**Handicrafts and Carpet
Sector Skill Council**

Participant Handbook

Sector
Handicrafts and Carpet

Sub-Sector
Handicrafts (Bamboo Handicrafts)

Occupation
Bamboo Utility Handicraft Assembler

Reference ID: **HCS/Q 8705, Version 1.0**
NSQF level: 3

**Bamboo Utility Handicraft
Assembler**

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

Shri Narendra Modi
Prime Minister of India

Certificate

COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

HANDICRAFTS & CARPET SECTOR SKILL COUNCIL

for

SKILLING CONTENT : PARTICIPANT HANDBOOK

Complying to National Occupational Standards of

Job Role/ Qualification Pack: **"Bamboo Utility Handicraft Assembler"** QP No. **"HCS/Q 8705, NSQF Level 3"**

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(Handicrafts and Carpet Sector Skill Council)

Acknowledgements

About this book

This book is designed for up grading the knowledge and basic skills to take up the job of 'Bamboo Utility Handicraft Assembler' in 'Handicrafts' sector. All the activities carried out by an assembler are covered in this course. Upon successful completion of this course the candidate will be eligible to work as Bamboo Utility Handicraft Assembler.

This Participant Handbook is designed to enable training for the specific Qualification Pack (QP). Each National Occupational (NOS) is covered across Unit/s.

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS.

- Carry out cutting & processing of materials as per given size & shape
- Carry out assembling different materials
- Contribute to achieve quality bamboo utility handicraft assembling
- Working in a team
- Maintain work area & tools
- Maintain health, safety and security at workplace

The symbols used in this book are described below.

Symbols Used

Key Learning Outcomes	Steps	Time	Tips	Notes	Unit Objectives	Exercise

Table of Content

1. Introduction

Unit 1.1 - Orientation to the Program

Unit 1.2 - Roles and Responsibilities of a Handicraft Assembler

Key Learning Outcomes

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

1. Define bamboo.
2. Describe the different types of bamboo.
3. State the different various utilities of bamboo.
4. Understand the different handicrafts produced from bamboo.
5. Understand the different techniques used in making bamboo.

UNIT 1.1: Orientation to the Program

Unit Objectives

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

1. Define bamboo.
2. Describe the different types of bamboo.
3. State the different various utilities of bamboo.
4. Understand the different handicrafts produced from bamboo.
5. Understand the different techniques used in making bamboo.

1.1.1 What is Bamboo

Bamboo is a woody plant which belongs to the grass family. It is a vernacular term for members of subfamily Bambusoideae of the family Poaceae, tribe Bambuseae. There are 91 genera and about 1,000 species of bamboo.

1.1.2 Where Does It Grow

Bamboo is found to grow in many different climates and terrains, from cold to hot areas, from mountainous to tropical areas. Bamboo is found across East Asia, North Australia, West India, sub-Saharan Africa, and in the Americas from the Mid-Atlantic United States all the way down to Chile. In fact, Europe is one of the major continents that do not have a native species of bamboo growing there.

India is the second richest country in bamboo resources after China. These two countries together have more than half the total bamboo resources globally. There are 136 species of bamboos in India, out of which 58 species of bamboo belonging to 10 genera are distributed in the northeastern states alone and represent about 66% of the growing stock of bamboo in the country. It has a plethora of essential uses due to which it is often known by terms such as "bamboo culture", "poor man's timber", "green gold" and "bamboo friend of the people".

1.1.3 Different Parts of Bamboo

Bamboos are tall grasses. The stems, which are called culms are cylindrical, woody and joined. Some have hollow stems and some are solid. The stems vary in diameter from 12 mm to 300 mm and go up to 30 metres in height.

One very interesting thing to note is that every part of the bamboo plant can be utilized as a product in itself.

- **The Culm:** Bamboo culms are cylindrical stems. They have a maximum diameter at the base and are tapered at the top. The parts in between nodes are called internodes and are hollow from within. Branches and leaves grow out of the nodes. The culm sheath protects the shoot during growth as they are composed of a tough fibrous material.

  The cylindrical bamboo culms make ideal natural containers. The various shapes and sizes depend on the diameter and the internode length of the different species of bamboo. The nodal wall forms the base of the container. The natural wall between the base and wall of the internode ensures that they are waterproof.

- **The Rhizome:** Bamboo culms grow out of underground stems called rhizomes. Fresh culms can grow out of buds at the base of a mature culm without an intervening rhizome. It is very hard and solid and can be carved. This property is often used to carve different images out of bamboo rhizomes and used as items for decorative purposes. This part is used very creatively where the root hair is used very effectively in making toys and animal figures.

- **The Node:** The distance between two nodes varies from species to species. These nodes provide the only connection from one side of the culm to the other. The length of the node plays a very important role in the selection of a paricular bamboo species for a particular product. A product where the node is used very effectively is the culm container where the nodal wall forms the base of the hollow cylindrical intenodes. Another product is the Angami Naga bamboo spoons used for drinking rice beer and porridge preparation from bamboo mug. A bamboo culm is shaped so that one nodal diaphragm is retained. A thick split extending from that node is shaped to form the handle and this split is bent slightly away from the culm for convenient handling. The lower part of the node and diaphragm are shaped by scraping with a dao to create a soft rounded form. Thus necessity brings creativity.

  The node length is also important because only some bamboo with greater node length like the Dolu and Paura are used for weaving screens and mats.

- **Moisture content:** The moisture content of the culm varies with the season and the age of the culm. The base of the bamboo contains more moisture than the upper part. The younger bamboos contain more moisture than the older ones. Young bamboo, which contain more moisture are preferred for splitting because once the bamboo dries, it cracks and loses its flexibility.

- **Flowering:** It is believed that flower is inauspicious on a bamboo tree. This is supported by botanical facts according to which bamboos generally die after flowering once in their life. Also gregarious flowering of bamboo causes famine. In some species, flowering happens once in three years and in others annually.

1. Leftover & processing waste: Fibre boards, charcoal, pulp, lumber, fuels

2. Shealth & Rhizome: Handicrafts

3. Shoots: Vegetables

4. Base: Charcoal & Pulp

5. Middle lower: Flooring & laminated furniture

6. Middle upper: Blinds, Mats, Carpets, Chopsticks, Toothpicks, Handicrafts

7. Top: Bamboo Poles & Scaffoldings

8. Twigs: Cloths, Brooms, Chopsticks, Toothpicks

9. Leaf: Manure, fodder, Extracts, Medicine

Figure 1.1.1: Parts of a bamboo

Although each part of bamboo can be used for one purpose or the other, the major utilities may vary as per the specie of bamboo. Some of the bamboo species found in North Eastern Region (Tripura ones enlisted here) and their specific uses are enlisted below:

S.no.	Local Name	Botanical Name	Uses
1.	Konkais baansh	Bambusa affinis	Walking stick
2.	Barak baansh	Bambusa balcooa	Furniture, as pillars in construction of houses
3.	Dolu baansh	Neohuzeaua dullooa	Woven screens, room dividers
4.	Bari baansh	Bambusa polymorpha	Flower vase
5.	Paura baansh	Bambusa teres	Mats
6.	Rupai baansh	Dendrocalamus longispathus	Baskets
7.	Kali baansh	Bambusa nutans	
8.	Mritinga baansh	Bambusa tuluda	Baskets
9.	Makhal baansh	Bambusa pallida	Mats, chopsticks
10.	Bosai	baansh Bambusa spp.	Fishing rods, roof structure
11.	Pecha baansh	Dendrocalamus hamiltonii	
12.	Muli baansh	Melocanna bambusoides	House and fences, baskets, mats
13.	Bom baansh	Neohuzeaua dallooa	Baskets, mats, chopsticks
14.	Kailyai baansh	Oxytenanthere Nigrociliata	Building material, baskets

Table 1.1.2: Local and botanical name of a bamboo

1.1.4 Uses of Bamboo

"A man is born in a bamboo cradle and goes away in a bamboo coffin. Everything in between is possible with bamboo!"

Above is a saying, which describes the vastness of the utility of bamboo. No other plant material can rival the utility of bamboo. Increase in knowledge and research on the production and utilization of bamboo continue to create economic impact and the emergence of new industries and products. Other than its traditional use for handicrafts, novelty items, food etc, new engineered applications which include veneer, particle boards, plywood and other laminates, and emergent technologies of high strength bio-composites have been developed.

Some of the uses of bamboo around the globe are enlisted in the table:

Uses of Bamboo	Ref Image
Decorative and utility items	
From lanterns, show pieces to room dividing screens made of bamboo adorn many houses. Bamboo is used to make some really elegant and exotic decorations for the home. Depending on the manufacturer, bamboo decorations can be the rough finish of natural bamboo that reminds people of tropical getaways, or the sleek, lacquered finish that creates a modern elegance that many people remember. These products may be made using various techniques by hand or machines.	
Building materials	
Traditionally, bamboo has been used to make homes in many places because of its properties of strength and durability. With the advancement of technology there has been an increase in the use of bamboo for constructions purposes. Examples of modern application of bamboo for building are veneers, particle boards, roofing sheets, beams, etc are being used for building.	
Furniture	
Processed bamboo is not sturdy, resilient to moisture, heat and pests. This property is ideal of making of furniture. Design innovations in bamboo furniture has been an ongoing process since ancient times.	
Textiles	
Bamboo fiber fabric is a new development of the 20th century pioneered by the Chinese. It is made from bamboo pulp fiber and is characterized by good water absorbing properties, excellent permeability, soft feel, easy to straighten and dye and splendid colour effect of pigmentation. Meanwhile cloth made by the mixed texture of bamboo fiber and cotton or other raw materials. Bamboo fire is also being blended with cotton to create fabrics. This fabric is being used to make towels, clothing, undergarments and blankets.	
Utensils	
Bamboo is used for making utensils and tools. In fact, in most bamboo growing areas, the utensils of everyday use such as chopsticks, table mats, spoons, steamers, and flasks are made with bamboo. Industrially produced modern utensils like Bamboo cutting boards are good for not dulling blades on knives as quickly, while bamboo utensils like wooden spoons are excellent for not scratching the bottoms of expensive non-stick cookware.	

Agriculture, Food and Beverages	
Bamboo started out as a natural plant in most places, but has become a large part of agriculture. From being the main crop of a farm to be harvested for other uses, or as the channel linings for irrigation systems, bamboo fits naturally into agriculture. Of course, bamboo is also grown as a food source and as a garden plant as well. Bamboo shoots are a staple food throughout Asia and are extremely nutritious. Almost all types of bamboos can be consumed, however, some are preferred over others for their flavour and size. Bamboo is also used to make beverages such as tea and beer. Bamboo is also said to have some medicinal properties.	
Musical Instruments	
Hollow tubes make excellent instruments, whether it is a flute or a drum and therefore, bamboo is one of the best bases for instruments. The light, durable quality of the bamboo is coupled with its musical potential, and creates some of the most beautiful sounds that music has ever heard.	
Bamboo Charcoal	
Bamboo charcoal is made up of pieces of bamboo, which are taken from plants five years or older and burned inside an oven at temperatures over 800 to 1200 °C. It benefits, environmental protection by reducing pollutant residue. It is an environmentally functional material that has excellent absorption properties.	

Figure 1.1.3: Use of bamboo

1.1.4.1 Bamboo Handicrafts around the world

Most regions where Bamboo has been growing naturally have a tradition of Bamboo handicrafts. Traditionally, there are numerous techniques used in different parts of the world to produce bamboo handicrafts, which were traditionally used for personal or local consumption. But now bamboo handicrafts being produced and exported to different countries for consumption.

