Extracurricular Activities

- Member of the Debate Club
- Played tennis at a national level
- Won first prize in the All India Camel Contest, 2010

Step 8: Write Your Personal Details

The last section of your résumé must include the following personal information:

- Date of birth
- Nationality
- Gender & marital status
- Languages known

Example:

Personal Details

- Date of birth: 25th May, 1981
- Gender & marital status: Female, Single
- Nationality: Indian
- Languages known: English, Hindi, Tamil, French

Tips



- Keep your resume file name short, simple and informational.
- Make sure the resume is neat and free from typing errors.
- Always create your resume on plain white paper.

6.4.3 Interview FAQs

Take a look at some of the most frequently asked interview questions, and some helpful tips on how to answer them.

Q1. Can you tell me a little about yourself?

Tips to answer:

- Don't provide your full employment or personal history.
- Offer 2-3 specific experiences that you feel are most valuable and relevant.
- Conclude with how those experiences have made you perfect for this specific role.

Q2. How did you hear about the position?

Tips to answer:

- Tell the interviewer how you heard about the job – whether it was through a friend (name the friend), event or article (name them) or a job portal (say which one).
- Explain what excites you about the position and what in particular caught your eye about this role.

Q3. What do you know about the company?

Tips to answer:

- Don't recite the company's About Us page.
- Show that you understand and care about the company's goals.
- Explain why you believe in the company's mission and values.

Q4. Why do you want this job?

Tips to answer:

- Show that you are passionate about the job.
- Identify why the role is a great fit for you.
- Explain why you love the company.

Q5. Why should we hire you?

Tips to answer:

- Prove through your words that you can not only do the work, but can definitely deliver excellent results.
- Explain why you would be a great fit with the team and work culture.
- Explain why you should be chosen over any other candidate.

Q6. What are your greatest professional strengths?

Tips to answer:

- Be honest – share some of your real strengths, rather than give answers that you think sound good.
- Offer examples of specific strengths that are relevant to the position you are applying for.
- Provide examples of how you've demonstrated these strengths.

Q7. What do you consider to be your weaknesses?

Tips to answer:

- The purpose of this question is to gauge your self-awareness and honesty.
- Give an example of a trait that you struggle with, but that you're working on to improve.

Q8. What are your salary requirements?

Tips to answer:

- Do your research beforehand and find out the typical salary range for the job you are applying for.
- Figure out where you lie on the pay scale based on your experience, education, and skills.
- Be flexible. Tell the interviewer that you know your skills are valuable, but that you want the job and are willing to negotiate.

Q9. What do you like to do outside of work?

Tips to answer:

- The purpose of this question is to see if you will fit in with the company culture.
- Be honest – open up and share activities and hobbies that interest and excite you.

Q10. If you were an animal, which one would you want to be?

Tips to answer:

- The purpose of this question is to see if you are able to think on your feet.
- There's no wrong answer – but to make a great impression try to bring out your strengths or personality traits through your answer.

Q11: What do you think we could do better or differently?

Tips to answer:

- The purpose of this question is to see if you have done your research on the company, and to test whether you can think critically and come up with new ideas.
- Suggest new ideas. Show how your interests and expertise would help you execute these ideas.

Q12: Do you have any questions for us?

Tips to answer:

- Do not ask questions to which the answers can be easily found on the company website or through a quick online search.
- Ask intelligent questions that show your ability to think critically.

Tips



- Be honest and confident while answering.
- Use examples of your past experiences wherever possible to make your answers more impactful.

6.4.4 Work Readiness – Terms & Terminologies: Basic Workplace Terminology

Every employee should be well versed in the following terms:

- **Annual leave:** Paid vacation leave given by employers to employees.
- **Background Check:** A method used by employers to verify the accuracy of the information provided by potential candidates.
- **Benefits:** A part of an employee's compensation package.
- **Breaks:** Short periods of rest taken by employees during working hours.
- **Compensation Package:** The combination of salary and benefits that an employer provides to his/her employees.
- **Compensatory Time (Comp Time):** Time off in lieu of pay.
- **Contract Employee:** An employee who works for one organization that sells said employee's services to another company, either on a project or time basis.
- **Contract of Employment:** When an employee is offered work in exchange for wages or salary, and accepts the offer made by the employer, a contract of employment exists.
- **Corporate Culture:** The beliefs and values shared by all the members of a company, and imparted from one generation of employees to another.
- **Counter Offer/Counter Proposal:** A negotiation technique used by potential candidates to increase the amount of salary offered by a company.
- **Cover Letter:** A letter that accompanies a candidate's resume. It emphasizes the important points in the candidate's resume and provides real examples that prove the candidate's ability to perform the expected job role.
- **Curriculum Vitae (CV)/Resume:** A summary of a candidate's achievements, educational background, work experience, skills and strengths.
- **Declining Letter:** A letter sent by an employee to an employer, turning down the job offer made by the employer to the employee.
- **Deductions:** Amounts subtracted from an employee's pay and listed on the employee's pay slip.
- **Discrimination:** The act of treating one person not as favourably as another person.
- **Employee:** A person who works for another person in exchange for payment.
- **Employee Training:** A workshop or in-house training that an employee is asked to attend by his or her superior, for the benefit of the employer.
- **Employment Gaps:** Periods of unemployed time between jobs.
- **Fixed-Term Contract:** A contract of employment which gets terminated on an agreed-upon date.
- **Follow-Up:** The act of contacting a potential employer after a candidate has submitted his or her resume.
- **Freelancer/Consultant/Independent Contractor:** A person who works for him or herself and pitches for temporary jobs and projects with different employers.
- **Holiday:** Paid time-off from work.
- **Hourly Rate:** The amount of salary or wages paid for 60 minutes of work.

- **Internship:** A job opportunity offered by an employer to a potential employee, called an intern, to work at the employer's company for a fixed, limited time period.
- **Interview:** A conversation between a potential employee and a representative of an employer, in order to determine if the potential employee should be hired.
- **Job Application:** A form which asks for a candidate's information like the candidate's name, address, contact details and work experience. The purpose of a candidate submitting a job application, is to show that candidate's interest in working for a particular company.
- **Job Offer:** An offer of employment made by an employer to a potential employee.
- **Job Search Agent:** A program that enables candidates to search for employment opportunities by selecting criteria listed in the program, for job vacancies.
- **Lay Off:** A lay off occurs when an employee is temporarily let go from his or her job, due to the employer not having any work for that employee.
- **Leave:** Formal permission given to an employee, by his or her employer, to take a leave of absence from work.
- **Letter of Acceptance:** A letter given by an employer to an employee, confirming the offer of employment made by the employer, as well as the conditions of the offer.
- **Letter of Agreement:** A letter that outlines the terms of employment.
- **Letter of Recommendation:** A letter written for the purpose of validating the work skills of a person.
- **Maternity Leave:** Leave taken from work by women who are pregnant, or who have just given birth.
- **Mentor:** A person who is employed at a higher level than you, who offers you advice and guides you in your career.
- **Minimum wage:** The minimum wage amount paid on an hourly basis.
- **Notice:** An announcement made by an employee or an employer, stating that the employment contract will end on a particular date.
- **Offer of Employment:** An offer made by an employer to a prospective employee that contains important information pertaining to the job being offered, like the starting date, salary, working conditions etc.
- **Open-Ended Contract:** A contract of employment that continues till the employer or employee terminates it.
- **Overqualified:** A person who is not suited for a particular job because he or she has too many years of work experience, or a level of education that is much higher than required for the job, or is currently or was previously too highly paid.
- **Part-Time Worker:** An employee who works for fewer hours than the standard number of hours normally worked.
- **Paternity Leave:** Leave granted to a man who has recently become a father.
- **Recruiters/Headhunters/Executive Search Firms:** Professionals who are paid by employers to search for people to fill particular positions.
- **Resigning/Resignations:** When an employee formally informs his or her employer that he or she is quitting his or her job.
- **Self-Employed:** A person who has his or her own business and does not work in the capacity of an employee.
- **Time Sheet:** A form that is submitted to an employer, by an employee, that contains the number of hours worked every day by the employee.

6.5. Understanding Entrepreneurship

Unit Objectives



1. At the end of this unit, you will be able to:
2. Discuss the concept of entrepreneurship
3. Discuss the importance of entrepreneurship
4. Describe the characteristics of an entrepreneur
5. Describe the different types of enterprises
6. List the qualities of an effective leader
7. Discuss the benefits of effective leadership
8. List the traits of an effective team
9. Discuss the importance of listening effectively
10. Discuss how to listen effectively
11. Discuss the importance of speaking effectively
12. Discuss how to speak effectively
13. Discuss how to solve problems
14. List important problem solving traits
15. Discuss ways to assess problem solving skills
16. Discuss the importance of negotiation
17. Discuss how to negotiate
18. Discuss how to identify new business opportunities
19. Discuss how to identify business opportunities within your business
20. Understand the meaning of entrepreneur
21. Describe the different types of entrepreneurs
22. List the characteristics of entrepreneurs
23. Recall entrepreneur success stories
24. Discuss the entrepreneurial process
25. Describe the entrepreneurship ecosystem
26. Discuss the government's role in the entrepreneurship ecosystem
27. Discuss the current entrepreneurship ecosystem in India
28. Understand the purpose of the Make in India campaign
29. Discuss the relationship between entrepreneurship and risk appetite
30. Discuss the relationship between entrepreneurship and resilience
31. Describe the characteristics of a resilient entrepreneur
32. Discuss how to deal with failure

6.5.1 Concept Introduction, (Characteristic of an Entrepreneur, types of firms / types of enterprises): Entrepreneurs and Entrepreneurship

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.

Importance of Entrepreneurship

Entrepreneurship is very important for the following reasons:

1. It results in the creation of new organizations
2. It brings creativity into the marketplace
3. It leads to improved standards of living
4. It helps develop the economy of a country

Characteristics of Entrepreneurs

All successful entrepreneurs have certain characteristics in common.

They are all:

- Extremely passionate about their work
- Confident in themselves
- Disciplined and dedicated
- Motivated and driven
- Highly creative
- Visionaries
- Open-minded
- Decisive

Entrepreneurs also have a tendency to:

- Have a high risk tolerance
- Thoroughly plan everything
- Manage their money wisely
- Make their customers their priority
- Understand their offering and their market in detail
- Ask for advice from experts when required
- Know when to cut their losses

Examples of Famous Entrepreneurs

Some famous entrepreneurs are:

- Bill Gates (Founder of Microsoft)
- Steve Jobs (Co-founder of Apple)
- Mark Zuckerberg (Founder of Facebook)
- Pierre Omidyar (Founder of eBay)

Types of Enterprises

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

Sole Proprietorship

In a sole proprietorship, a single individual owns, manages and controls the enterprise. This type of business is the easiest to form with respect to legal formalities. The business and the owner have no separate legal existence. All profit belongs to the proprietor, as do all the losses - the liability of the entrepreneur is unlimited.

Partnership

A partnership firm is formed by two or more people. The owners of the enterprise are called partners. A partnership deed must be signed by all the partners. The firm and its partners have no separate legal existence. The profits are shared by the partners. With respect to losses, the liability of the partners is unlimited. A firm has a limited life span and must be dissolved when any one of the partners dies, retires, claims bankruptcy or goes insane.

Limited Liability Partnership (LLP)

In a Limited Liability Partnership or LLP, the partners of the firm enjoy perpetual existence as well as the advantage of limited liability. Each partner's liability is limited to their agreed contribution to the LLP. The partnership and its partners have a separate legal existence.

Tips



- Learn from others' failures.
- Be certain that this is what you want.
- Search for a problem to solve, rather than look for a problem to attach to your idea.

6.5.2 Leadership & Teamwork: Leadership and Leaders

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.

Leadership Qualities That All Entrepreneurs Need

Building a successful enterprise is only possible if the entrepreneur in charge possesses excellent leadership qualities. Some critical leadership skills that every entrepreneur must have are:

1. **Pragmatism:** This means having the ability to highlight all obstacles and challenges, in order to resolve issues and reduce risks.
2. **Humility:** This means admitting to mistakes often and early, and being quick to take responsibility for your actions. Mistakes should be viewed as challenges to overcome, not opportunities to point blame.
3. **Flexibility:** It is critical for a good leader to be very flexible and quickly adapt to change. It is equally critical to know when to adapt and when not to.
4. **Authenticity:** This means showing both, your strengths and your weaknesses. It means being human and showing others that you are human.
5. **Reinvention:** This means refreshing or changing your leadership style when necessary. To do this, it's important to learn where your leadership gaps lie and find out what resources are required to close them.
6. **Awareness:** This means taking the time to recognize how others view you. It means understanding how your presence affects those around you.

Benefits of Effective Leadership

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

Teamwork and Teams

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.

Importance of Teamwork in Entrepreneurial Success

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:

1. **Unity of purpose:** All the team members should clearly understand and be equally committed to the purpose, vision and goals of the team.
2. **Great communication skills:** Team members should have the ability to express their concerns, ask questions and use diagrams, and charts to convey complex information.
3. **The ability to collaborate:** Every member should feel entitled to provide regular feedback on new ideas.
4. **Initiative:** The team should consist of proactive individuals. The members should have the enthusiasm to come up with new ideas, improve existing ideas, and conduct their own research.
5. **Visionary members:** The team should have the ability to anticipate problems and act on these potential problem before they turn into real problems.
6. **Great adaptability skills:** The team must believe that change is a positive force. Change should be seen as the chance to improve and try new things.
7. **Excellent organizational skills:** The team should have the ability to develop standard work processes, balance responsibilities, properly plan projects, and set in place methods to measure progress and ROI.

Tips



- Don't get too attached to your original idea. Allow it to evolve and change.
- Be aware of your weaknesses and build a team that will complement your shortfalls.
- Hiring the right people is not enough. You need to promote or incentivize your most talented people to keep them motivated.
- Earn your team's respect.

6.5.3 Communication Skills: Listening & Speaking: The Importance of Listening Effectively

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.

It's very important to note that listening is not the same as hearing. Hearing just refers to sounds that you hear. Listening is a whole lot more than that. To listen, one requires focus. It means not only paying attention to the story, but also focusing on how the story is relayed, the way language and voice is used, and even how the speaker uses their body language. The ability to listen depends on how effectively one can perceive and understand both, verbal and non-verbal cues.

How to Listen Effectively

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

How to Listen Effectively

How successfully a message gets conveyed depends entirely on how effectively you are able to get it through. An effective speaker is one who enunciates properly, pronounces words correctly, chooses the right words and speaks at a pace that is easily understandable. Besides this, the words spoken out loud need to match the gestures, tone and body language used.

What you say, and the tone in which you say it, results in numerous perceptions being formed. A person who speaks hesitantly may be perceived as having low self-esteem or lacking in knowledge of the discussed topic. Those with a quiet voice may very well be labelled as shy. And those who speak in commanding tones with high levels of clarity, are usually considered to be extremely confident. This makes speaking a very critical communication skill.

How to Speak Effectively

To speak effectively you should:

- Incorporate body language in your speech like eye contact, smiling, nodding, gesturing etc.
- Build a draft of your speech before actually making your speech.
- Ensure that all your emotions and feelings are under control.
- Pronounce your words distinctly with the correct pitch and intensity. Your speech should be crystal clear at all times.
- Use a pleasant and natural tone when speaking. Your audience should not feel like you are putting on an accent or being unnatural in any way.
- Use precise and specific words to drive your message home. Ambiguity should be avoided at all costs.
- Ensure that your speech has a logical flow.
- Be brief. Don't add any unnecessary information.
- Make a conscious effort to avoid irritating mannerisms like fidgeting, twitching etc.
- Choose your words carefully and use simple words that the majority of the audience will have no difficulty understanding.
- Use visual aids like slides or a whiteboard.
- Speak slowly so that your audience can easily understand what you're saying. However, be careful not to speak too slowly because this can come across as stiff, unprepared or even condescending.
- Remember to pause at the right moments.

Tips



- If you're finding it difficult to focus on what someone is saying, try repeating their words in your head.
- Always maintain eye contact with the person that you are communicating with, when speaking as well as listening. This conveys and also encourages interest in the conversation.

6.5.4 Problem Solving & Negotiation skills: What is a Problem?

As per The Concise Oxford Dictionary (1995), a problem is, “A doubtful or difficult matter requiring a solution”

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.

How to Solve Problems

Solving a problem requires a level of rational thinking. Here are some logical steps to follow when faced with an issue:

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 for Problem Solving

Highly developed problem solving skills are critical for both, business owners and their employees.

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

How to Assess for Problem Solving Skills

As an entrepreneur, it would be a good idea to assess the level of problem solving skills of potential candidates before hiring them. Some ways to assess this skill are through:

1. **Application forms:** Ask for proof of the candidate’s problem solving skills in the application form.
2. **Psychometric tests:** Give potential candidates logical reasoning and critical thinking tests and see how they fare.
3. **Interviews:** Create hypothetical problematic situations or raise ethical questions and see how the candidates respond.
4. **Technical questions:** Give candidates examples of real life problems and evaluate their thought process.

What is Negotiation?

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.

Why Negotiate

Starting a business requires many, many negotiations. Some negotiations are small while others are critical enough to make or break a startup. Negotiation also plays a big role inside the workplace. As an entrepreneur, you need to know not only how to negotiate yourself, but also how to train employees in the art of negotiation.

How to Negotiate

Take a look at some steps to help you negotiate:

Step 1: Pre-Negotiation Preparation	Agree on where to meet to discuss the problem, decide who all will be present and set a time limit for the discussion.
Step 2: Discuss the Problem	This involves asking questions, listening to the other side, putting your views forward and clarifying doubts.
Step 3: Clarify the Objective	Ensure that both parties want to solve the same problem and reach the same goal.
Step 4: Aim for a Win-Win Outcome	Try your best to be open minded when negotiating. Compromise and offer alternate solutions to reach an outcome where both parties win.
Step 5: Clearly Define the Agreement	When an agreement has been reached, the details of the agreement should be crystal clear to both sides, with no scope for misunderstandings.
Step 6: Implement the Agreed Upon Solution	Agree on a course of action to set the solution in motion

Tips



- Know exactly what you want before you work towards getting it
- Give more importance to listening and thinking, than speaking
- Focus on building a relationship rather than winning
- Remember that your people skills will affect the outcome
- Know when to walk away – sometimes reaching an agreement may not be possible

6.5.5 Business Opportunities Identification: Entrepreneurs and Opportunities

"The entrepreneur always searches for change, responds to it and exploits it as an opportunity."

Peter Drucker

The ability to identify business opportunities is an essential characteristic of an entrepreneur.

What is an Opportunity?

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.

Common Questions Faced by Entrepreneurs

A critical question that all entrepreneurs face is how to go about finding the business opportunity that is right for them.

Some common questions that entrepreneurs constantly think about are:

- Should the new enterprise introduce a new product or service based on an unmet need?
- Should the new enterprise select an existing product or service from one market and offer it in another where it may not be available?
- Should the enterprise be based on a tried and tested formula that has worked elsewhere?

It is therefore extremely important that entrepreneurs must learn how to identify new and existing business opportunities and evaluate their chances of success.

When is an Idea an Opportunity?