Some of the techniques used to produce handicrafts are as follows:

Techniques	Ref Image
Basketry	
Bamboo basketry is an art of weaving or coiling and sewing flexible bamboo slivers to form vessels or other commodities. In primitive society, people had mastered the skills of basketry using grass, bamboo, straw, etc, which is proven by unearthing relics around the globe. The bamboo basketry has been employed to make crude huts, articles of dress and adornment, granaries, traps, boats, cooking utensils, water vessels, and other utensils.	
Weaving	
Weaving is the major section of bamboo handicraft. Bamboo mat weaving is done by interlacement of cotton threads as warp and fine bamboo sticks as weft. Weaving could be done on vertical warp weighted basic looms employed for making bamboo screens and floor mats or on hand operated looms for making smaller width mats. Different patterns are produced by changing the colour of sticks and types of weaves. The woven mats are also used for making other products like boxes, trays etc.	
Straw Art (Cutting & Pasting)	
The straw art is an age old technique to articulate a pictorial view through a fine bamboo, straw on thick fabric, wood board, bamboo poles, etc. The art of cutting and pasting is used in making different accessories, wall panels, vases and table top accessories. Mostly straw art techniques are used in making wall panels.	
Carving	
Bamboo is incredibly strong, but it can splinter. To properly carve bamboo you need to be slow and use tools with a straight edge. You can trim large pieces of bamboo using a machete or an axe. Smaller pieces can be trimmed by using a straight knife held with the blade across the bamboo and then struck with a mallet. Always carve pieces of bamboo away from the body. Always start at a cut section where the pulp is located as this is the softest part of the bamboo. You will need to use slight angles to achieve your goal.	

Figure 1.1.4: Techniques of weaving

Some examples of the handicraft products from around the world are:

Figure 1.1.5: Bag from Japan

Figure 1.1.6: Basket from Angola

Figure 1.1.7: Money box from Malasia

Figure 1.1.8: Basket from Japan

Figure 1.1.9: Umbrella from Thailand

Figure 1.1.10: Lamp from China

1.1.4.2 Bamboo Handicrafts in India

The Handicrafts of Bamboo are one of the oldest crafts known to man. It is universally practiced in various regions throughout India.

Generally the products of bamboo are of two types, namely articles required for day to day use and of medium quality, that are more suited to local requirements; and another type is articles of finer quality, both decorative and functional, to meet the requirements and tastes of more sophisticated markets. Items like baskets, Chalani, Crossbows, Kula, Khorahi, Dukula or Tukuri, Dala Dukula or Tali, Doon or Kathi, Bamboo Mats etc. some of the Indian states are famous for creating beautiful bamboo items like mugs for rice beer, hukkas, musical instruments, floor mats, fishing devices and handles. In this respect, the name of Assam, Tripura and West Bengal can be mentioned. This traditional craft has received great success in making winnowing baskets, special Pitaras, oval boxes, oblong caskets, and flower baskets. Assam, a state with abundant raw materials, has a large variety of beautiful products. Some of the well known bamboo and cane crafts are Baskets, Chalani, dolls, toys etc which are made in different sizes and fine designs. One the most interesting and colourful item of bamboo is leaf-headgear for tea garden workers and farmers. Umbrella handles made of bamboo are a speciality of the North-East. A number of designs like leaves, plants and creepers are etched on them. A variety of furniture items are made to suit the modern homes. Apart from all these, bamboo mats are extensively used for construction of temporary walls and sheds, big pandals, roofing of country boats, dwelling houses etc.
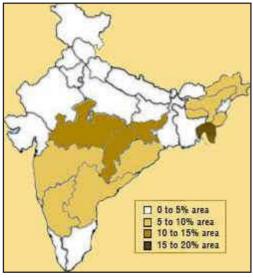
Figure 1.1.11: Bamboo Industry in India

No.	State/Region	Area %	Growing Stock %
1	North East	28.0	66
2	Madhya Pradesh	20.3	12
3	Maharashtra	8.9	5
4	Orissa	8.7	7
5	Andhra Pradesh	7.4	2
6	Karnataka	5.5	3
7	Others	20.2	5

Table 1.1.12: Bamboo Industry in India

The adjacent map shows the major bamboo growing states. These regions, therefore, are rich in bamboo handicrafts due to the easy availability of raw material and the presence of a traditional practices associated with bamboo.

The following states have a tradition of bamboo handicrafts:

- Assam
- Tripura
- Manipur
- West Bengal
- Arunachal Pradesh
- Jharkhand
- Chhattisgarh
- Orissa
- Kerala
- Karnataka
- Tamil Nadu

UNIT 1.2 Roles and Responsibilities of a Handicraft Assembler

Unit Objectives

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

1. Explain the roles and responsibilities of a bamboo utility handicraft assembler.
2. Understand the job and personal attributes of a bamboo utility handicraft assembler.

1.2.1 Job Description

Brief Job Description

A Bamboo Utility Handicraft Assembler is the one who processes different materials (including bamboo based materials), assembles and finishes them to get the desired product that may be an end product or an intermediary material for other jobs.

Personal Attributes

A Bamboo Utility Handicraft Assembler should have good eyesight, hand-eye coordination and vision (including near vision, distance vision, colour vision, peripheral vision, depth perception and ability to change focus).

1.2.2 Roles and Responsibilities of a Handicraft Assembler
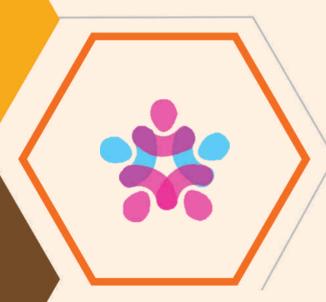
- Ensure conformation of the material to be marked to the desired quality & specification
- Carry out correct handling of the material surface to be marked
- Use of rulers & marking templates
- Analyze & position the material appropriately to minimize waste
- Carry out appropriate marking with correct positioning of markers
- Check & prepare the markers before marking
- Carry out operations at a rate which maintains workflow handle different cutting tools
- Carry out any pre-processing (like finishing the fibrous edges by gumming) required for fineness of cutting
- The corrent holding technique of the material to be cut
- Carry out cutting operation effectively based on the markings
- Carry out cutting of multiple units of material on single marking wherever possible
- Inspect & ensure that the cut pieces conform to the given quality & specification
- Carry out operations at a rate which maintains workflow
- Respond appropriately in case of any errors or faults/closing the bamboo and other operations.
- Minimise and dispose the waste materials in the approved manner

- Take safety precautions while cutting

- Leave the work area safe and secure when work is complete identify & mark the points/surface areas on the two materials pieces to be assembled.

- Clean the surfaces to be attached from any unwanted materials

- Use the correct joining technique

- Identify & use the appropriate type of glue, while assembling

- Apply adhesive on the marked area with minimum spill out

- Ensure the uniformity while applying layers of adhesive on a surface

- Make sure the surface dry optimully for better adherence correctly position the two surfaces to be joined

- Justify the order of placing one surface over another

- Use the appropriate joining bit/ nail if required

- Place & attach the parts correctly maintaining the line of the joint

- Pressing (hammering if required) evenly throughout the joined parts

- Clean out glue spill outs or any unwanted marks on the surface of the assembled piece

- Remove any unwanted fibres from the edges that may come out during the process

- Inspect & ensure that the assembled unit conforms to the given quality & specification
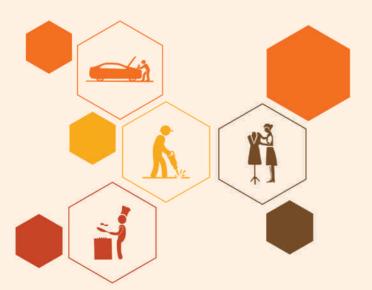
2. Cutting and Processing of Material as Per Given Size and Shape

Unit 2.1 - Tools and Equipment

Unit 2.2 - Storing Preparing and Curing the Bamboo

Unit 2.3 - Cane and Bamboo Processing

Key Learning Outcomes 💡

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

1. Identify tools and equipment used by handicraft assembler

Unit 2.1: Tools and Equipment

Unit Objectives

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

1. Identify tools and equipment used by handicraft assembler

2.1.1 Tools and Equipment

FIG.2.1.1: Adjustable Hacksaw

FIG.2.1.2: Hand saw

FIG.2.1.3: Flat Chisel

FIG.2.1.4: Half round Chisel

FIG.2.1.5: Flat File

FIG.2.1.6: Wood Planner

FIG.2.1.7: Half Round File

FIG.2.1.8: Pruning Scissor (Fine Cut)

FIG.2.1.9: Combination Stone (Sharpening Stone)

FIG.2.1.10: Hunter's saw

FIG.2.1.11: Screw driver (300 mm)

FIG.2.1.12: Claw Hammer (500 gms)

FIG.2.1.13: Soft Hammer (250gms)

FIG.2.1.14: Han Drill

FIG.2.1.15: Steel Rule

FIG.2.1.16: Folding scale

FIG.2.1.17: Blow lamp

FIG.2.1.18: Stand Drill Machine (1")

FIG.2.1.19: Carbide Drill Bit sets (Including 5 nos bits)

FIG.2.1.20: Nose plier

FIG.2.1.21: Marking Knife

FIG.2.1.22: Pencil

FIG.2.1.23: Tailor's Chalk

FIG.2.1.24: Marking Gauge

Unit 2.2 Storing, Preparing and Curing the Bamboo

Unit Objectives

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

1. Store, prepare and cure the bamboo effectively.

2.2.1 Introduction

Now that you've made your harvest it's time to store and prepare the bamboo for future use. If you have no plans of using the bamboo in the near future, it can be simply put away and left to dry out naturally. It's better to store it vertically rather than lay it horizontally. It dries out more evenly and quickly this way. The room where the bamboo is stored needs to be quite dry with plenty of air circulation. When the bamboo is first cut it contains a lot of moisture and if the storage area is damp there is a strong possibly that it will get mouldy which not only discolours the bamboo but also affects its strength. This way the bamboo will last for many years and at any time you can use the bamboo to prepare anything out of it, for example a flute. Rather than just store the bamboo in one piece as described above, one can usually cut it to approximate lengths straight after harvesting. For example, if you decide on the types of flutes you wish to make from a particular piece of bamboo, then cut it accordingly in a node or two, longer than the final flute will be. In this way the bamboo will dry out far more quickly than if it is left in one piece. The position of bamboo should remain vertically for an easy and quick dry. However, because the pieces are smaller it is easy make simple drying stands. As with storing the bamboo in one piece this way the bamboo will also last for many years.

2.2.2 Preparing the Bamboo

Preparing the bamboo for flute making is quite an involved process. There are stages describe as follows:

Cutting the bamboo to approximate lengths

Rather than just store the bamboo in whole pieces as described in the previous section, it is usually cut to some approximate lengths straight after harvesting. That way the bamboo dries out much faster and we can get a better idea of the quality since we can see the wall thickness at a few places.

Once cut like this, sort it out depending on the type of flutes you wish to make. As mentioned before you can make 2 to 3 flutes out of a single culm. When you cut the bamboo to approximate lengths, cut it a node or two longer than the finished product will be. This allows for some flexibility in the final length and key of the flute.

For example, cut a piece of bamboo and anticipate, it will make a really good flute in the key of C. Later, cut it, to length that will allow you to make a flute in lower keys of B or A. When you get around to using the piece you can then always cut it shorter if you will find the bamboo is not suitable for a lower pitched flute. Once the bamboo is cut to approximate lengths, then sort it out according the to the key and quality of flute you intend to make. A piece of bamboo varies in consistency from the bottom to the top. The root section is much denser and has a greater wall thickness than the top

2.2.2.1 Curing the bamboo

After having sorted the bamboo it then needs to be "cured". Curing the bamboo, means drying the bamboo for use, as you cannot use it while it contains moisture. We can use a slightly different process to cure the root section. Again, if you can just store the bamboo after it has been cut into sections, stand it vertically and let it dry out naturally. This works fine provided you've harvested good quality bamboo. Good quality bamboo is taken to mean as being very dense with thick walls. The running species of bamboo I've described is usually of very high quality depending on how it is grown and the climatic conditions. If left to dry naturally there will be minimal shrinkage. You should note that if the bamboo is left to dry out like this it will take around at least 6 months or so before it is usable. And even after this time it will need to be followed up with some sort of final heat treatment because it will still contain a considerable amount of moisture. There is another way of curing the bamboo however. This is known as the "burn cure method". With this method you can use the bamboo within a few of days of harvesting. Also, after burn curing the bamboo is much stronger than the natural drying method. Burn curing makes the bamboo virtually indestructible by actually changing its molecular structure as well as giving it an incredibly durable and fantastic looking finish. For Example, a flute made from a burn cured piece of bamboo will last forever in any climate if looked after. You will notice that even after exposing it to climates varying from extreme tropical to snow and ice, it intact showing absolutely no signs of cracking and will appear to be as new as the day they were made. This method of curing is highly recommend.