An idea is an opportunity when:

- It creates or adds value to a customer
- It solves a significant problem, removes a pain point or meets a demand
- Has a robust market and profit margin
- Is a good fit with the founder and management team at the right time and place

Factors to Consider When Looking for Opportunities

Consider the following when looking for business opportunities:

- | | |
|---|---|
| <ul style="list-style-type: none">• Economic trends• Changes in funding• Changing relationships between vendors, partners and suppliers | <ul style="list-style-type: none">• Market trends• Changes in political support• Shift in target audience |
|---|---|

Ways to Identify New Business Opportunities

- Identify Market Inefficiencies

When looking at a market, consider what inefficiencies are present in the market. Think about ways to correct these inefficiencies.

- Remove Key Hassles

Rather than create a new product or service, you can innovatively improve a product, service or process.

- Create Something New

Think about how you can create a new experience for customers, based on existing business models.

- Pick a Growing Sector/Industry

Research and find out which sectors or industries are growing and think about what opportunities you can tap in the same.

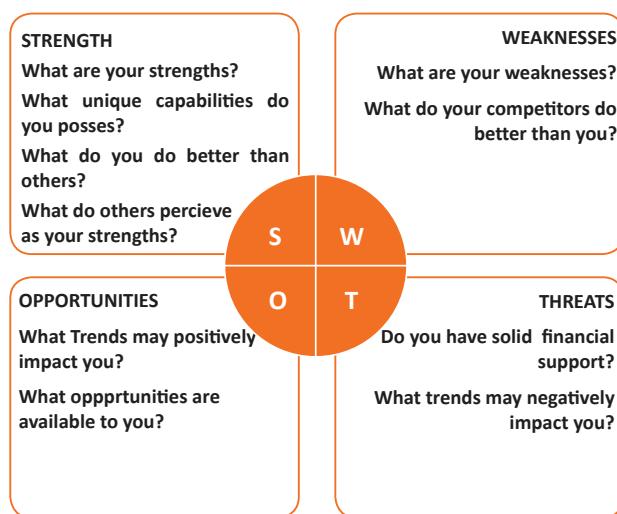
- Think About Product Differentiation

If you already have a product in mind, think about ways to set it apart from the existing ones.

Ways to Identify Business Opportunities Within Your Business

- SWOT Analysis

An excellent way to identify opportunities inside your business is by creating a SWOT analysis. The acronym SWOT stands for strengths, weaknesses, opportunities, and threats. SWOT analysis framework:



Consider the following when looking for business opportunities:

By looking at yourself and your competitors using the SWOT framework, you can uncover opportunities that you can exploit, as well as manage and eliminate threats that could derail your success.

- Establishing Your USP

Establish your USP and position yourself as different from your competitors. Identify why customers should buy from you and promote that reason.

Opportunity Analysis

Once you have identified an opportunity, you need to analyze it.

To analyze an opportunity, you must:

- Focus on the idea
- Focus on the market of the idea
- Talk to industry leaders in the same space as the idea
- Talk to players in the same space as the idea

Tips



- Remember, opportunities are situational.
- Look for a proven track record.
- Avoid the latest craze.
- Love your idea.

6.5.6 Entrepreneurship Support Eco - System: What is an Entrepreneur?

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

Types of Entrepreneurs

There are four main types of entrepreneurs:

1. **The Traditional Entrepreneur:** This type of entrepreneur usually has some kind of skill – they can be a carpenter, mechanic, cook etc. They have businesses that have been around for numerous years like restaurants, shops and carpenters. Typically, they gain plenty of experience in a particular industry before they begin their own business in a similar field.
2. **The Growth Potential Entrepreneur:** The desire of this type of entrepreneur is to start an enterprise that will grow, win many customers and make lots of money. Their ultimate aim is to eventually sell their enterprise for a nice profit. Such entrepreneurs usually have a science or technical background.
3. **The Project-Oriented Entrepreneur:** This type of entrepreneur generally has a background in the Arts or psychology. Their enterprises tend to be focus on something that they are very passionate about.
4. **The Lifestyle Entrepreneur:** This type of entrepreneur has usually worked as a teacher or a secretary. They are more interested in selling something that people will enjoy, rather than making lots of money.

Characteristics of an Entrepreneur

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

Entrepreneur Success Stories

Dhiru Bhai Ambani

Dhirubhai Ambani began his entrepreneurial career by selling “bhajias” to pilgrims in Mount Girnar on weekends. At 16, he moved to Yemen where he worked as a gas-station attendant, and as a clerk in an oil company. He returned to India with Rs. 50,000 and started a textile trading company. Reliance went on to become the first Indian company to raise money in global markets and the first Indian company to feature in Forbes 500 list.

Dr. Karsanbhai Patel

Karsanbhai Patel made detergent powder in the backyard of his house. He sold his product door-to-door and offered a money back guarantee with every pack that was sold. He charged Rs. 3 per kg when the cheapest detergent at that time was Rs.13 per kg. Dr. Patel eventually started Nirma which became a whole new segment in the Indian domestic detergent market.

The Entrepreneurial Process

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.

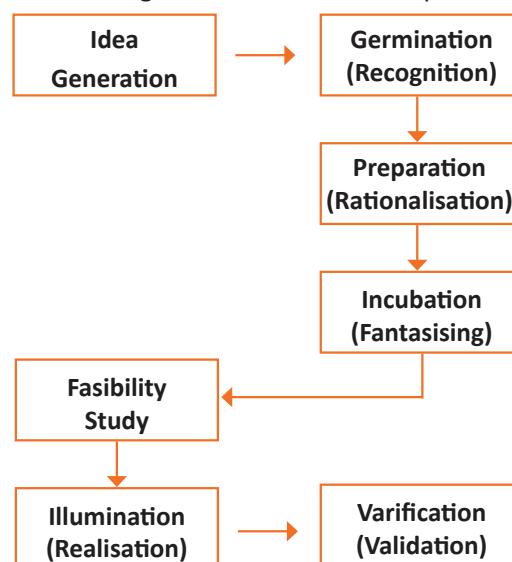
Stage 4: Incubation or Fantasizing. This stage involves creative thinking for the purpose of coming up with more ideas. Less thought is given to the problem areas.

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.

Take a look at the diagram below to get a better idea of this process.



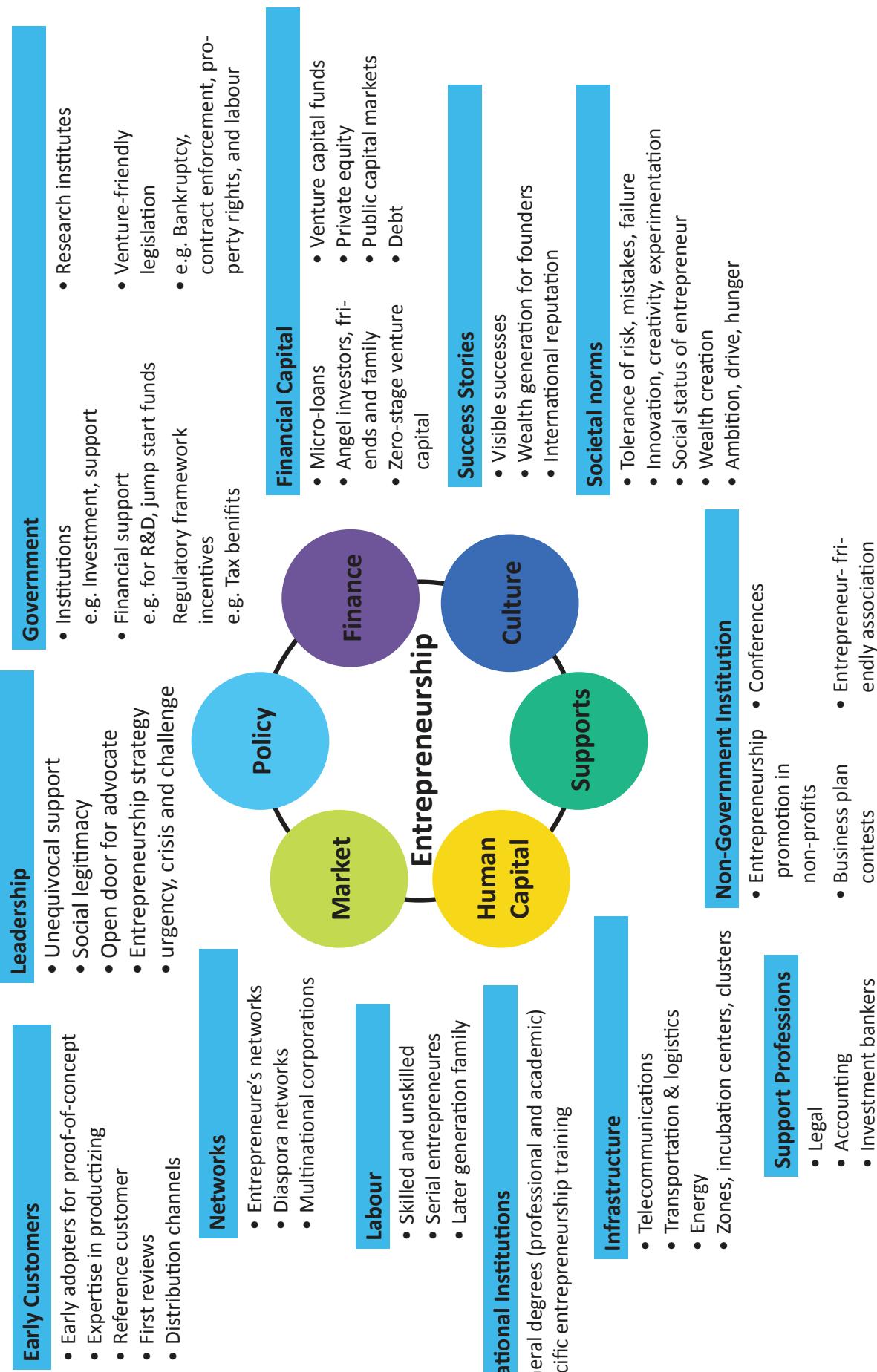
What is an Entrepreneur?