2.2.2.2 The burn cure method

This consists of heating the green bamboo to the right amount with a gas blowtorch. These are available in any hardware store. All you require is a gas bottle and blowtorch. The blowtorches usually come with different nozzles vary from course to fine.

I'll describe the burn cure method here but be aware that it might take you a little time to get confident with this technique so I advise starting off with pieces of scrap bamboo till you get the feel.

The best way to burn cure the bamboo is to take a piece which you've cut to approximate length, hold it on one end as shown in the diagram and start to burn from the other. If you've recently cut the bamboo it will be quite green to look at. Light the torch and start to burn the piece at one end moving the flame around and back and forth so as not to over burn the piece. It is best to start with a fairly gentle flame until you get the hang of it. When you're proficient with the method you can increase the intensity of the flame. When you start to burn you'll notice that the bamboo will lose its green colour and turn orange brown in colour. The surface will also start to bubble. This bubbling is the resin inside the bamboo coming to the surface. If you touch this resin it is very sticky, almost like a heavy duty varnish. In fact, it is like a varnish and when dry almost totally waterproof. During this burning process always keep moving the flame and rotate the bamboo so as to burn it all around the outside. Burn only a couple of sections at a time. That does burn the whole piece in one go. Only burn a couple of sections between nodes at a time. This is because the resin that extrudes from the bamboo dries fairly quickly. What you have to do is burn a fewer sections than with a clean cloth wipe the burnt sections. This has the effect of spreading the resin evenly over the surface. After you spread the resin over the bamboo it will then dry to a high gloss like finish and the bamboo will be yellow like colour. So burn a few sections, spread the resin, then burn a few more and again spread the resin over those sections and so on until the whole piece has been treated this way. If you burn the whole piece in one go and then try to spread the resin with the cloth, you'll find the resin has already started to cool and dry and be very difficult to spread. So you need to spread it while it's very hot. This way it's very liquid and easy to spread.

You'll also notice that during the burning process a vast amount of moisture is released from the ends of the bamboo. It's literally pours out the ends. Be very careful while you're burning not to touch the ends as it will be extremely hot and you might get injured. With a little bit of practice, you'll get confident with the burning

technique. It should only take you an about 5 or so minutes to burn one piece. Subsequently, after you master the basic technique you can then start to experiment with being creative in the burning process. You'll find that beautiful pattern of all sorts can be burnt in the bamboo if you slightly over burn some sections. Burning the bamboo then in this way actually serves a few purposes. These are:

- Expels about 90 percent of the moisture from the bamboo. To reach this state of dryness naturally could possibly take a year or so.

- Brings out the resin inside the bamboo onto the surface. This resin when it dries after being spread evenly over the surface forms a super hard, gloss water resistant surface similar to a varnish that you use to seal the wood.

- Actually, changes the molecular structure of the bamboo and changes it so that the bamboo will virtually last forever

After the piece has been burnt like this put it aside to cool down. Position it vertically so as not to damage the beautifully finished surface. After about 15 minutes or so the piece will be cool enough to handle. The resin on the surface will have also dried. At this stage of the process, you can pierce the inner nodal membranes inside the bore with a sharp rod. You can use almost anything for this. The idea here is not to completely remove the entire membrane from the inside of the node. Just put a hole through big enough so that air can freely circulate throughout the inside of the whole piece. Leave it like this for a couple of days to a week in a warm dry place and presto. The bamboo is ready for flute making.

As with all art forms there are an endless number of ways to do things. The best is to find what suits you. I have found that when preparing and curing the bamboo, it's more efficient to work in a batch type process. That is, to do many of the same operations at the same time rather than complete each piece individually. For example, you have 20 pieces of bamboo that you've just harvested. The preparing and curing process would be as follows.

> » Cut up all 20 pieces into their required lengths.

> » Put the root section away for later use.

> » From the remainder of the pieces, you should have about forty or so pieces.

> » Burn all 40 pieces in one sitting.

> » Knock out small holes through the nodes of the entire lengths of all the pieces.

> » Put them all away for final drying on a rack.

So from the time of harvest to when the bamboo is ready for flute making can be as short as 3 or 4 days. Certainly quicker than waiting a year or so for it to dry naturally. Even if you left it to dry naturally you would find the end product would not be as strong as if it is burned. After the bamboo has been left to dry naturally it can still be burned. However, most of the resin dissipates while drying. So if you want to burn the bamboo after it has been dried naturally for a while, you have to be much gentler with the burning process otherwise you can easily char the surface.

Unit 2.3 Cane and Bamboo Processing

Unit Objectives 🎯

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

1. Process the bamboo and cane
2. Familiarise with bamboo processing

2.3.1 Cane and Bamboo

Cane and bamboo act as an alternative to wood which takes more time to grow and is costlier. Cane and bamboo are renewable resources that are abundantly available, especially in the North Eastern Region of the country. Cane is largely used for furniture making, whereas bamboo is used for making jewelry and decorative utility items like lamp-stand, umbrella handles, partition, screen, flower pots, baskets, walking sticks, tool handles, fishing rods, tent poles, ladders, toys, fans, cups, mugs, mats etc. In recent years, uses of cane furniture have considerably increased in different classes of the population.

Main clusters: Assam (Lakhimpur, Bongaigaon, Guwahati, etc.) and Tripura (Agartala, Nelaghar, etc.) are recognized as prominent places for cane and bamboo products both nationally as well as internationally. Assam is home to about 50 species67 of bamboo. Other major cane and bamboo handicraft centers are Manipur, Arunachal Pradesh in North Eastern region, West Bengal, Kerala, and Orissa.

Artisans involved: In Manipur cluster, around 1.5 lakh artisans are involved in the production of cane and bamboo handicrafts.

Raw material used: Major materials used are different Species of canes [Jati (Calamus tenuis), Tita (Calamus leptesadix), Lejai (Calamus floribundus), Sundi (Calamus garuba) and Raidang (Calamus flagellum)], bamboo[Muli (Malocanna Bambusoides), Hill Jati (Oxytenanthera Parvifola), Kako (Dendrocalamus Hamiltoni), Dalu (Teinostachyum Dalloa)], nails, glass, varnish, plywood, kerosene oil, turpentine oil, adhesive, plastic traps, and gums. Materials used for colour and varnish of the products are bhatar phen" (boiled rice juice), amrapata, tamarind leaves, mezenta (a kind of chemical dye stuff), kalabati chach (lac) resin, methylated spirit, rabi mustafi, etc.

2.3.2 Processes of Bamboo

Harvesting
May involve cutting/ splitting, de-starching, bleaching, etc depending on the product

Cross cutting
Cutting culms transversally to required lengths using machines, or daos/handsaws/ hacksaws for transportation and further processing steps

Knot removing
Removing bulging/protruding portions on the surface using machines or a dao

Preservation treatment processes
Physical processes: Necessary to improve the durability of the product
Processes include: Scorching/Baking (Burning by blow lamp) drying, etc
Chemical processes: Using ammonia, boric acid and the likes

Cleaning
The optional process involves removing outer burnt skin in case of scorching

Polishing
Smoothening of surface using sandpaper (coarse, medium, fine)

Radial Splitting
Split in two to convert the bamboo stalks into more manageable split chunks depending on the product to be manufactured.
Can be done using machines or a dao/simple knife.

Sliver making
Splitting/slicing so the bamboo becomes easier to weave.
The slivers are then also dyed and dried.

Production fabrication (weaving, tying)
Mats produced are either woven using different techniques or coiled

Varnishing
Varnish is composed of drying oil, resin and thinner/solvent. The process Is done to give a glossy/semi glossy finish to the product.

Drying
Drying involves evaporation of the solvent in varnish and is done in the open before the product can be packaged and transported to the market

*FIG.*2.3.2.25*:* Processes of Bamboo

2.3.2.1 Harvesting

Bamboos are typically fast-growing perennials, with some species growing as much as 30 cm (1 foot) per day. The woody ringed stems, known as culms, are typically hollow between the rings (nodes) and grow in branching clusters from a thick rhizome (underground stem).

FIG 2.3.2.1.25 Harvesting

2.3.2.2 Cross Cutting

The first operation is cross-cutting the bamboo culms. This involves cutting the bamboo culm into short, standard length sections to facilitate later processing. The maximum length they can be cut into is usually about 2.4m but this depends on the specifications of the machine used. Culms can be cut into shorter pieces but maximum processing efficiency is achieved when the sections are as long as possible.

FIG 2.3.2.2 Cross Cutting

2.3.2.3 Cross Cutting

Knot removing and slab making (Knot removing and slab making machine). The splits are then passed through the knot removing and slab-making machine to produce sections of bamboo of uniform thickness throughout their length. In this machine, the thickness of the split is reduced to 2. or multiples of 0.8 mm which is equivalent to the thickness of sliver. At this point the slab will cease to be instantly recognizable as having originated from a bamboo culm. There is another machine available; the knot removing, width sizing and planning machine that dresses the split to a perfect rectangular shape. However, this machine can be bypassed as it is expensive, non-essential and reduces the raw material recovery rate.

2.3.2.4 Traditional (Non-Chemical) Methods of Preservation Controlling starch content in felled bamboo

In bamboos, soluble sugars are the principal nutrients for parasites. Thus, bamboos with depleted carbohydrates become reasonably resistant to the attack of borers and staining fungi. Methods adopted for lowering the sugar content in bamboos are:

- **Felling of bamboo during low-sugar content season:** Sugar content in almost all plants varies with seasons. In India, for example, it is higher in spring than in winter. Therefore, it is advisable to harvest bamboos between August and December.

- **Felling of bamboo at maturity when sugar content is low:** Sugar content in bamboos varies with age. It is lowest during the first year but felling of one-year-old bamboo is not desirable because of very low strength and yield. Normally, bamboo matures at 3-4 years.

- **Post-harvesting transpiration of bamboo culm:** Sugar content in bamboos can also be reduced by keeping, culms upright or leaning them against trees for a few days. Parenchyma cells in plants continue to live for some time, even after felling. During this period, the stored food materials are utilized and, thus, the sugar/starch content in bamboos is lowered.

- **Water soaking of bamboo:** In Indonesia, Vietnam and Africa, an easy and widely followed practice for increasing the durability of bamboo is soaking bamboo in water. During soaking in water, most of the sap present in bamboo is leached out. Some workers have suggested that a soaking period of 4 to 12 weeks is sufficient.

- **Baking over open fire:** Baking over fire after applying oil on the surface is another traditional method for preservation of green round bamboos. This causes rapid drying of the outer shell and induces partial charring and decomposition of starch and other sugars. Moist heating is reported to cause irreversible swelling in bamboo, which probably balances the shrinkage due to moisture loss, thus stabilising bamboo. Baking is recommended over a gentle fire, taking care that the surfaces are rotated constantly. Excessive heating/drying can cause severe collapse. This method is very useful for simultaneous straightening of bamboos in round form.

- **Lime washing and other coatings:** A variety of coatings, such as tar, lime wash, tar and lime wash and tar sprinkled with sand, are used by house builders in Indonesia. These coatings are successful only when continuously applied at cut surfaces, exposed internodes, abrasions and splits.

2.3.2.5 Chemical Preservative Treatment Methods

Chemical protection ensures a longer life for bamboos. Treatments can be given using a variety of chemicals (Appendix 2), depending upon the culm condition (green or dry) and ultimate use to which the material is to be put. Both non-pressure and pressure treatment processes can be used effectively, the key being thorough penetration and distribution with recommended doses of preservatives. A guide to the various treatments is given in Appendices 3 and 4. Penetration of such chemicals can be checked by simple spot tests (Appendix 5). Assay of preservative can be done by following usual laboratory analysis techniques recommended for different wood preservatives.