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.

An entrepreneurship ecosystem comprises of the following six domains:

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

These domains indicate whether there is a strong entrepreneurship support ecosystem and what actions should the government put in place to further encourage this ecosystem. The six domains and their various elements have been graphically depicted.



Every entrepreneurship support ecosystem is unique and all the elements of the ecosystem are interdependent. Although every region's entrepreneurship ecosystem can be broadly described by the above features, each ecosystem is the result of the hundred elements interacting in highly complex and particular ways.

Entrepreneurship ecosystems eventually become (largely) self-sustaining. When the six domains are resilient enough, they are mutually beneficial. At this point, government involvement can and should be significantly minimized. Public leaders do not need to invest a lot to sustain the ecosystem. It is imperative that the entrepreneurship ecosystem incentives are formulated to be self-liquidating, hence focusing on sustainability of the environment.

Government's Role in the Entrepreneurship Ecosystem

Encouraging new ventures is a major focus for policymakers. Governments across the world are recognizing that new businesses flourish in distinctive types of supportive environments. Policymakers should study the scenario and take into account the following points whilst they formulate policies and regulations that enable successful entrepreneurship support ecosystems.

1. Policymakers should avoid regulations that discourage new entrants and work towards building efficient methods for business startups. Policies and regulations that favour existing, dominant firms over entrepreneurial ventures, restrict competition and obstruct entry for new companies.
2. Instead of developing policies conceptually intended to correct market failures, policymakers should interact with entrepreneurs and understand the challenges faced by them. The feedback should be used to develop policies that incite idea exploration, product development and increased rates of deal flow.
3. Entrepreneurial supporters should create a database that enables identifying who the participants in the ecosystem are and how they are connected. These ecosystem maps are useful tools in developing engagement strategies.
4. Disruptions are unavoidable in economic and social life. However, it's important to note that economic disruption gives rise to entrepreneurial opportunities. Architects of the entrepreneurship ecosystems (entrepreneurs, mentors, policymakers and consumers,) should anticipate these dips, thus capitalizing on the opportunities they create.

The need for effective strategies to enable local entrepreneurship support ecosystems is a practical one. Better understanding of the actual ecosystems provides a framework within which policy makers can ask relevant questions, envisage more efficient approaches, and assess ensuing outcomes.

Snapshot of the Entrepreneurship Ecosystem in India

Entrepreneurship has earned a newfound respect in India. Many Indians, with exposure to the world of business, who traditionally would have opted for a job, are setting up their own ventures. Many elements of the entrepreneurship ecosystem are beginning to come together. For example, increase in venture capitalists, government schemes and incubators, academia industry linkages, and emerging clusters and support to rural economy. All these initiatives are effective but there is a need to scale up and enrich the ecosystem further in the following ways:

1. We need to review our attitude towards failures and accept them as learning experiences.
2. We must encourage the educated to become entrepreneurs and provide students in schools and colleges with entrepreneurship skills.

3. Universities, research labs and the government need to play the role of enablers in the entrepreneurship support ecosystem.
4. Policymakers need to focus on reducing the obstacles such as corruption, red tape and bureaucracy.
5. We need to improve our legal systems and court international venture capital firms and bring them to India.
6. We must devise policies and methods to reach the secondary and tertiary towns in India, where people do not have access to the same resources available in the cities.

Today, there is a huge opportunity in this country to introduce innovative solutions that are capable of scaling up, and collaborating within the ecosystem as well as enriching it.

Make in India Campaign

Every entrepreneur has certain needs. Some of their important needs are:

- To easily get loans
- To easily find investors
- To get tax exemptions
- To easily access resources and good infrastructure
- To enjoy a procedure that is free of hassles and is quick
- To be able to easily partner with other firms

The Make in India campaign, launched by Prime Minister Modi aims to satisfy all these needs of young, aspiring entrepreneurs. Its objective is to:

- Make investment easy
- Support new ideas
- Enhance skill development
- Safeguard the ideas of entrepreneurs
- Create state-of-the-art facilities for manufacturing goods

Tips



- Research the existing market, network with other entrepreneurs, venture capitalists, angel investors, and thoroughly review the policies in place to enable your entrepreneurship.
- Failure is a stepping stone and not the end of the road. Review yours and your peers' errors and correct them in your future venture.
- Be proactive in your ecosystem. Identify the key features of your ecosystem and enrich them to ensure self-sustainability of your entrepreneurship support ecosystem.

6.5.7 Risk Appetite & Resilience: Entrepreneurship and Risk

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.

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.

The levels of risk appetite can be broadly categorized as “low”, “medium” and “high.” The company’s entrepreneur(s) have to evaluate all potential alternatives and select the option most likely to succeed. Companies have varying levels of risk appetites for different objectives. The levels depend on:

- The type of industry
- Market pressures
- Company objectives

For example, a startup with a revolutionary concept will have a very high risk appetite. The startup can afford short term failures before it achieves longer term success. This type of appetite will not remain constant and will be adjusted to account for the present circumstances of the company.

Risk Appetite Statement

Companies have to define and articulate their risk appetite in sync with decisions made about their objectives and opportunities. The point of having a risk appetite statement is to have a framework that clearly states the acceptance and management of risk in business. It sets risk taking limits within the company. The 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 tradeoff between risk and reward.
- Measures of risk and methods of examining and regulating risk exposures.

Entrepreneurship and Resilience

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.

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

Characteristics of a Resilient Entrepreneur

The characteristics required to make an entrepreneur resilient enough to go the whole way in their business enterprise are:

- | | |
|---|--|
| <ul style="list-style-type: none">• A strong internal sense of control• Strong social connections• Skill to learn from setbacks• Ability to look at the bigger picture | <ul style="list-style-type: none">• Ability to diversify and expand• Survivor attitude• Cash-flow conscious habits• Attention to detail |
|---|--|

Tips



- Cultivate a great network of clients, suppliers, peers, friends and family. This will not only help you promote your business, but will also help you learn, identify new opportunities and stay tuned to changes in the market.
- Don't dwell on setbacks. Focus on what you need to do next to get moving again.
- While you should try and curtail expenses, ensure that it is not at the cost of your growth.

6.5.8 Success & Failures: Understanding Successes and Failures in Entrepreneurship

Shyam is a famous entrepreneur, known for his success story. But what most people don't know, is that Shyam failed numerous times before his enterprise became a success. Read his interview to get an idea of what entrepreneurship is really about, straight from an entrepreneur who has both, failed and succeeded.

Interviewer: Shyam, I have heard that entrepreneurs are great risk-takers who are never afraid of failing. Is this true?

Shyam: Ha ha, no of course it's not true! Most people believe that entrepreneurs need to be fearlessly enthusiastic. But the truth is, fear is a very normal and valid human reaction, especially when you are planning to start your own business! In fact, my biggest fear was the fear of failing. The reality is, entrepreneurs fail as much as they succeed. The trick is to not allow the fear of failing to stop you from going ahead with your plans. Remember, failures are lessons for future success!

Interviewer: What, according to you, is the reason that entrepreneurs fail?

Shyam: Well, there is no one single reason why entrepreneurs fail. An entrepreneur can fail due to numerous reasons. You could fail because you have allowed your fear of failure to defeat you. You could fail because you are unwilling to delegate (distribute) work. As the saying goes, "You can do anything, but not everything!" You could fail because you gave up too easily – maybe you were not persistent enough. You could fail because you were focusing your energy on small, insignificant tasks and ignoring the tasks that were most important. Other reasons for failing are partnering with the wrong people, not being able to sell your product to the right customers at the right time at the right price... and many more reasons!

Interviewer: As an entrepreneur, how do you feel failure should be looked at?

Shyam: I believe we should all look at failure as an asset, rather than as something negative. The way I see it, if you have an idea, you should try to make it work, even if there is a chance that you will fail. That's because not trying is failure right there, anyway! And failure is not the worst thing that can happen. I think having regrets because of not trying, and wondering 'what if' is far worse than trying and actually failing.

Interviewer: How did you feel when you failed for the first time?

Shyam: I was completely heartbroken! It was a very painful experience. But the good news is, you do recover from the failure. And with every subsequent failure, the recovery process gets a lot easier. That's because you start to see each failure more as a lesson that will eventually help you succeed, rather than as an obstacle that you cannot overcome. You will start to realize that failure has many benefits.

Interviewer: Can you tell us about some of the benefits of failing?

Shyam: One of the benefits that I have experienced personally from failing is that the failure made me see things in a new light. It gave me answers that I didn't have before. Failure can make you a lot stronger. It also helps keep your ego in control.

Interviewer: What advice would you give entrepreneurs who are about to start their own enterprises?

Shyam: I would tell them to do their research and ensure that their product is something that is actually wanted by customers. I'd tell them to pick their partners and employees very wisely and cautiously. I'd tell them that it's very important to be aggressive – push and market your product as aggressively as possible. I would warn them that starting an enterprise is very expensive and that they should be prepared for a situation where they run out of money.

I would tell them to create long term goals and put a plan in action to achieve that goal. I would tell them to build a product that is truly unique. Be very careful and ensure that you are not copying another startup. Lastly, I'd tell them that it's very important that they find the right investors.

Interviewer: That's some really helpful advice, Shyam! I'm sure this will help all entrepreneurs to be more prepared before they begin their journey! Thank you for all your insight!

Tips



- Remember that nothing is impossible.
- Identify your mission and your purpose before you start.
- Plan your next steps – don't make decisions hastily.