Treatability of Bamboo

The tissue of bamboos is built upto parenchyma to our cells and vascular bundles (vessels and thick-walled fibres). The vascular bundles are not uniformly distributed inside the culm (Fig. 4) Numerous smaller ones are present towards the outer portion, while larger but fewer bundles are found towards the central part of the culm. Bamboo has no radial cell elements like the rays in wood. The outer wall is covered by a thin and hard layer and is less permeable than the inner layer. Nutrients are stored in the ground tissue of parenchyma cells, which constitute up to 50%j of the tissue. Bamboos behave entirely differently from wood during treatment with preservative. The vascular bundles play an important role in preservative treatment. The axial flow is quite rapid in green bamboos, because of the end-to-end alignment of vessels. The degree of penetration decreases as the distance from the conducting vessel increases. The larger vessels tend to get a larger amount of preservative than the smaller vessels. (Both larger and smaller vessels belong to metaxylem whereas the protoxylem consists of tracheid-like elements.) Since vessels occupy a mere 10% of the culm volume, the penetration of preservatives to other tissues surrounding the vessels assumes more importance because untreated pockets, especially in parenchyma tissues, can lead to early destruction by fungi.

FIG 2.3.2.5(a) Chemical Preservative Treatment Methods
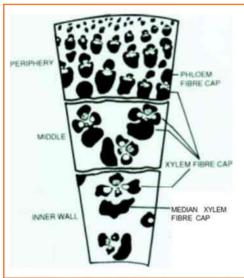
FIG 2.3.2.5 (b) Chemical Preservative Treatment Methods

Moisture has a great influence on treatability of bamboo, especially in the green condition, where the movement of the preservative occurs via diffusion. For a Boucheric treatment, a high moisture content is conditional. Treatability is thus regulated by age (6-Y years old bamboos contain less moisture than young bamboos of 3-4 years), season of telling (maximum moisture is present during the rainy season, Fig. 5, and position (the upper portion of the culm has always a lower moisture content than the bottom). Such differences are of great consequence in uniform and adequate treatment of bamboos by non-pressure methods (Liese, 1959).

During drying, a number of anatomical changes occur, which reduces the treatability of bamboo. In contrast to wood, bamboo starts shrinking from the moment it starts losing water. Sap in the vessels is precipitated, clogging the openings to the adjacent tissues. The pit canals in the parenchyma cells become covered with protoplasmatic substances, rendering them somewhat less permeable to fluids. The entrapped air in various tissues increases the interfacial tension between the penetrating fluids, restricting the flow. The epidermal layers containing waxy and siliceous material repel incoming preservative solutions.

Although the anatomical structure of some bamboos has been well studied, there are not many studies on the flow channels and distribution of the preservative chemicals in different structural parts in dry bamboo. However, it appears that diffusion across the wall decreases with increasing wall thickness. Diffusion rates are highest in the longitudinal and lowest in the radial direction.

Recently, a study conducted on Dendrocalamus strictus using organic and inorganic chemicals to determine the flow paths showed that creosote was better distributed than water soluble inorganic chemicals. Similar studies on some other species indicated that parenchyma cells are not easily penetrated in bamboos, owing to deposits of protoplasmatic substances, as mentioned above. Studies have indicated that there is variation in treatability of bamboo along the wall thickness as well as height (Table 6).

Treatment of Fresh Bamboo

Traditional methods increase the resistance of bamboos to borer attack but are ineffective against termites and fungi. Moreover, such methods are best suited to a small-scale user, who is as well a producer. Since bamboos have a large variety of uses and are required throughout the year, traditional methods are of limited value. Alternatives to these methods are treatments with chemical preservatives.

Table 6. Preservative (CCA) loading variation along wall thickness and height in D. strictus.

Bamboo internode	Location along wall thickness	Specific gravity	Split Absorption kg/m³	Solid Absorption kg/m³
Base	Outer	0.674	9.8	
	Middle	0.567	9.0	8.6
	Inner	0.542	11.4	
	Average	0.594	10.1	
Middle	Outer	0.716	13.2	
	Middle	0.519	15.3	12.8
	Inner	0.522	15.4	
	Average	0.586	14.6	
Top	Outer	0.704	13.7	
	Middle	0.482	15.7	
	Inner	0.450	15.3	
	Average	0.545	14.9	

Variation along wall thickness
Outer = 12.2 kg/m³
Middle = 13.3 kg/m³
Inner = 14.0 kg/m³

FIG 2.3.2.5(c) Chemical Preservative Treatment Methods

- **Steeping:** Freshly cut culms arc immediately placed upright in containers of concentrated solutions of water-borne preservatives(5-10%). The butt end, up to 25 cm, is kept immersed in the preservative solution.

Generally, drops of preservative solutions are observed at the nodes. The treatment takes between 7 and 14 days, depending on the length of the culm. Losses in preservative solution in the container are made up to maintain the initial level of solution. Ramboos can be satisfactorily treated by this method without any equipment and technical skill (Singh and Tewari, 1980).

- **Sap displacement**: Round, half, quarter and l/8 split fresh bamboos are immersed vertically up to 25 cm, in 10% aqueous solutions of water-borne wood preservatives, i.e. boric acid- borax, acid-copper-chrome, copper-chrome-arsenic, etc., in suitable containers. The preservative solution rises by wick action as the sap is sucked up. Solution level is maintained by adding fresh quantity at intervals. Adequate loading exceeding 10 kg/m" are obtainable in two-metre-long bamboos in just six days. Longer pieces can be treated over a slightly longer period.In many cases, such treatments are not favoured because of environmental pollution.

- **Diffusion process:** In the diffusion process, freshly felled culms or bamboos with high moisture content (above 50%) are kept submerged in solution of water-borne preservatives for a period sufficient to attain the required preservative loading. A diffusion period of 10 to 20 days is satisfactory. The absorption and penetration of the chemicals are more in a split than in round bamboo. The outer layer of bamboo is more or less impervious and the inner cuticle is permeable to diffusing ions. Therefore, boring holes near the nodes or increasing the diffusion time results in better penetration and higher loading. Preservatives that fix slowly, or have high diffusion coefficients like boron-based preservatives, penetrate better. Dip diffusion, steaming-quenching followed by diffusion, and double diffusion are all variations of the diffusion process.

Experiments have shown the effects of dip diffusion. For instance, diffusion with copper sulphate solution (20%) for 96 hours, followed by dipping in sodium dichromate solution (20%) for 96 hours, and then storing the bamboos under non- drying conditions for one month, result in over 40% penetration with loading around 13 kg/m3 in Dendrocalamus strictus. Steaming and quenching, followed by diffusion under - drying conditions, is another variation of the diffusion process but this is still only experimental and not yet applied widely. Steaming bamboos at about 100°C for 2.5 hours and quenching in 20% solution of water-borne wood preservatives (CCA), and subsequent storage for about one month, lead to almost complete penetration with very high loading of the preservative. The loading obtained in half split bamboos is 60 percent higher than in round bamboos. It is, therefore, recommended that in round bamboos, if this method is to be applied, that either the septa should be punctured, or small notches should be made near the nodes, to allow free access of the solution to the inner epidermis layer of the bamboo, enabling subsequent drainage of the preservative solu tion from the culm. Treatment with 8-10% solution of CCA, ACC or CCB following the above schedule would give a retention of about l0-12 kg/m3 in most bamboo species. Diffusion rates almost double with every 10-20°C rise in temperature. However, CCA, ACC, or CCB solutions start precipitating on heating. Diffusion rates also depend on the nature of the diffusing ion and its interaction with the diffusion media. Preservatives based on ammoniacal solutions not only diffuse faster, but can also be heated to get better penetration and loading in shorter periods (Dev et al, 1991). Ammoniacal-copper-arsenite can be used for treating green bamboos by diffusion, taking advantage of better penetration of the ammonium ions.

Results of investigations, summarised in Table 7, have demonstrated that diffusion processes are perhaps the best and simplest for treatment of green, split and round bamboos. In fact, these could be universally specified as preservative treatments of bamboos for all purposes.

- **Boucherie process:** This is a widely recognised process which does not require detailed description here. It is suitable for freshly felled green bamboos with branches and leaves intact. Even one-day-old bamboos can be treated by just chopping off about 15 cm from the butt end. In the process, the preservative is pushed through the bamboo by gravity from a container placed at a height. This method has been modified to use a simple hand pump by means of which air pressures of 1 .0 to 1.4 kg/cm' could be applied to the preservative in a suitable container kept at the ground level. This reduces the period of treatment significantly.

Table 7. Treatment of green Dendrocalamus strictus by different non-pressure methods (Singh and Tewari, 1979; 1981).				
Specimen type	Method	Preservative	Duration	Absorption kg/m³*
Round	Diffusion	ACC 6%	10 Days	7.76
Half-split	"	"		11.16
Round	"	"	"	10.65
Half-split	"	"		15.53
Round	"	"	30 Days	15.65
Half-split	"	"	"	19.77
Round	"	Boric acid Borax 6%	10 Days	7.73
Half-split	"	"	"	11.32
Round	"	"	20 Days	10.86
Half-split	"	"		20.16
Round	Osmo-paste diffusion	CCA paste	30 Days	10.74
Half-split	"	"		14.66
Round	"	"	60 Days	20.38
Half-split	"	"		31.76
Round	"	ACC paste	30 Days	12.04
Half-split	"	"		18.51
Round	"	"	60 Days	26.25
Half-split	"	"	"	31.56
Round	Steam quenching	CCA 20%	4h/0.5 h	5.26
Half-split	"	"	"	5.84
Round	"	"	4h/48 h	18.34
Half-split	"	"	"	30.46
* ascertained by chemical analysis				

FIG 2.3.2.5(d) Chemical Preservative Treatment Methods

The penetration and absorption of the preservative depend upon several factors like concentration of solution, treatment time, nature of chemicals used, dimensions of bamboo, its age and moisture content. It usually takes 30-60 min to treat short bamboo lengths using pressures up to 2 kg/cm2 The equipment at the Forest Research Institute, Dehra Dun, and used for the past 35 years, is shown in Fig. A schematic diagram, in Fig., shows the potential to increase the pressure during the process. Earlier studies on a number of bamboo species indicated that treatability of green bamboos with non-pressure methods was highly variable. The modified Boucherie process is a process which can be used with confidence. In order to get a more uniform distribution of preservative from bottom to top, it is possible to use initially a concentrated solution (- 6%) until the solution appears at the dripping end. This should be followed by pumping in a solution of a lower concentration (- 2%) for the same period.
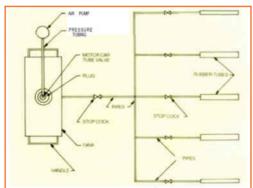
FIG 2.3.2.5(e) Chemical Preservative Treatment Methods

2.3.2.6 Treatment of Dry Bamboo

- **Soaking:** Air-dried bamboos have only to be submerged in the preservative solution (oil or solvent type) for a period, depending upon the species, age, thickness and absorption required. Such treatments are used in India, but not elsewhere. The penetration is predominantly by capillarity.

Table 8. *Absorption of preservative in air-dried specimens of* Dendrocalamus strictus *and* Bambusa polymorpha *treated by steeping in 5% CCA composition.*

Species	Type of sample	Dry salt absorbed (kg/m' after different immersion period (days)	
		6	12
Dendrocalamus strictus	Round	9.75	13.15
	Half-split	9.71	14.43
Bambusa polymorpha	Round	6.93	10.01
	Half-split	13.44	17.92

FIG 2.3.2.5(f) Chemical Preservative Treatment Methods

The soaking method requires little equipment and technical knowledge, provided the schedule of treatment, such as type of preservative, its concentration and the period of dipping, is worked out. Nonetheless, there are dangers of pollution due to spillage. If water-borne preservatives are used, the process is called "Steeping". Results of investigations using specimens of D. strictus and B. polymorpha soaked in water-soluble preservatives (5% CCA composition) indicated that the penetration of the solution was fast in the initial stages and gradually slowed with time. Adequate amounts of preservative, however, were absorbed in all the specimens in about two weeks. The absorption of preservative was more in half-round specimens in comparison to round ones.

- **Hot-cold process:** At FRl, Dehra Dun, a hot-cold tank process has been developed. However, it is not widely in use elsewhere due to the economic aspects. Air dried material is loaded into the tank fitted with steam coils or some other heating arrangement. The tank is then filled with a hot creosote: fuel oil mixture and heating, are continuing to raise the temperature to about 90°C, which is maintained for a period of about 3-6 hours.