6.6: Preparing to be an Entrepreneur

Unit Objectives



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

1. Discuss how market research is carried out
2. Describe the 4 Ps of marketing
3. Discuss the importance of idea generation
4. Recall basic business terminology
5. Discuss the need for CRM
6. Discuss the benefits of CRM
7. Discuss the need for networking
8. Discuss the benefits of networking
9. Understand the importance of setting goals
10. Differentiate between short-term, medium-term and long-term goals
11. Discuss how to write a business plan
12. Explain the financial planning process
13. Discuss ways to manage your risk
14. Describe the procedure and formalities for applying for bank finance
15. Discuss how to manage your own enterprise
16. List important questions that every entrepreneur should ask before starting an enterprise

6.6.1 Market Study / The 4 Ps of Marketing / Importance of an IDEA: Understanding Market Research

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.

The 4 Ps of Marketing

The 4 Ps of marketing are Product, Price, Promotion and Place. Let's look at each of these 4 Ps in detail.

Product

A product can be:

- A tangible good
- An intangible service

Whatever your product is, it is critical that you have a clear understanding of what you are offering, and what its unique characteristics are, before you begin with the marketing process.

Some questions to ask yourself are:

- What does the customer want from the product/service?
- What needs does it satisfy?
- Are there any more features that can be added?
- Does it have any expensive and unnecessary features?
- How will customers use it?
- What should it be called?
- How is it different from similar products?
- How much will it cost to produce?
- Can it be sold at a profit?

Price

Once all the elements of Product have been established, the Price factor needs to be considered.

The Price of a Product will depend on several factors such as profit margins, supply, demand and the marketing strategy.

Some questions to ask yourself are:

- What is the value of the product/service to customers?
- Do local products/services have established price points?
- Is the customer price sensitive?
- Should discounts be offered?
- How is your price compared to that of your competitors?

Promotion

Once you are certain about your Product and your Price, the next step is to look at ways to promote it. Some key elements of promotion are advertising, public relations, social media marketing, email marketing, search engine marketing, video marketing and more.

Some questions to ask yourself are:

- Where should you promote your product or service?
- What is the best medium to use to reach your target audience?
- When would be the best time to promote your product?
- How are your competitors promoting their products?

Place

According to most marketers, the basis of marketing is about offering the right product, at the right price, at the right place, at the right time. For this reason, selecting the best possible location is critical for converting prospective clients into actual clients.

Some questions to ask yourself are:

- Will your product or service be looked for in a physical store, online or both?
- What should you do to access the most appropriate distribution channels?
- Will you require a sales force?
- Where are your competitors offering their products or services?
- Should you follow in your competitors' footsteps?
- Should you do something different from your competitors?

Importance of an IDEA

Ideas are the foundation of progress. An idea can be small or ground-breaking, easy to accomplish or extremely complicated to implement. Whatever the case, the fact that it is an idea gives it merit. Without ideas, nothing is possible. Most people are afraid to speak out their ideas, out for fear of being ridiculed. However, if you are an entrepreneur and want to remain competitive and innovative, you need to bring your ideas out into the light.

Some ways to do this are by:

- Establishing a culture of brainstorming where you invite all interested parties to contribute
- Discussing ideas out loud so that people can add their ideas, views, opinions to them
- Being open minded and not limiting your ideas, even if the idea who have seems ridiculous
- Not discarding ideas that you don't work on immediately, but instead making a note of them and shelving them so they can be revisited at a later date

Tips

- Keep in mind that good ideas do not always have to be unique.
- Remember that timing plays a huge role in determining the success of your idea.
- Situations and circumstances will always change, so be flexible and adapt your idea accordingly.

6.6.2 Business Entity Concepts: Basic Business Terminology

If your aim is to start and run a business, it is crucial that you have a good understanding of basic business terms. Every entrepreneur should be well versed in the following terms:

- Accounting: A systematic method of recording and reporting financial transactions.
- Accounts payable: Money owed by a company to its creditors.
- Accounts Receivable: The amount a company is owed by its clients.
- Assets: The value of everything a company owns and uses to conduct its business.
- Balance Sheet: A snapshot of a company's assets, liabilities and owner's equity at a given moment.
- Bottom Line: The total amount a business has earned or lost at the end of a month.
- Business: An organization that operates with the aim of making a profit.
- Business to Business (B2B): A business that sells goods or services to another business.
- Business to Consumer (B2C): A business that sells goods or services directly to the end user.
- Capital: The money a business has in its accounts, assets and investments. The two main types of capital are debt and equity.
- Cash Flow: The overall movement of funds through a business each month, including income and expenses.
- Cash Flow Statement: A statement showing the money that entered and exited a business during a specific period of time.
- Contract: A formal agreement to do work for pay.
- Depreciation: The degrading value of an asset over time.
- Expense: The costs that a business incurs through its operations.
- Finance: The management and allocation of money and other assets.
- Financial Report: A comprehensive account of a business' transactions and expenses.
- Fixed Cost: A one-time expense.
- Income Statement (Profit and Loss Statement): Shows the profitability of a business during a period of time.
- Liabilities: The value of what a business owes to someone else.
- Marketing: The process of promoting, selling and distributing a product or service.
- Net Income/Profit: Revenues minus expenses.
- Net Worth: The total value of a business.
- Payback Period: The amount of time it takes to recover the initial investment of a business.
- Profit Margin: The ratio of profit, divided by revenue, displayed as a percentage.
- Return on Investment (ROI): The amount of money a business gets as return from an investment.

- Revenue: The total amount of income before expenses are subtracted.
- Sales Prospect: A potential customer.
- Supplier: A provider of supplies to a business.
- Target Market: A specific group of customers at which a company's products and services are aimed.
- Valuation: An estimate of the overall worth of the business.
- Variable Cost: Expenses that change in proportion to the activity of a business.
- Working Capital: Calculated as current assets minus current liabilities.

6.6.3 CRM & Networking: What is CRM?

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.

The 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.

Benefits of CRM

CRM has a number of important benefits:

- It helps improve relations with existing customers which can lead to:
 - Increased sales
 - Identification of customer needs
 - Cross-selling of products
- It results in better marketing of one's products or services
- It enhances customer satisfaction and retention
- It improves profitability by identifying and focusing on the most profitable customers

What is Networking?

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.

The 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.

Benefits of Networking

Networking offers numerous benefits for entrepreneurs. Some of the major benefits are:

- Getting high quality leads
- Increased business opportunities
- Good source of relevant connections
- Advice from like-minded entrepreneurs
- Gaining visibility and raising your profile
- Meeting positive and enthusiastic people
- Increased self-confidence
- Satisfaction from helping others
- Building strong and lasting friendships

Tips



- Use social media interactions to identify needs and gather feedback.
- When networking, ask open-ended questions rather than yes/no type questions.

6.6.4 Business Plan: Why Set Goals

Setting goals is important because it gives you long-term vision and short-term motivation. Goals can be short term, medium term and long term.

Short-Term Goals

- These are specific goals for the immediate future.

Example: Repairing a machine that has failed.

Medium-Term Goals

- These goals are built on your short term goals.
- They do not need to be as specific as your short term goals.

Example: Arranging for a service contract to ensure that your machines don't fail again.

Long-Term Goals

These goals require time and planning.

They usually take a year or more to achieve.

Example: Planning your expenses so you can buy new machinery

Why Create a Business Plan

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.

Elements of a Business Plan

Executive Summary

The executive summary follows the title page. The summary should clearly state your desires as the business owner in a short and businesslike way. It is an overview of your business and your plans. Ideally this should not be more than 1-2 pages.

Your Executive Summary should include:

- The Mission Statement: Explain what your business is all about.

Example: Nike's Mission Statement

Nike's mission statement is "To bring inspiration and innovation to every athlete in the world."

- Company Information: Provide information like when your business was formed, the names and roles of the founders, the number of employees, your business location(s) etc.
- Growth Highlights: Mention examples of company growth. Use graphs and charts where possible.
- Your Products/Services: Describe the products or services provided.
- Financial Information: Provide details on current bank and investors.
- Summarize future plans: Describe where you see your business in the future.

Business Description

The second section of your business plan needs to provide a detailed review of the different elements of your business. This will help potential investors to correctly understand your business goal and the uniqueness of your offering.

Your Business Description should include:

- A description of the nature of your business
- The market needs that you are aiming to satisfy
- The ways in which your products and services meet these needs
- The specific consumers and organizations that you intend to serve
- Your specific competitive advantages

Market Analysis

The market analysis section usually follows the business description. The aim of this section is to showcase your industry and market knowledge. This is also the section where you should lay down your research findings and conclusions.

Your Market Analysis should include:

- Your industry description and outlook
- Information on your target market
- The needs and demographics of your target audience
- The size of your target market
- The amount of market share you want to capture
- Your pricing structure
- Your competitive analysis
- Any regulatory requirements

Organization & Management

This section should come immediately after the Market Analysis.

Your Organization & Management section should include:

- Your company's organizational structure
- Details of your company's ownership
- Details of your management team
- Qualifications of your board of directors
- Detailed descriptions of each division/department and its function
- The salary and benefits package that you offer your people
- The incentives that you offer

Service or Product Line

The next section is the service or product line section. This is where you describe your service or product, and stress on their benefits to potential and current customers. Explain in detail why your product of choice will fulfill the needs of your target audience.

Your Service or Product Line section should include:

- A description of your product/service
- A description of your product or service's life cycle
- A list of any copyright or patent filings
- A description of any R&D activities that you are involved in or planning

Marketing & Sales

Once the Service or Product Line section of your plan has been completed, you should start on the description of the marketing and sales management strategy for your business.

Your Marketing section should include the following strategies:

- **Market penetration strategy:** This strategy focuses on selling your existing products or services in existing markets, in order to increase your market share.
- **Growth strategy:** This strategy focuses on increasing the amount of market share, even if it reduces earnings in the short-term.
- **Channels of distribution strategy:** These can be wholesalers, retailers, distributors and even the internet.
- **Communication strategy:** These can be written strategies (e-mail, text, chat), oral strategies (phone calls, video chats, face-to-face conversations), non-verbal strategies (body language, facial expressions, tone of voice) and visual strategies (signs, webpages, illustrations).

Your Sales section should include the following information:

- **A salesforce strategy:** This strategy focuses on increasing the revenue of the enterprise.
- **A breakdown of your sales activities:** This means detailing out how you intend to sell your products or services – will you sell it offline or online, how many units do you intend to sell, what price do you plan to sell each unit at, etc.

Funding Request

This section is specifically for those who require funding for their venture.

The Funding Request section should include the following information:

- How much funding you currently require.
- How much funding you will require over the next five years. This will depend on your long-term goals.
- The type of funding you want and how you plan to use it. Do you want funding that can be used only for a specific purpose, or funding that can be used for any kind of requirement?
- Strategic plans for the future. This will involve detailing out your long-term plans – what these plans are and how much money you will require to put these plans in motions.
- Historical and prospective financial information. This can be done by creating and maintaining all your financial records, right from the moment your enterprise started, to the present day. Documents required for this are your balance sheet which contains details of your company's assets and liabilities, your income statement which lists your company's revenues, expenses and net income for the year, your tax returns (usually for the last three years) and your cash flow budget which lists the cash that came in, the cash that went out and states whether you had a cash deficit (negative balance) or surplus (positive balance) at the end of each month.

6.6.5 Procedure and Formalities for Bank Finance: The Need for Bank Finance

For entrepreneurs, one of the most difficult challenges faced involves securing funds for startups. 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 startups, offering funding to thousands of startups every year.

What Information Should Entrepreneurs Offer Banks for Funding?

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.

General Credentials

This is where you, as an entrepreneur, provide the bank with background information on yourself. Such information includes:

- Letter(s) of Introduction: This letter should be written by a respected business person who knows you well enough to introduce you. The aim of this letter is set across your achievements and vouch for your character and integrity.
- Your Profile: This is basically your resume. You need to give the bank a good idea of your educational achievements, professional training, qualifications, employment record and achievements.
- Business Brochure: A business brochure typically provides information on company products, clients, how long the business has been running for etc.
- Bank and Other References: If you have an account with another bank, providing those bank references is a good idea.
- Proof of Company Ownership or Registration: In some cases, you may need to provide the bank with proof of company ownership and registration. A list of assets and liabilities may also be required.

Financial Situation

Banks will expect current financial information on your enterprise. The standard financial reports you should be prepared with are:

- | | |
|---|--|
| <ul style="list-style-type: none"> • Balance Sheet • Cash-Flow Statement • Business Plan | <ul style="list-style-type: none"> • Profit-and-Loss Account • Projected Sales and Revenues • Feasibility Study |
|---|--|

Guarantees or Collaterals

Usually banks will refuse to grant you a loan without security. You can offer assets which the bank can seize and sell off if you do not repay the loan. Fixed assets like machinery, equipment, vehicles etc. are also considered to be security for loans.

The Lending Criteria of Banks

Your request for funding will have a higher chance of success if you can satisfy the following lending criteria:

- Good cash flow
- Adequate shareholders' funds
- Adequate security
- Experience in business
- Good reputation

The Procedure

To apply for funding the following procedure will need to be followed.

1. Submit your application form and all other required documents to the bank.
2. The bank will carefully assess your credit worthiness and assign ratings by analyzing your business information with respect to parameters like management, financial, operational and industry information as well as past loan performance.
3. The bank will make a decision as to whether or not you should be given funding.

Tips



- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

6.6.6 Enterprise Management - An Overview: How to Manage Your Enterprise

To manage your enterprise effectively you need to look at many different aspects, right from managing the day-to-day activities to figuring out how to handle a large scale event. Let's take a look at some simple steps to manage your company effectively.

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

Let's take the example of Ramu, an entrepreneur who has recently started his own enterprise. Ramu has good leadership skills – he is honest, communicates well, knows how to delegate work etc. These leadership skills definitely help Ramu in the management of his enterprise. However, sometimes Ramu comes across situations that he is unsure how to handle. What should Ramu do in this case? One solution is for him to find a more experienced manager who is willing to mentor him. Another solution is for Ramu to use his networking skills so that he can connect with managers from other organizations, who can give him advice on how to handle such situations.

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

Even the most skilled manager in the world will not be able to manage every single task that an enterprise will demand of him. A smart manager needs to realize that the key to managing his enterprise lies in his dividing all his work between those around him. This is known as delegation. However, delegating is not enough. A manager must delegate effectively if he wants to see results. This is important because delegating, when done incorrectly, can result in you creating even more work for yourself. To delegate effectively, you can start by making two lists. One list should contain the things that you know you need to handle yourself. The second list should contain the things that you are confident can be given to others to manage and handle. Besides incorrect delegation, another issue that may arise is over-delegation. This means giving away too many of your tasks to others. The problem with this is, the more tasks you delegate, the more time you will spend tracking and monitoring the work progress of those you have handed the tasks to. This will leave you with very little time to finish your own work.

Step 3: Hire the right people for the job.

Hiring the right people goes a long way towards effectively managing your enterprise. To hire the best people suited for the job, you need to be very careful with your interview process. You should ask potential candidates the right questions and evaluate their answers carefully. Carrying out background checks is always a good practice. Running a credit check is also a good idea, especially if the people you are planning to hire will be handling your money. Create a detailed job description for each role that you want filled and ensure that all candidates have a clear and correct understanding of the job description. You should also have an employee manual in place, where you

put down every expectation that you have from your employees. All these actions will help ensure that the right people are approached for running your enterprise.

Step 4: Motivate your employees and train them well.

Your enterprise can only be managed effectively if your employees are motivated to work hard for your enterprise. Part of being motivated involves your employees believing in the vision and mission of your enterprise and genuinely wanting to make efforts towards pursuing the same. You can motivate your employees with recognition, bonuses and rewards for achievements. You can also motivate them by telling them about how their efforts have led to the company's success. This will help them feel pride and give them a sense of responsibility that will increase their motivation.

Besides motivating your people, your employees should be constantly trained in new practices and technologies. Remember, training is not a one-time effort. It is a consistent effort that needs to be carried out regularly.

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

Your employees need to be well-versed in the art of customer management. This means they should be able to understand what their customers want, and also know how to satisfy their needs. For them to truly understand this, they need to see how you deal effectively with customers. This is called leading by example. Show them how you sincerely listen to your clients and the efforts that you put into understand their requirements. Let them listen to the type of questions that you ask your clients so they understand which questions are appropriate.

Step 6: Market your enterprise effectively.

Use all your skills and the skills of your employees to market your enterprise in an effective manner. You can also hire a marketing agency if you feel you need help in this area.

Now that you know what is required to run your enterprise effectively, put these steps into play, and see how much easier managing your enterprise becomes!

Tips



- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

6.6.7. 20 Questions to Ask Yourself Before Considering Entrepreneurship

1. Why am I starting a business?
2. What problem am I solving?
3. Have others attempted to solve this problem before? Did they succeed or fail?
4. Do I have a mentor¹ or industry expert that I can call on?
5. Who is my ideal customer²?
6. Who are my competitors³?
7. What makes my business idea different from other business ideas?
8. What are the key features of my product or service?
9. Have I done a SWOT⁴ analysis?
10. What is the size of the market that will buy my product or service?
11. What would it take to build a minimum viable product⁵ to test the market?
12. How much money do I need to get started?
13. Will I need to get a loan?
14. How soon will my products or services be available?
15. When will I break even⁶ or make a profit?
16. How will those who invest in my idea make a profit?
17. How should I set up the legal structure⁷ of my business?
18. What taxes⁸ will I need to pay?
19. What kind of insurance⁹ will I need?
20. Have I reached out to potential customers for feedback?

Tips



- It is very important to validate your business ideas before you invest significant time, money and resources into it.
- The more questions you ask yourself, the more prepared you will be to handle the highs and lows of starting an enterprise.

Footnotes:

1. A mentor is a trusted and experienced person who is willing to coach and guide you.
2. A customer is someone who buys goods and/or services.
3. A competitor is a person or company that sells products and/or services similar to your products and/or services.
4. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. To conduct a SWOT analysis of your company, you need to list down all the strengths and weaknesses of your company, the opportunities that are present for your company and the threats faced by your company.

5. A minimum viable product is a product that has the fewest possible features, that can be sold to customers, for the purpose of getting feedback from customers on the product.
6. A company is said to break even when the profits of the company are equal to the costs.
7. The legal structure could be a sole proprietorship, partnership or limited liability partnership.
8. There are two types of taxes – direct taxes payable by a person or a company, or indirect taxes charged on goods and/or services.
9. There are two types of insurance – life insurance and general insurance. Life insurance covers human life while general insurance covers assets like animals, goods, cars etc.