Table 9. *Hot-cold tank treatment of bamboos (without holes) with creosote : fuel oil (1:1) (Singh and Tewari, 1979).*

Species	Heating time (h)	Absorption (kg/m)	
		Round	Half-split
Dendrocalamus strictus	3	54	57
	4	69	72
	6	72	74
Bambusa polymorpha	3	42	45
	4	49	57
	6	67	72

FIG 2.3.2.5(f) Chemical Preservative Treatment Methods

The preservative is then allowed to cool, after which oil is drained out. The round bamboos with holes are then kept inverted in the tank, to allow the preservative to flow out from the hollow portions of the bamboo. Split bamboos do not require such a practice.

- **Pressure treatment:** It is theoretically possible to use pressure treatments, but the general applicability in a number of countries has not yet been developed. Species of bamboos having thin walls are susceptible to cracking, even when treated under low pressure (5-7 kg/cm2). Round and half split bamboos of thickly walled species like Dendrocalamus strictus can be treated with creosote: fuel oil (1:1) under hydraulic pressures of 14 kg/cm2. Retentions ranging between 88 and 92 kg/m3 are obtainable in round or half split bamboos.

3. Assembling Different Materials

Unit 3.1 - Assembling Different Materials

Key Learning Outcomes

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

1. Assemble the different material used in bamboo handicraft

UNIT 3.1: Assembling Different Materials

Unit Objectives

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

1. Assemble the different material used in bamboo handicraft

3.1.1 Materials used

The main tools used in plain bamboo weaving are: big knife, scraping knife, blade, saw, pressing rod, and workbench and chair. These tools are displayed in Figure 1 and Figure 2 below.

- **Saws** are needed for cutting culms into sections. A hacksaw or handsaw may be used. A handsaw can be self-assembled using a saw blade and wooden handle.

- A scraping knife is used for removing the green coat of bamboo culms and to split bamboo sections into slivers. The scraping knife has to be very sharp and durable so that the bamboo culms can be smooth and uniform after scraping. A blade may be used as a substitute of the scraping knife.

- A big knife is needed to divide the bamboo culm sections into slivers. The knife needs to be of a good quali-ty, i.e., made of strong, high grade steel.

- A sharp stripping knife is needed to divide the slivers into fine strips.

- A good pair of scissors is needed to perform the finishing touches of the plain woven design and to cut off protruding strips and threads.

- A pressing rod is a long strip of thin metal. It is mainly used to hold the bamboo woven from moving during the weaving. Normally the size of pressing rod is 5 cm wide, 1-2 cm thick and 20-80 cm long. The pressing rod has to be absolutely straight and flat.

- The workbench and chair should be designed to prevent fatigue for bamboo weavers who need to sit and perform intricate work for many hours. Generally, the work bench is 150 cm long, 20 cm wide, 4-5 cm thick and 70 cm high. The height of the chair should be 35-40 cm. The height of workbench and chair should be adjusted according to the height of the worker so that he/she can work in a comfortable position.

Cut the bamboo in the required dimensions. Burn the sticks in your desired tone of brown to create an interesting effect.
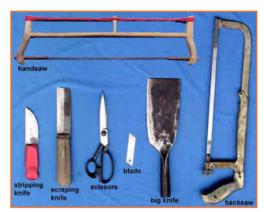
Fig.3.1.1: Materials used

3.1.2 Some Common Products Made-up of Bamboo

Considering the present market demand and export potentiality, entrepreneurs are either proposing of starting manufacture of following bamboo and wood products:

FIG 3.1.2.1 Weaved bamboo blind and screen

FIG 3.1.2.3 Skewers

FIG 3.1.2.2 Fruit forks

FIG 3.1.2.4 Party picks

FIG 3.1.2.5 Back scratchers and ear scrappers

FIG 3.1.2.7 Tooth picks

FIG 3.1.2.6 Rice spoon

FIG 3.1.2.6 Plant support sticks

FIG 3.1.2.8 Seat cushions

FIG 3.1.2.9 Ice-cream spoons

FIG 3.1.2.10 Bamboo brooms

FIG 3.1.2.12 Wooden tray

FIG 3.1.2.11 Bamboo curtains

FIG 3.1.2.13 Knife handle

FIG 3.1.2.15 Flower vases and ash trays

FIG 3.1.2.16 Folding fans

FIG 3.1.2.17 Walking Sticks

FIG 3.1.2.14 Wall hanging

Plaited or woven basket: Plaited basketry consists essentially of two sets of elements (warp and weft) crossing each other. The plaited baskets are prepared in different designs such as check, twilled, twined, wrapped and hexagonal. Baskets used for keeping clothes and ornaments, wood suitcases, etc. are generally prepared in this method.

Wicker work: - In wicker work, the warp is not pliable, but the weft is pliable and passed alternately over and under the warp. In this method, the warp is kept in a lesser rigid. Plucking baskets are prepared in this method..

Coiled Basketry: - The warp is arranged by wood of sufficient length. Before arrangement, such wood is soaked in water for

FIG 3.1.2.18 Plaited or woven basket

some time to give it a flexible character. Simply binding coiled wood while the process of weaving is in operation preserves the shape of the basket. Finally, the edge of the basket is stitched with a thin and flexible wood slip. Plucking baskets, ration baskets, baskets used for carrying earth, stone-chips, coal etc. are manufactured in this method, technically known as 'bee-skip' design

3.1.3 Making Flutes

At first impression flute making may seem to be nothing much. Get some bamboo. Cut it to length, strike a few holes in it, henceforth your flute is ready. To produce a quality flute, tuned to pitch (any pitch you want for that matter) that will last a lifetime is a science and an art for sure. There are many critical steps along the way which take a long time to attain proficiency. But there are some basic steps that apply to all flute making. Let us understand these steps first. Continuing on from the previous section, we're at the stage where we have in our hands a burned and cured piece of bamboo cut to approximate length, which has the internal nodal membranes pierced. Basically flute making can be divided into these sections.

Removal Procedure of the internal node

This step consists in cleaning out the bore of the bamboo. From here on we'll take the word bore to simply mean the inside of the bamboo. The whole idea of piercing the membranes while preparing the bamboo was to allow air flow for quick drying. Obviously now we need to fully clean these out from the bore to make it as smooth and unobstructed as possible. It was also important not to fully remove the membranes in the preparation process to ensure that the bamboo did not shrink too much. If the membranes are removed completely straight after burning, then there is a chance the bamboo will shrink and/or crack. Leaving them in until stage ensures that the bamboo is now quite dry so that removal of the nodes will have negligible effect on the strength. Now, we are ready to clean out the nodes as much as possible. We won't worry too much about making the bore glass smooth at this stage. This is left till after all the sound holes are drilled and the bamboo is bone dry. At this stage it is fairly dry, but still contains some moisture. There are many ways you can knock out the nodes. A bit of heavy steel rod slightly smaller than the bore diameter will do fairly well. What we can use, is a series of long Auger boring drill bits welded on to some heavy 10 mm steel rod in a variable speed drill.

FIG 3.1.2.(a) Making Flutes

Then put the bamboo in the jaws of a wood vice

FIG 3.1.2.(b) Making Flutes

With the bamboo firmly clamped in the jaws of the vice we drill out the nodes with a variable speed electric drill. We move the bit through the length of the bamboo. If the bamboo is very long, then sometimes it is needed to drill the piece from both ends. You soon get the feel for this and it only takes a couple of seconds to clean out the nodes enough to go on to the next step.

Put in the mouthpiece

All flutes need to have a mouthpiece. As each type of flute, has a different mouthpiece, we will not go into the exact details of doing this here. In depth details of the different types will follow.

Play the flute to see what it sounds like

After the mouthpiece has been put in the next step is to play the flute to see what it sounds like. At this stage all we're interested in finding out is the key that the flute produces with only the mouthpiece and no holes yet. Remember that in the section on preparing the bamboo we cut the pieces a node or two longer than the anticipated final length. Now, after playing the flute we find out what note it produces. For this we can use an electronic tuner to get the notes exact.

FIG 3.1.2.(c) Making Flutes

Cut the bamboo to just over the exact length

After the mouthpiece of the flute has been made the next step is cut the bamboo to the exact length for the particular key that we wish the flute to be in. For example, say in the previous step we played the flute and found out that the note it produces was a little higher than Bb. At this stage we need to decide what key the final flute will be in. By the way the key of the flute is the note produced when all the sound holes are closed. And this is just equivalent to the note produced when no holes have been drilled yet. Now, because the note the flute produces is in exact proportion to the length of the bamboo we can now trim sections off the end till we arrive at the key we wish to flute to be in.

FIG 3.1.2.(d) Making Flutes

Depending on the quality of flute we are making this step may be a bit more involved than what we have described here but for a basic sort of flute this procedure is reasonable. The fine points of cutting the bamboo to exact length will be dealt with in detail in a later section.

Drill the sound holes

Once we have cut the bamboo to the required length the next step is to drill the sound holes. There are many ways to drill the sound holes. Some people like to burn them with a hot poker. Generally, it is recommended to use a razor sharp dwelling type of drill bit set in a drill press. With this method there is no risk of splitting the bamboo and it is very quick.

FIG 3.1.2.(e) Making Flutes

Before we drill the sound holes we need to know where to drill the holes. So we mark out the centres of the holes along the bamboo at the places where we will drill. We can use an impermanent felt pen so if we slip with the marking it is easy to wash off. Now the exact positions of the holes will depend on a number of factors, the main one being the scale of the flute. There are many different musical scales e.g. major, minor, pentatonic etc. The positions of the holes will vary according the scale of the flute we wish to make. Again, this will be dealt with in detail later on. With a bit of experience, it's possible to drill all the holes in one go. However, because of its nature, each piece of bamboo is different. Occasionally you come across a bit of bamboo that is difficult to tame or handle. In this case it is better to drill the holes one at a time. First of all, you mark the positions of the holes according to the scale of flute you wish to make. Then you drill the bottom hole closest to the end of the flute. At

this point you play the flute and see how far the pitch differs from the "theoretical" note you expect it to produce. If the note is what you expect, then you drill the next hole. You play the flute again and hear the note. If you find that the pitch is a little lower or higher than expected, then you must make adjustments to the position and size of the of the next hole to compensate for this discrepancy and so on. The process of making these adjustments to the size and position of the holes is called "Tuning" and is a fairly advanced technique which will be covered in depth later also. You continue this process of playing drilling and tuning until all the holes have been drilled and you have a flute that is in the pitch and scale that you.

Leave the flute to dry out more

After the holes have been drilled, it is best to put the flute away now for a few more days in a warm dry environment to dry out finally. This won't take long now that the holes have been drilled and there is plenty of air flow.

Polish the Bore

When you are satisfied that the flute is completely dry you can now polish up the bore to take out any remaining leftovers of the nodes. The degree to which you do this depends on the quality of flute you're making. If it is a cheap flute, then you can just tape a bit of heavy steel wool onto the end of a rigid rod and remove by hand most of the excess node from the inside. However, if it is a high quality flute you're making then the process of cleaning out and polishing the bore is more involved. For this we can use a couple of tools. To grind off the remains of the nodes and to shape the bore if necessary, use a rasp bit on a steel rod.

Seal or Oil the Bore

Once the flute is completed the bore needs to be treated somehow to preserve the bamboo. Remember, bamboo is a woody type of material that has a grain. If not treated the inside will deteriorate over time especially since a flute is a wind instrument and is exposed to a lot of moisture through playing. For a cheap flute it is reasonable to just oil the bore. You can use almost any oil as long as it will not go rancid over time. We can get good results with boiled linseed oil. You can buy it at any hardware store. A good way is to tape up all the holes, leaving just the bottom of the flute open. Place your hand over the bottom opening and pour the oil in the other end of the flute. Invert the flute a few times and swirl the oil around so that the entire bore is thoroughly coated with the oil. Then let the oil drain out onto a container. You can reuse the oil again and again. This will make the bore very water resistant. It's a good idea to repeat the process every now and then though. For more expensive flutes the bore needs to be completely sealed so that it is totally waterproof. The method we use is similar to oiling the bore except that we use a high quality exterior type of polyurethane varnish. You have to be a lot more careful with this than with oil. It is extremely messy if spilled and hard to clean off the excess. With oil if you spill it you can just wipe it off easily with a rag. To achieve a mirror like waterproof hard gloss finish in the bore you need to apply a few coats of varnish letting it dry after each coat and giving it a fine sand each time.

3.1.4 Candle Holder

STEP 1: Cut the bamboo in the required dimensions. Burn the sticks in your desired tone of brown to create an interesting effect.

STEP 2: Cross two sticks of bamboo, leaving 10 cm from each end. Make a hole where both sticks overlap. Make another hole - 5 cm from the first. Then use cutting pliers to cut pieces of 3 cm in the form of bolts.

FIG 3.1.3 (b) Candle Holder

FIG 3.1.3 (c) Candle Holder

STEP 3: Put glue into the holes and insert the bolts to hold the sticks together.

STEP 4: Use rubber bands to tie the rods as shown.

FIG 3.1.3 (d) Candle Holder

STEP 5: Mix coconut fibers and natural glue. Before you start, put the rubber gloves to protectyour hands. Leave the fibers for 2 hours to absorb the entire quantity of adhesive.

FIG 3.1.3 (e) Candle Holder

FIG 3.1.3 (f) Candle Holder

STEP 6: First you need to make coconut coir in a square shape. Use the appropriate container/aluminum form/ 20x20 cm. Then make a pot, which we will cut into two parts. Leave the made forms to dry for 48 hours.

STEP 7: Cut two 20 cm pieces of wire and use them to put together the two parts. Make a hook on the back for wall mounting.

FIG 3.1.3 (g) Candle Holder

3.1.5 Weaving Bamboo Baskets

Baskets provide storage for a variety of items and often are used in home décor. You can make your own baskets using supplies purchased at craft stores, or simply using things you have around your house like bamboo strips. They are great for decorating.

STEP 1: Make the base of the basket. You'll need to lay out 5 reeds parallel to one another, with about 3/8ths of a space between them. Weave a sixth reed perpendicularly through the other 5. Bring the sixth reed over the first reed, under the second, over the third, under the fourth and over the fifth reed. Weave 4 more reeds in this manner, making sure that they are parallel to the sixth reed. Ensure that the squares formed by the base weaving are no bigger than 3/8 inch (.9 cm).

FIG 3.1.4(a) Weaving Bamboo Baskets

STEP 2: Bend the reeds. Bend the reeds that stick out from the square base into an upwards position. These bent reeds are called spokes. Bending them will make it easier to weave and these spokes will act as the supports for the basket.

FIG 3.1.4(b) Weaving Bamboo Baskets

STEP 3: Split a center spoke. Split one end of either the third or eighth spoke, starting where it comes out from under the last spoke to cross it. You will now have eleven spokes. You'll be putting the weaver into the split.

FIG 3.1.4(c) Weaving Bamboo Baskets

STEP 4: Weave the basket. Put the tapered end (the smaller end) of a weaver's reed into the split spoke and hold it in place with a clothespin. Keep the weaver reed near the base of the basket and weave, by going over one spoke and under the next. If you're going for a square shape, hold the base corners together with clothespins. This will help maintain the shape of the base. Continue to attach and weave new reeds through the spokes for 3 or 4 rows, depending on the desired height of the basket. Each new reed should be stacked above the reed woven before it. Do your best to make the weave snug and tight, but not too tight or you can screw up the base of the basket. You, also, want to make sure that the weave isn't too loose.

FIG 3.1.4(d) Weaving Bamboo Baskets

STEP 5: Foot the base. This means closing up those square holes that are still in the base. Starting in the left corner of your basket, take the corner spoke and tug it gently. Tug more firmly on the second spoke. You want to tug quite firmly on the middle spoke because this will create an arch in the bottom of the basket. Move to the 4th spoke and tug gently again. Straighten your spokes and repeat on all 4 sides of the basket, until the holes in the base are closed.

FIG 3.1.4(e) Weaving Bamboo Baskets

STEP 6: Continue weaving. Keep attaching and weaving new reeds through the spokes. Make sure that you don't pull too hard on the corners, because that will make your spokes bend inward and you'll lose your basket's shape. You also don't want your corners to be too loose, which can happen if you aren't keeping your spokes upright and parallel while you weave. Stop weaving once you've reached your desired height.

FIG 3.1.4(f) Weaving Bamboo Baskets

STEP 7: Pack the base. Push or pull the woven rows down towards the base as you weave. Ensure that there is no space between the base and the rows. Start pressing or pulling from the base and move up to the newer reeds as you go. A properly packed basket should have a nicely arched base, straight, parallel spokes, properly spaced corners, and tight weaver rows.
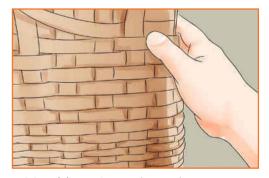
FIG 3.1.4(g) Weaving Bamboo Baskets

STEP 8: Finish the top of the basket. Stop weaving your last reed after you have woven 4 spokes past the split spoke. Taper the reed with scissors, moving from the fourth spoke to the end of the reed. Weave until all of the final reed has been woven into the spokes.
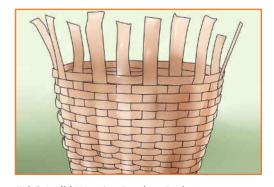
FIG 3.1.4(h) Weaving Bamboo Baskets

STEP 9: Trim the basket. Cut the spokes with scissors. The spokes should be 1/2 to 2 inches (1.3 to 5 cm) higher than the last woven reed. Fold the spokes towards the inside of the basket over the top row of reeds. Insert the end of each spoke into the third row from the top. Ensure that each spoke lies flat against the inside of the basket.

FIG 3.1.4(I) Weaving Bamboo Baskets

STEP 10: Make the rim. You'll wrap a reed around the top row of the basket and pin it to the basket with a clothespin. Now, anchor the new reed by weaving its bottom end into the top few rows inside the basket. This reed is called the lacer. Bring the lacer up and over the reed pinned to the basket and insert it through the front of the basket into the woven rows. Now pull the lacer inside the basket. Continue wrapping the lacer around the pinned reed, circling the circumference of the basket. Glue the end of the lacer inside the basket.
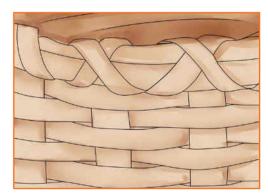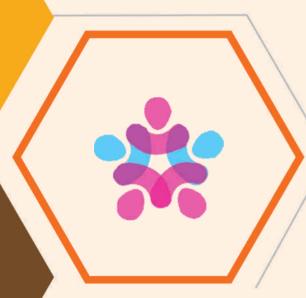
FIG 3.1.4(J) Weaving Bamboo Baskets

4. Product Quality

Unit 4.1 – Product Quality

Key Learning Outcomes ☀

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

1. Identify and use different packaging materials as per the specifications provided

2. Take the necessary action when materials do not confirm to quality standards

3. Report and replace identified faulty materials and component parts which do not meet specification

4. Ensure the packaging is not damaged before or during packing

5. Ensure the sealing is done properly

6. Identify modifiable defects and rework on them

UNIT 4.1: Product Quality

Unit Objectives ◎

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

1. Identify and use different packaging materials as per the specifications provided. Take the necessary action when materials do not confirm to quality standards

2. Report and replace identified faulty materials and component parts which do not meet specification

3. Ensure the packaging is not damaged before or during packing

4.1.1 Product Quality

What is quality? If a product fulfils the customer's expectations, the client is happy and consider that the merchandise is acceptable or even prime quality. If his or her expectations are not fulfilled, the client will consider that the merchandise is of low quality. This means that the quality of a product may be outlined as "its ability to fulfil the customer's desires and expectations".

Quality has to be outlined first off in terms of parameters or characteristics, that vary from product to product. For example, fora mechanical or electronic product these are performance, reliability, safety and appearance. For pharmaceutical merchandise, parameters such as physical and chemical characteristics, medicinal impact, toxicity, taste and period of time may be vital. For a food product they will embrace taste, nutritional properties, texture, shelf life and so on.

Fig 3.1.1: Product quality process

Fixing product specifications

A specification is the minimum demand, according to the producer or service supplier makes and delivers the product and service to the client. In setting specification limits, the following ought to be considered:

*   The user's and/or customer's needs.

*   Requirements relating to product safety and health hazards provided for in the statutory and regulatory requirements. Requirements provided for in national and/or international standards.

*   The competitor's product specifications, in order to achieve selling advantages.

*   In planning the merchandise, the capability of processes and machines ought to be kept in mind.

*   It is additionally necessary to keep up a balance between cost and value realization. The clearer the specification, the higher the possibility of making and delivering quality merchandise. preparing product design.

*   The specifications and drawings created by the designer should show customary standard demanded by the client or marketplace in clear and precise terms.

*   Every dimension ought to have realistic tolerances and alternative performance necessities.

- Product quality ought to have precise limits of acceptability so the production team will manufacture the product strictly per specification and drawings.

To achieve the above, those accountable for the design, production and quality ought to be consulted from the sales negotiation stage onwards. the general design of any product is created from several individual characteristics. For example, these could be:

- Dimensions, like length, diameter, thickness or space.

- Physical properties, like weight, volume or strength.

- Electrical properties, like resistance, voltage or current.

- Look, like end, color or texture; practical qualities, like output or metric linear unit per liter.

- Effects on service, like style, feel or noise level.

Manufacturing drawings and specifications are prepared by the designers and these ought to illustrate to the production team exactly what quality is needed and what raw materials ought to be used. Preparation for manufacture once the design, together with the producing drawings, has been reviewed and finalized, it is time to plan for manufacture.

This will include the following steps:

1. **Preferring the strategy of manufacture:** ways should be devised that let the operators and processes to make the merchandise within the fastest, best and most fool proof approach, as well as preparation of producing instructions, putting in procedures, listing numerous operations then on.

2. **Providing the mandatory machines, plant, tooling and alternative equipment:** Everything that's needed for manufacture should be elected, taking care that each one the weather are capable of achieving the quality of quality demanded.

3. **Getting satisfactory raw materials:** Nobody will build a decent product from unsatisfactory raw materials, so each material should have a particular written shopping for specification in order that the business department will buy precisely what's needed. Typically, purchasers are expected to shop for from suppliers United Nations agency are assessed and approved by them and once provides arrive the products ought to be checked before acceptance in the stores. Quality necessities and producing processes ought to be mentioned with the suppliers, also because the inspection activities to be doled out by the client on the products on arrival.

4. **Designing review and work quality control:** Plans for review activities ought to be ready, proper work places provided for review employees, written review.

4.1.1.1 Guidelines

A guide for small and medium-sized enterprises procedures ready, inspection instrumentality provided, checking and calibration of examination instrumentality planned for, inspection personnel selected and trained and pre-pilot and pilot runs carried out. One should never conceive to solve a high quality drawback by closing additional inspections.

The producing will begin only if coming up with the look and planning are completed. If the look is carried out systematically, things ought to run smoothly. During manufacture the subsequent are the foremost common factors that can affect quality:

- **Set-up:** Some processes, like punching, cutting, printing and labelling, are thus consistent that, if the initial set-up is correct, the entire ton can change to the specifications. However, the initial set-up should be checked by carrying out first-piece inspection.

- **Machines and tools:** From time to time changes will occur in machine or tool settings, which may then cause defects. Processes of this kind include machining, resistance welding and filling. Here it is necessary to carry out periodic checks by patrol inspection.

- **Operator:** There are some processes wherever the result depends on the ability and a focus of the operator, such, as welding, hand fastening and painting processes. For such processes it is necessary at the manufacture planning stage for the operator's operating strategies to be determined upon.

- **Materials and components:** It is vital to ensure the standard of raw materials and components by undertaking regular checks on the suppliers' processes and additionally wherever necessary by carrying out incoming inspection.

The following are obvious possibilities:

- The shop-floor operators had no clear plan what standard of quality was needed.

- the method was such that it was terribly difficult to induce the work right, but very simple to induce it wrong.

- The machine and instrumentality were incapable of achieving the tolerances needed.

- The incoming materials and components were unacceptable.

- The operators were untrained and not up to the job; Shop-floor internal control was either not properly planned or not properly executed, or both.

4.1.2 Types of Quality Inspection

Four types of quality inspection services are usually distinguished. Each one corresponds to a particular step in the production process. They are all part of the toolbox of every importer, when it comes to buying in industries. The four types of quality inspection services:

1. **A pre-production inspection** tells the buyer which kind of raw materials (or components) will be used. Factories are often suspected of lowering their costs by purchasing substandard materials, and this can be disastrous for the buyer (e.g. the wrong kind of chip in an electronic device). The pre-production inspection can also focus on the processes followed as production starts. Sometimes this can also be critical, as Chinese factories very often cut corners and do not respect the buyer's blueprints (e.g. patterns for cutting fabric are received from the buyer, and they are modified to make the process easier and faster).