Notes







Skill India
कौशल भारत - कुशल भारत

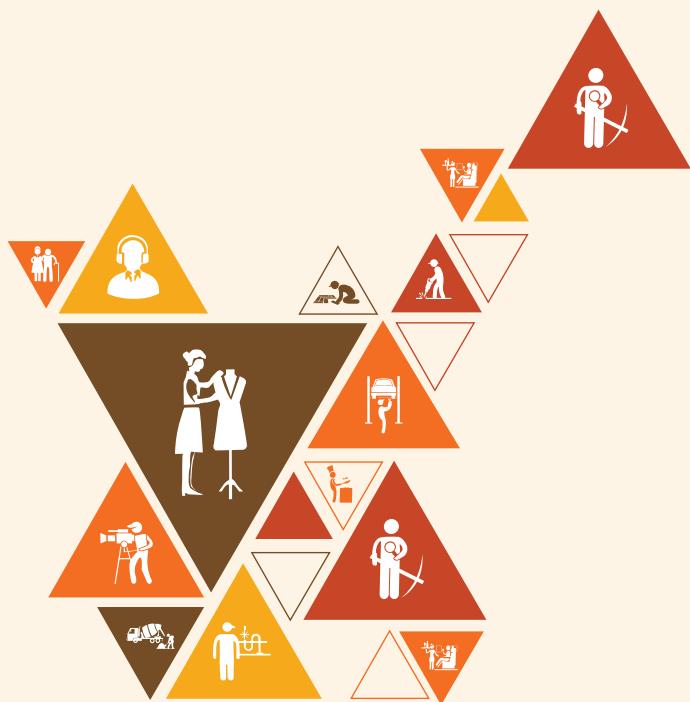


N S D C
National
Skill Development
Corporation
Transforming the skill landscape

7. Annexures

Annexure I – Training Delivery Plan

Annexure II – Assessment Criteria



Annexure I

Training Delivery Plan

Training Delivery Plan			
Program Name	Mobile Phone Hardware Repair Technician		
Qualification Pack Name & Ref. ID	Mobile Phone Hardware Repair Technician ELE/Q81040		
Version No.	1.0	Version Update Date	09/12/2015
Pre-requisites to Training (if any)	10th standard passed		
Training Outcomes	<p>By the end of this program, the participants would have achieved the following competencies:</p> <ul style="list-style-type: none"> 1 Receiving procedure of the faulty Mobile Phone: Understanding the Procedure to receive the faulty Mobile Handsets from the Customer 2 Diagnose the Problem of the Faulty Mobile Phone: Understanding the possible problems talking with the Customer and using diagnostic tools 3 Arrangement of Tools and Necessary Parts to Repair the Mobile Phone: Understanding the Tools and Parts Required to Repair the Faulty Mobile Phone 4 Repair the Hardware of the Faulty Mobile Phone: Understanding the Repairing Techniques of the Faulty Mobile Phone using tools and equipments 5 Repair the Software of the Faulty Mobile Phone: Understanding the Repairing Techniques of the Faulty Mobile Phone using various Software 6 Testing the Repaired Mobile phone: Understanding the procedure to test the Repaired Mobile Phone 7 Co-ordinating with Colleagues: Understanding the procedures to Co-ordinate with colleagues based on the Company Policy 8 Safety Procedures: Understanding to maintain the safety Procedures to Maintain the safe working environment as per the standard 		

S.No.	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools/Aids	Duration
1.1	Mobile Phone Hardware Repair Technician: Introduction	Introduction to the Qualifications Pack Session 1.a	Understand • Broad outline of the training program • The NSDC framework • Requirements of QP & NOS	ELE/N8106, Introduction	Classroom theory sessions, Participative Interactions	Black / Glass Board, ppt, Video	2 hrs
1.1	Interact with customer and perform front end repair	Introduction to the Qualifications Pack Session 1.b	Understand • Broad outline of the training program • The NSDC framework • Requirements of QP & NOS	ELE/N8106, Introduction	Classroom theory sessions, Participative Interactions	Black / Glass Board, ppt, Video	2 hrs
2.1	Interact with customer and perform front end repair	Engaging with customers Session 1.a	Understand • How to receive customers and greet them as per company's norms • Behavioural etiquettes while interacting with customers • How to ensure customers comfort	ELE/N8106	Classroom theory sessions, Participative Interactions	Classroom theory sessions, Participative Interactions	2 hrs
2.1	Interact with customer and perform front end repair	Engaging with customers Session 1.b	Understand • How to Communicate with the customer • Profile of the customers and offer service • How to inform about repair charges and warranty applicable	ELE/N8106	Classroom theory sessions, Participative Interactions	Classroom theory sessions, Participative Interactions	2 hrs
2.2	Interact with customer and perform front end repair	Understanding the complaint Session 2.a	Understand : • How to Interact with customers to understand the customer's purpose of visit • Customer level complaint • How Interrogate the customers to assess the cause of problem	ELE/N8106	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	2 hrs

2.2	Interact with customer and perform front end repair	Understanding the complaint Session 2.b	<p>Understand :</p> <ul style="list-style-type: none"> • How to decide on the action to be performed • How to inform customers about the time taken and estimated cost • Document required for the customers to collect the device after repair 	ELE/N8106	<p>Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training</p>	<p>Black / Glass Board, ppt, Video, exercises, master samples, exhibits</p>	2 hrs
2.3	Interact with customer and perform front end repair	Documenting on computer Session 3.a	<p>Understand ::</p> <ul style="list-style-type: none"> • Use of system to identify the warranty coverage of the • Mobile Phone and other terms and conditions • Customer relationship management policy of the mobile brand 	ELE/N8106	<p>Workshop Practical, On the job training,</p>	<p>Black / Glass Board, ppt, Video, Image Recognition tools & exercises, master samples, exhibits</p>	3 hrs
2.3	Interact with customer and perform front end repair	Documenting on computer Session 3.b	<ul style="list-style-type: none"> • Use of interactive ERP system of the company • Use the system to prepare invoice, stock management, order placement, accessories availability, etc 	ELE/N8106	<p>Workshop Practical, On the job training,</p>	<p>Black / Glass Board, ppt, Video, Image Recognition tools & exercises, master samples, exhibits</p>	3 hrs
2.4	Interact with customer and perform front end repair	Performing front end repair Session 4.a	<ul style="list-style-type: none"> • Identify problem and decide the action to be taken • Upload licensed and brand approved • Applications as per customer requirement using system application and software compatibility with the Mobile Phone • Check the accessories and perform a demo with the customer 	ELE/N8106	<p>Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training</p>	<p>Black / Glass Board, ppt, Video, exercises, master samples, exhibits</p>	3 hrs

2.4	Interact with customer and perform front end repair	Performing front end repair Session 4.b	<ul style="list-style-type: none"> • Identify problem and decide the action to be taken • Upload licensed and brand approved applications as per customer requirement using system application and software compatibility with the Mobile Phone • Check the accessories and perform a demo with the customer 	ELE/N8106	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
2.4	Interact with customer and perform front end repair	Performing front end repair Session 4.c	<ul style="list-style-type: none"> • Opening Mobile Phone panel • Replace the parts such as battery and clean the inner parts of the phone • Educate customers on effective usage of Mobile Phone 	ELE/N8106	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
2.5	Interact with customer and perform front end repair	Interacting with superior and meeting target Session 5.a	<ul style="list-style-type: none"> • Understand the work requirement from superior • Documenting the work completed on the company ERP software for tracking 	ELE/N8106	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
3.1	Repair and rectify the faults in Mobile Phone	Following standard repair procedure Session 1.a	Following standard repair procedure	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	2 hrs

3.1	Repair and rectify the faults in Mobile Phone	Following standard repair Procedure Session 1.b	Following standard repair procedure	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.2	Repair and rectify the faults in Mobile Phone	Assembling and disassembling the Mobile Phone Session 2.a	Assembling and disassembling the Mobile Phone	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
3.2	Repair and rectify the faults in Mobile Phone	Assembling and disassembling the Mobile Phone Session 2.b	Assembling and disassembling the Mobile Phone of various brand and models	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.2	Repair and rectify the faults in Mobile Phone	Assembling and disassembling the Mobile Phone Session 2.c	Assembling and disassembling the Mobile Phone	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	2 hrs
3.2	Repair and rectify the faults in Mobile Phone	Assembling and disassembling the Mobile Phone Session 2.d	Assembling and disassembling the Mobile Phone of various brand and models	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.2	Repair and rectify the faults in Mobile Phone	Assembling and disassembling the Mobile Phone Session 2.e	Assembling and disassembling the Mobile Phone of various brand and models	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs

3.2	Repair and rectify the faults in Mobile Phone	Assembling and disassembling the Mobile Phone Session 2.f	Assembling and disassembling the Mobile Phone of various brand and models	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.2	Repair and rectify the faults in Mobile Phone	Assembling and disassembling the Mobile Phone Session 2.g	Assembling and disassembling the Mobile Phone of various brand and models	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.3	Repair and rectify the faults in Mobile Phone	Diagnosing the problem Session 3.a	Diagnosing various problem related to software and hardware of mobile	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
3.3	Repair and rectify the faults in Mobile Phone	Diagnosing the problem Session 3.b	Diagnosing various problem related to software and hardware of mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.3	Repair and rectify the faults in Mobile Phone	Diagnosing the problem Session 3.c	Diagnosing various problem related to software and hardware of mobile	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	2 hrs
3.3	Repair and rectify the faults in Mobile Phone	Diagnosing the problem Session 3.d	Diagnosing various problem related to software and hardware of mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs

3.3	Repair and rectify the faults in Mobile Phone	Diagnosing the problem Session 3.e	Diagnosing various problem related to software and hardware of mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.3	Repair and rectify the faults in Mobile Phone	Diagnosing the problem Session 3.f	Diagnosing various problem related to software and hardware of mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.3	Repair and rectify the faults in Mobile Phone	Diagnosing the problem Session 3.g	Diagnosing various problem related to software and hardware of mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.4	Repair and rectify the faults in Mobile Phone	Fixing the software Session 4.a	Fixing software related issues in mobile	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
3.4	Repair and rectify the faults in Mobile Phone	Fixing the software Session 4.b	Fixing software related issues in mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.4	Repair and rectify the faults in Mobile Phone	Fixing the software Session 4.c	Fixing software related issues in mobile	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	2 hrs