2. **A during production inspection** (often called "DUPRO" in the industry) allows the buyer to have an idea of average product quality, early in the production cycle. It is the most useful and the most under-rated tool at the disposal of importers, who often only rely on final inspections. It usually takes place once some finished products have come out of the lines. If quality issues are found, what is already produced might be re-

workable, and corrective actions can be taken for the rest of the job. It gives buyers the time to plan ahead, and even to avoid delays (repairs and re-inspections take much more time when problems are noticed after all production is finished).

3. **The final random inspection** (also called "pre-shipment inspection") is by far the most common type of QC check. It takes place once 100% of shipment quantity is finished and at least 80% is packed, so it can be an actual random inspection (this is not exactly the case if quality is checked earlier) and suppliers cannot trick. It puts pressure on suppliers and gives power to buyers. Its objective is really to confirm a shipment's quality, rather than catching issues early. Therefore, Eagle Eyes usually advise our clients to complement final inspections with a DUPRO, to avoid finding disasters at the last minute.

4. **The container loading inspection**, like the pre-production inspection, it is seldom used. But it can be a worthwhile option in some specific cases. It can be useful if the buyer has a precise loading plan and needs it to be respected very precisely (e.g. some cartons are too fragile to be placed at the bottom), or if the packaging is not conventional (e.g. some garments hung on bars, with no carton protection). It can also ensure that the right kind of products are shipped out in the right quantity, when the importer places no trust in his supplier or when several suppliers bring their products for consolidation.

Only the most sensitive projects require all four types of inspection. Generally, only one or two of these tools are used, depending on the risks identified by the buyer. These quality inspection services are used mostly for consumer goods involving little customization. Different approaches are often chosen for ensuring that industrial products are up to specs (much more attention is spent during development and early production).

4.1.2.1 Bamboo Products Quality Inspection

Some comment factors to check bamboo products quality control are:

1. Appearance Quality: The surface of the product shouldn't have visible defects (dirty mark, scratches, etc.)

2. Quantity

3. Workmanship: Defective list

4. Moisture content test

5. Measurement: Size & weight

6. Packing

7. Basic function test

8. Smell test

9. Material test

4.1.2.2 Pre-Production Inspection

The Pre-Production Inspection (PPI) is completed after you identify and evaluate vendor/ factory and is done right before the beginning of the actual mass production. It can be completed at the factory or at the vendor office. The goal of performing a PP Inspection is to make sure your vendor has understood your specific requirements and the specifications of your order and is actually prepared for its production.

What do we check during a Pre-Production Inspection?

Raw materials and key components of your order, relationship between the factory and the vendor, understanding of your demands by the factory, samples, costs, production schedule and processes, in-house quality control checks and key persons from the vendor and factory (production manager, people who speak English etc.)

The added value of the Pre-Production Inspection?

The PP Inspection will help you to setup the preliminary production testing to match the required sample. By performing this inspection, you will get a clear vision of the production schedule and get ahead of any possible incoming problems, which could affect the quality of your goods. Most of the time, the main reason for production issues and poor quality is not the know-how of the factory but rather the misunderstandings between you and the manufacturer which often come from culture and language differences. The PP Inspection will allow you to get past this communication gap and make sure both parties understand each other.

4.1.2.3 During Production Inspection

The During Production Inspection (DPI) will take place during production between 20% and maximum 50% of the manufacturing process. We check packed and ready to go products.

What do we check during a During Production Inspection?

Product appearance (AQL), workmanship quality, size measurements, weight check, functionality assortment, accessories, labelling & logos, packaging, packing and other tests and special requirements, depending on the product and the export market. The During Production Inspection (DPI) will also cover the raw materials, unfinished products and the planning of production.

The added value of a During Production Inspection?

During Production Inspection is basically to intervene in the middle of the production process, to check if the quality of the products meets the expected standards and to make a statement of the production schedule. DPI is to inspect the actual production volume to avoid any delays in your final shipment. At this stage, one can modify the production protocol and can be delivered in the set time, without compromising on the quality.

4.1.2.4 Pre-Shipment Inspection

Quality issues on products manufactured do happen and they often impair business profitability, affect brand image in the market and can mean lost sales, product returns and factories stopping production.

The most traditional kind of inspection that is performed on exports from industries is the Pre-Shipment Inspection before shipment. After production is completed and all merchandise is ready and packed for shipment, inspectors randomly inspect batches of products to check compliance with the specifications and requirements, including cosmetics, function and packaging. It is based on a statistical approach known as AQL (Acceptable Quality Level) and defined that allows to test only a small number of units out of a large batch of products.

What is checked during a Pre-Shipment Inspection?

Three types of issues can trigger the failure of the inspection, and potentially the refusal of the shipment by the purchaser:

1. **Conformity to specs:** All the relevant aspects of the product are controlled: quantity, components, assembly, aesthetics, function, size, labelling, packaging, etc. Ideally, the buyer has constituted a document listing all the specifications of the product to inspect, and these specs become the inspector's checklist. When no such information is provided, the inspector simply collects information for the buyer's review.

2. **Number of visual defects:** Based on the sampling plan, the inspector selects a predefined number of products at random. He checks them one by one and counts the number of defects, which are compared to the AQL limits.

3. **On-site tests:** Depending on the type of products, certain tests are included in the inspector's job. For example: a product drop test on 3 samples, from 80cm high on concrete floor (if at least 1 sample breaks or does not function any more, the test is failed).

Pre-Shipment Inspection(PSI) will ensure your products are consistent and compliant with all country, industry or otherwise-specified requirements and that no critical major or minor defects appear.

4.1.2.5 Container Loading Monitoring

The Container Loading Monitoring will take place right before the vendor / factory / manufacturer is supposed to load the goods inside the container and also during the loading process. This inspection usually takes place at the factory. It can also be performed at your forwarder's premises.

What do we check during a Container Loading Monitoring?

Quantity check, packing list check, the container conditions, the process of the loading (carton's conditions, filling-up level etc.), a quick spot check on quality, packaging & packing of your products.

Please note that for complete QC checks on product specifications, function test, labelling & marking and cosmetic (AQL) testing, you should book a standard inspection, such as a Pre-shipment inspection or During production inspection.

The added value of the Container Loading Monitoring?

As your goods will travel for days or weeks to reach the final destination, you would like to ensure that the number of boxes are right, the loaded goods are yours and the products are not damaged.

Highlights of this Container Loading Monitoring service:

A- We provide the status of the container itself

B- The right goods, no replacement of products possible

C- The quantity of the boxes is exact

D- The loading will be done with care (limitation of broken goods due to loading)

E- The inspector will call the office so that you get immediate feedback. If you read your e-mails quickly and if you have instructed your vendor to wait for your green light before shipping, you have a chance of stopping disasters

F- The container is forwarded to your shipping forwarder

G- Remarking whether a seal is affixed to the container

H- Perform a final check on packing

4.1.3 Factory Audit Checklist

Cleanliness: A sloppy workplace (including workers' appearances) indicates a sloppy attitude, and most likely sloppy performance.

Organization: Be sure to take some time to understand the entire workflow. Does it make sense? Can you see any bottlenecks? If you do not understand something, ask questions. If you cannot ultimately understand why a factory's workflow is a certain way, it may be a warning signal.

Machinery: Get thorough explanations of what the machines do, where they are from, and other detailed questions. Asking detailed questions about the machines will make you seem smarter (thus less gullible). Listening to the answers will in fact make you smarter. Once you have toured several factories, you can make comparisons.

Quality Control: The key here is the number and location of QC checkpoints. Figure out how the rejected parts are handled. If you cannot understand that, it is likely that the workers also cannot.

Employee Conditions: In industry, most laborers live at the factory. Regardless, happy workers make for productive workers. Be sure to visit the employee housing areas to see how they eat, sleep and live when they are not on the floor.

Location: The factory should be close to its suppliers – otherwise, there can be supply bottlenecks. It should also be close to a port from which it can ship. Finally, learn about whether there are utility quotas in the area that affect production – this is especially important for electricity.

4.1.4 Defects Sorting

The purpose of the defect sorting is to sort out as many products as possible that have been known issues (for example: general appearance, workmanship, functions, safety and other problems.), during the number of inspection man-days allocated. And other checks will not be done during this inspection.

Inspection: This is to ensures each piece of finished products meets specified quality requirements that is expected from the customer. Usually, the requirements are shorter in list, provided by the customer, therefor to make sure the 100% sorting work has been done in a fast and effective manner.

Why you need defects sorting inspection: If the goods are expensive or very important, you cannot afford any risk of defects, you can use the sorting inspection to make sure all shipping goods are up to standard.

What is the benefit of the defect sorting inspection?

This service will help you to sort out the bad products from the good ones. It's also an efficient way for you to check if your factory has reworked the products as requested and check the percentage of defects in your shipment.
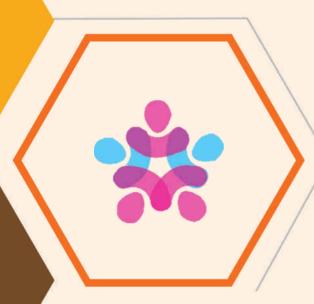
Why is booking of defect sorting essential: After a FAILED inspection, instead of sending back the inspector to simply make a Re-inspection, you can send back inspectors to focus on a few points and on opening as many cartons as possible (within the allocated number of man days) in order to sort out as many defective items as possible.

Key Learning Outcomes

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

1. Be accountable to one's own role in the whole process of developing the product
2. Perform all roles with full responsibility
3. Be effective and efficient at workplace
4. Properly communicate about organization policies
5. Talk politely with other team members and colleagues
6. Adjust in different work situations

UNIT 5.1: Team Work

Unit Objectives

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

1. Be accountable to one's own role in the whole process of developing the product

2. Perform all roles with full responsibility

3. Be effective and efficient at the workplace

4. Properly communicate about organization policies

5. Talk politely with other team members and colleagues

6. Adjust in different work situations

5.1.1 Need for Team Work

Working effectively in a team environment is crucial for many small businesses. It requires skills in effective communication, collaboration, time management, and business acumen. In a team, members share the ownership of meeting the defined objective. By establishing a responsibility matrix, you define who is responsible, accountable, consulted, and informed for each task you complete. Working with a diverse group of people, sometimes in different locations, presents many challenges. Learning to work together effectively in a team environment enables everyone involved to achieve their personal and professional goals. The 4 main aspects of working as a team are as follows:

Communication

Effective communication ensures that all team members know what is required of them. By conducting regular meetings and sharing information, the project team manager creates an environment where team members can demonstrate their individual contributions to the effort, as well as ask clarifying questions. This minimizes ambiguity and prevents misunderstandings and conflict. To build rapport, an effective project leader conducts team-building exercises to foster better communication. For example, play a survival game by asking your team to identify 12 items they would need to survive on a desert island. This exercise helps the group come up with strategies for conducting productive discussions and making decisions.

Fig.5.1.1:team work

Collaboration

Working in a team environment typically involves collaborating with others to solve problems and develop innovative solutions. Behaving collaboratively includes valuing the contributions of others, brainstorming ideas with team members, and sharing tasks to get work done efficiently. For example, using social media technology, team members can debate alternatives to problems by contributing to wikis, blogs or forums.

Time Management

Team members depend on each other to complete tasks according to the plan so that work flows smoothly from one process or task to the next. Effective time management involves prioritizing, scheduling and focusing on work to maintain productivity. For example, to operate efficiently, team members should assess each task as important or urgent. Important activities typically lead to personal achievement. Urgent activities require immediate attention and may be associated with demands from superiors. By categorizing activities, you can identify distractions and interruptions, and minimize them in your schedule in the future. This helps you focus on work that truly contributes to the overall team's goal as well as your personal career objectives.