3.4	Repair and rectify the faults in Mobile Phone	Fixing the software Session 4.d	Fixing software related issues in mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.4	Repair and rectify the faults in Mobile Phone	Fixing the software Session 4.e	Fixing software related issues in mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.4	Repair and rectify the faults in Mobile Phone	Fixing the software Session 4.f	Fixing software related issues in mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.4	Repair and rectify the faults in Mobile Phone	Fixing the software Session 4.g	Fixing software related issues in mobile	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.5	Repair and rectify the faults in Mobile Phone	Repairing the component or Module in mobile hardware Session 5.a	Repairing the component or Module in mobile hardware	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
3.5	Repair and rectify the faults in Mobile Phone	Repairing the component or Module in mobile hardware Session 5.b	Repairing the component or Module in mobile hardware	ELE/N8107	Workshop Practical, On the job training	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs

3.5	Repair and rectify the faults in Mobile Phone	Repairing the component or Module Session 5.c	Repairing the component or Module in mobile hardware	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	2 hrs
3.5	Repair and rectify the faults in Mobile Phone	Repairing the component or Module Session 5.d	Repairing the component or Module in mobile hardware	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.5	Repair and rectify the faults in Mobile Phone	Repairing the component or Module Session 5.e	Repairing the component or Module in mobile hardware	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.5	Repair and rectify the faults in Mobile Phone	Repairing the component or Module Session 5.f	Repairing the component or Module in mobile hardware	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.5	Repair and rectify the faults in Mobile Phone	Repairing the component or Module Session 5.g	Repairing the component or Module in mobile hardware	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.6	Repair and rectify the faults in Mobile Phone	Replacing faulty component Session 6.a	Replacing faulty components in mobile	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs

3.6	Repair and rectify the faults in Mobile Phone	Replacing faulty component Session 6.b	Replacing faulty components in mobile	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.6	Repair and rectify the faults in Mobile Phone	Replacing faulty component Session 6.c	Replacing faulty components in mobile	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	2 hrs
3.6	Repair and rectify the faults in Mobile Phone	Replacing faulty component Session 6.d	Replacing faulty components in mobile	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.6	Repair and rectify the faults in Mobile Phone	Replacing faulty component Session 6.e	Replacing faulty components in mobile	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.6	Repair and rectify the faults in Mobile Phone	Replacing faulty component Session 6.f	Replacing faulty components in mobile	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.6	Repair and rectify the faults in Mobile Phone	Replacing faulty component Session 6.g	Replacing faulty components in mobile	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs

3.8	Repair and rectify the faults in Mobile Phone	Seeking assistance on unresolved Faults Session 8.b	<ul style="list-style-type: none"> • Seek technical assistance from engineer on faults that cannot be fixed • Receive instruction from engineers on use of specific tools or new repair processes • Discuss with superior if the cost estimate is found to be Beyond Economic repair(BER) and take recommended action • Coordinate with superior for performing quality check on the 	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
3.9	Repair and rectify the faults in Mobile Phone	Reporting and achieving productivity target Session 9.a	<ul style="list-style-type: none"> • Report on the work load and completion status • Submit the appropriate documentation on completion of task assigned • Document the work completed on the company ERP software for tracking and future references 	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
3.9	Repair and rectify the faults in Mobile Phone	Reporting and achieving productivity target Session 9.b	<ul style="list-style-type: none"> • Report on the work load and completion status • Submit the appropriate documentation on completion of task assigned • Document the work completed on the company ERP software for tracking and future references 	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs

3.9	Repair and rectify the faults in Mobile Phone	Reporting and achieving productivity target Session 9.c	<ul style="list-style-type: none"> Achieve 100% daily and weekly target of number of repairs Meet the target of quality as per the Service Level Agreement (SLA) of the brand and avoid rework Repair within the turnaround time (TAT) and deliver them 	ELE/N8107	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
3.9	Repair and rectify the faults in Mobile Phone	Reporting and achieving productivity target Session 9.d	<ul style="list-style-type: none"> Achieve 100% daily and weekly target of number of repairs Meet the target of quality as per the Service Level Agreement (SLA) of the brand and avoid rework Repair within the turnaround time (TAT) and deliver them 	ELE/N8107	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
4.1	Coordinate with colleagues	Interacting with supervisor Session 1.a	<ul style="list-style-type: none"> Understand and assess work requirements Understand the targets and incentives Understand new operating procedures and constraints Report problems in the field Resolve personnel issues 	ELE/N9909	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs

4.1	Coordinate with colleagues	Interacting with supervisor Session 1.b	<ul style="list-style-type: none"> • Understand and assess work requirements • Understand the targets and incentives • Understand new operating procedures and constraints • Report problems in the field • Resolve personnel issues 	ELE/N9909	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
4.1	Coordinate with colleagues	Interacting with supervisor Session 1.c	<ul style="list-style-type: none"> • Receive feedback on work standards and customer satisfaction • Communicate any potential hazards at a particular location • Meet given targets • Deliver work of expected quality despite constraints • Receive positive feedback on behaviour and attitude shown during interaction 	ELE/N9909	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
4.1	Coordinate with colleagues	Interacting with supervisor Session 1.d	<ul style="list-style-type: none"> • Receive feedback on work standards and customer satisfaction • Communicate any potential hazards at a particular location • Meet given targets • Deliver work of expected quality despite constraints • Receive positive feedback on behaviour and attitude shown during interaction 	ELE/N9909	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs

4.2	Coordinate with colleagues	Coordinating with colleagues Session 2.a	<ul style="list-style-type: none"> Interact with colleagues from different functions and understand the nature of their work Receive spares from tool room or stores; deposit faulty modules and tools to stores Pass on customer complaints to colleagues in a respective 	ELE/N9909	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
4.2	Coordinate with colleagues	Coordinating with colleagues Session 2.b	<ul style="list-style-type: none"> Interact with colleagues from different functions and understand the nature of their work Receive spares from tool room or stores; deposit faulty modules and tools to stores Pass on customer complaints to colleagues in a respective 	ELE/N9909	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
4.2	Coordinate with colleagues	Coordinating with colleagues Session 2.c	<ul style="list-style-type: none"> Assist colleagues with resolving field problems Resolve conflicts and achieve smooth workflow Follow the company policy during cross functional interaction 	ELE/N9909	Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
4.2	Coordinate with colleagues	Coordinating with colleagues Session 2.d	<p>Assist colleagues with resolving field problems</p> <p>Resolve conflicts and achieve smooth workflow</p> <p>Follow the company policy during cross functional interaction</p>	ELE/N9909	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs

5.1	Maintain safe and secure work environment	Following safety measures Session 1.a	<ul style="list-style-type: none"> • Comply with safety procedures followed in the company • Take adequate safety measures while handling hazardous materials or tools • Follow Electrostatic Discharge (ESD) measures for electronic components • Escalate matters about hazardous materials or things found in the premises • Use safety materials such as gloves, goggles, masks, etc. 	ELE/N9910	<p>Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training</p>	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs
5.1	Maintain safe and secure work environment	Following safety measures Session 1.b	<ul style="list-style-type: none"> • Comply with safety procedures followed in the company • Take adequate safety measures while handling hazardous materials or tools • Follow Electrostatic Discharge (ESD) measures for electronic components • Escalate matters about hazardous materials or things found in the premises • Use safety materials such as gloves, goggles, masks, etc. 	ELE/N9910	<p>Workshop Practical, On the job training,</p>	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
5.1	Maintain safe and secure work environment	Following safety measures Session 1.c	<ul style="list-style-type: none"> • Adequate safety measures while on work to prevent accidents • Ensure zero accidents in work • Avoid damage of components due to negligence in ESD 	ELE/N9910	<p>Classroom theory sessions, Participative Interactions, Group discussions, Workshop, On the job training</p>	Black / Glass Board, ppt, Video, exercises, master samples, exhibits	3 hrs

			procedures • Ensure no loss for company due to safety negligence				
5.1	Maintain safe and secure work environment	Following safety measures Session 1.d	<ul style="list-style-type: none"> • Adequate safety measures while on work to prevent accidents • Ensure zero accidents in work • Avoid damage of components due to negligence in ESD procedures • Ensure no loss for company due to safety negligence 	ELE/N9910	Workshop Practical, On the job training,	Workshop tools, equipment, personal protective equipment, master samples, exhibits	3 hrs
Total (Theory 9 Hrs & Practical 12 Hrs)							21 Hrs
GRAND TOTAL (THEORY- 74 & PRACTICAL – 129)							203 Hrs

Annexure II

Assessment Criteria

Assessment Criteria for Mobile Phone Hardware Repair Technician	
Job Role	Mobile Phone Hardware Repair Technician
Qualification Pack :	ELE/Q8104 Version 1.0
Sector Skill Council : Electronics Sector Skill of India	Electronics Sector Skill of India

S.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 part for each candidate at each examination/training center (as per assessment criteria below)
4.	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5.	To pass the Qualification Pack , every trainee should score a minimum of 70% in every NOS
6.	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.

Sr. No.	NOS No.	NOS Name	Total Marks	Marks Allocation: Skills	Marks Allocation: Knowledge	Marks Allocation: Behavior
1	ELE/N8106 Version 1.0	Interact with customer and perform front end repair	100	60	40	
2	ELE/N8107 Version 1.0	Repair and rectify the faults in Smartphone	100	60	40	
3	ELE/N9951 Version 1.0	Interact with other employees	100	60	40	
4	ELE/N9910 Version 1.0	Maintain safe and secure work environment	100	60	40	
Total:			400	240	160	
Percentage Weightage:				60%	40%	
Minimum Pass% to qualify:				70%	70%	





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