Business Acumen

To work effectively in a team, members need to know their role and the overall project objective. Then, they can analyse situations that arise, diagnose the problem, and propose solutions that help the collective team work more effectively towards reaching the goal. This might involve managing budget, handling risks, making policy decisions, or managing changes. To develop skills in business acumen, conduct team-building exercises that will present work scenarios to your team members, and give them the opportunity to participate in role-playing activities. For example, divide your team into pairs. Present a challenge relevant to your business, such as dealing with an irate project sponsor who provides funding for the project. Partake one person play the role of the sponsor and explain his concerns over an issue, such as a cost overrun. Instruct the other person to play the role of an employee and respond to the issue, such as why the project requires additional resources and funding. This exercise helps employees practice communicating clearly to demonstrate that they truly understand how the business works.

5.1.2 Characteristics of team work

1. The team must take responsibility and accept credit for its actions as a group and not individually.

2. Teams must be committed to a common purpose and goal.

3. Teams must be provided clear expectations and adequate resources to accomplish its goals.

4. The team must be able to communicate effectively with each other.

5. Team members must encourage new ideas from others.

6. Members of the team must be trustworthy.

7. Members of the team must put the team's goals ahead of self-interests.

8. Members of the team must learn to appreciate the diversity of knowledge that the other team members have to offer.

9. Members of the team must be creative and unafraid to share opinions, ideas, and suggestions.

10. Members of the team must avoid conflicts when challenges occur, and instead focus on overcoming those challenges.

5.1.3 Advantages of team work

Shared Ideas

One of the main benefits of group work or a team environment is the ability to share ideas among the group. Perhaps there are several possible approaches to a project, and as an individual, a staffer may be unsure of which to take. However, as a team, the members can each contribute pros and cons of the approaches to tasks and methods to accomplish key goals. This kind of collaboration both benefits the project and gives team members an outlet to bounce around ideas.

Increased Efficiency

Another key advantage of group work in the office is that things get done faster. When a group attacks a project or task, it can be done more quickly and with greater efficiency than if just one person attempted to muddle through it. A group approach can lead to cost savings for the company, since groups accomplish more, as well as an ability to meet individual and team goals more quickly, since more people are attacking the task.

Accountability in Weak Areas

Working as a team not only helps to showcase people's various strengths, but can also allow for compensation of weaker areas as well. Staffers can distribute the workload so that people are playing to their strengths with their work and team up to tackle areas where they are weaker to allow for improvement. This creates a stronger and more skilled workforce, as people use the teamwork opportunity to improve across the board.

Improved workplace Relationships

When people work together as a team, they not only become more invested in the project, they become more invested in one another as well. Team members support one another, even outside of the team structure, and adapt to each other's working methodology.

Activity - 6

1. Divide students into teams and give them equal amounts of newspaper, gum, cello tapes – no scissors or blade should be used. Ask them to construct a castle in 30 mins. Best team will be identified based upon the following criteria:

   a. Which team can build the tallest, structurally-sound castle?

   b. Which team can build a castle the fastest?

2. Divide students into two or more teams (as per the strength of the students in the classroom) and in each team, one participant would be wearing a blindfold, throughout the activity. The activity is that; each team will direct their individual teams' blindfolded participant towards the exit of the room. The team should make sure, that the blindfolded player should not touch/hit or tripped by any object till he/she reaches the exit door. Also, the team members should make sure they give him/her the accurate/appropriate directions. The activity will start firstly with the direction towards the marked areas from where the blindfolded participate will pick an object, for example, a marker pen or a bottle or any other single handled carried object, secondly, the player needs to pick it up and then go towards the exit door. The team should co-ordinate amongst themselves and help the player throughout the activity. The time limit is 15 mins for each team.
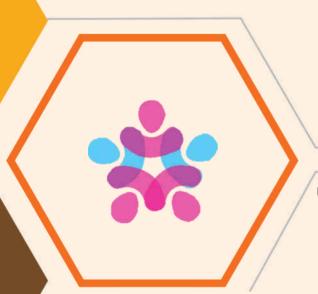
Questions to ask during the review:

- Did you come up with a strategy before starting the challenge?

- Did you adapt your game plan?

- How did you feel being blindfolded? Had you always trust your communicators?

- Did you get frustrated at any point?

6. Maintenance of Work Area & Tools

Unit 6.1 – Maintenance of Work Area & Tools

HCS/N 9912

Key Learning Outcomes 💡

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

1. Handle materials and tools safely and correctly

2. Use packing materials efficiently to minimize waste

3. Maintain a clean and hazard free working area

4. Maintain the tools and equipment used for packaging effectively and safely

5. Store the different packing materials in the assigned area

6. Maintain the sealing machine or burning arrangement

UNIT 6.1: Maintenance of Work Area & Tools

Unit Objectives 🎯

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5. Store the different packing materials in the assigned area.

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6.1.1 Waste Management

Waste management is all those activities and action required to manage waste from its inception to its final disposal. This includes amongst other things, collection, transport, treatment and disposal of waste together with monitoring and regulation. It also encompasses the legal and regulatory framework that relates to waste management encompassing guidance on recycling etc.

The magnitude of the degradation of the environment increased tremendously with the industrial revolution which started in the 1850s. Even prior to the industrial revolution, pollution due to human activities existed but in a reduced amount. Those days the assimilation capacity of the environment was greater than the release of pollutants into the environment. Large volumes of wastes were released in to the environment with the development of machine-based industries. Then the assimilation capacity of the environment became lower than the rate of waste generation. As a result, wastes accumulated in the environment giving rise to problems, which threatens the life existence on planet Earth.

In general, pollution can be considered in terms of Air Pollution, Water Pollution and Land Pollution. Scientists are also considering some specific types of pollution such as pollution due to Noise, radiation and high temperature.

Since there are no boundaries in the atmospheric air is not limited to a place, region or to a country. Therefore, air pollution produced in some parts of the world can cause problems in another country in the world. Therefore air pollution should be considered as a major

Fig.6.1.1:waste management

problem where international efforts are needed to address the atmospheric problems. Further, it is considered to be a serious problem as it affects the human health worldwide. All the terrestrial life forms are exchanging gases with the atmosphere. Therefore, there is a danger of inhaling/absorbing whatever the pollutants available in the atmosphere because they do not have a filtering mechanism. On the other hand, the pollutants released into the atmosphere get diluted and the possibility of collecting or treating such pollution is impossible. Therefore, preventing, controlling or treating these substances before releasing them into the atmosphere is very important. The atmospheric lifetime of some pollutants/chemicals is very high and they cause global environmental problems such as Ozone Layer depletion.

The main sources for air pollution are burning fossil fuels for energy generation & transportation, biomass burning and industrial emissions. The sources of air pollution give rise to gases, mixtures of fine particles or

both. Most common gases generated from burning fossil fuels are CO2, CO, Oxides of Nitrogen, Oxides of Sulfur and unburned hydrocarbons. Pollution due to biomass burning for cooking is very common in the Asian region. This will generate unburned hydrocarbons due to incomplete burning processes, mixture of oxides of carbon, nitrogen & sulfur and particulate matter. Industrial emissions are responsible for most hazardous chemicals such as fluorinated carbons, PFCs, SF6, etc.

Considering the difficulty of treating these gasses after releasing in to the atmosphere it is important to either control or treat the emission before releasing to the atmosphere. In the industrial sector, controlling the emission of air pollutants can be achieved through changing the method of plant operation, changing the input or raw materials used in the process, adopting cleaner production methods or treating the pollutants prior to release. Gaseous pollutants can be removed from their gaseous environment to a liquid or a solid surface, where they will be preferentially retained, or where they react to form a non-polluted species. There are processes with various methods used for collecting gases with high concentration such as absorption in to a liquid or solid or adsorption on to a solid surface. These are occurring either with or without reaction. Pollutants generated due to incomplete combustion can be removed through complete combustion converting them into CO2 and water. This can be achieved in a combustion chamber providing sufficient air in the presence of a catalyst. In order to prevent the release of particulate matter to the atmosphere, settling chambers, gravity separators, cyclone dust collectors, filters, wet scrubbers and electro statistic precipitators can be utilized.

Emission of radioactive particles is possible due to the development of energy generation through nuclear power plants. Since these materials cannot be detected by human senses such as taste or smell and even a very minute quantity is lethal, there has to be stringent regulations utmost in operating these plants and handling waste. These should operate on hundred percent accident free environments. In addition, installation of multiple barriers, real time monitoring and error free safeguard systems are very important for these facilities.

Indoor air quality is very important, mainly because people remain indoors in excess of 90% of their lifetime. Common indoor pollutants are Paints, Varnish, polish, household polymers, fuel wood burning, burning incense sticks and mosquito coils. Houses or buildings with less ventilation are vulnerable for indoor air pollution resulting in nausea, vomiting, dizziness and respiratory diseases. As a solution, Architects can design well-ventilated buildings with more air circulation.

Substances such as CFC, Halons, CTC, HCFC are depleting the Ozone Layer that protects human from the Sun's dangerous UV radiation.

Fig.6.1.2:Emission of radioactive particles

Increase of Greenhouse gases such as Fluorinated Carbons, Methane, and Nitrous Oxides in the atmosphere is making the earth atmosphere warmer resulting in climate change and sea level rise. Global commitment is essential in order to control such global environmental problems. Montreal Protocol and Kyoto Protocols are major global agreements to take action in order to control these two major environmental problems.

Water is a basic requirement for sustaining life. Out of the total volume of available water in the planet, less than 1% is suitable for human consumption. This limited resource is further reduced due to human activities, which make it unusable. Main sources of water pollution are release of industrial waste, dumping solid waste, sewage, human waste including faucal matter, sediment run off due to soil erosion etc. As a result of such activities, concentration of dissolved carbons, heavy metals, biohazards such as bacteria and virus and other nutrients will increase in the water sources resulting in loss of biodiversity and making the water unsafe for consumption. Several methods have been developed for water treatment once it is polluted. Biological treatment, chemical coagulation and filtration, carbon adsorption, chemical oxidation, ion exchange, electro dialysis, reverse osmosis, air stripping are some of them. Water bodies are also being polluted due to discharge of sewage from watercrafts and oil spilling around the world. Designing holding tanks for receiving and storing sewage until they can be unloaded on the shore is one controlling method. Large vessels can be equipped with biological treatment plants. Leaks from offshore drilling and accidental oil spills are possible resulting in threat to water creatures and large-

scale killing of sea birds. Surrounding the oil slick with a mechanical barrier until it can be removed, collecting the oil by mechanical means such as suction pumping or absorption by a suitable material and dispersing the slick with chemicals are methods practiced today.

Environmental problems due to solid waste are a growing problem in Sri Lanka and it is a major problem in many of the developing countries. Current rate of waste collection by the local authorities in Sri Lanka is estimated to be about 2,500 tons per day. Rate of waste generation depends on a number of factors such as socio economic conditions, public attitude towards reuse and recycling of waste and geographical and physical factors. Due to the improvement of technology, a tremendous increase in non-degradable packaging materials such as plastic, polythene, metals and glass can be seen. Solid wastes are generated from domestic, institutional, market, medical, commercial, industrial and garden sources. Industries such as food, paper, cardboard, rubber, and leather are good sources of organic waste. A greater portion of commercial and domestic waste is organic and biodegradable. The major problem in relation to solid waste is uncontrolled disposal of wastes.

Toxic and hazardous wastes are generated mainly from industrial and medical sectors. The extent of land pollution increases due to unorganized solid waste disposal practices. Developing facilities for safe disposal and management of solid waste should be a high priority in society. With the rapid development, population growth and urbanization, solid waste has increased and therefore it is essential to manage solid waste. There is also a serious threat of utilizing Sri Lanka as a hazardous waste dumping site.

According to the estimates the local authorities collect only a part of the waste generated. Disposing wastes in the home gardens are common in rural areas due to lack of collecting system or facilities. At present waste disposal is mainly in open dumps, which are unsanitary. Most of these areas are low laying marshy lands and abandoned paddy fields. As a result, leach ate, emission of gases, odours, fire and loss of aesthetic beauty are possible. As an alternative to open dumping, sanitary land filling has to be introduced. Proper planning is essential to minimize the side effects. Separation of solid waste at the point of generation is essential and thereafter different categories can be treated separately. Biodegradable materials have to be composed and used as organic manure as far as possible. Avenues for collecting recyclable materials and recycling should be promoted. The final waste that is not possible for recycle has to be dump in a sanitary landfill. Incineration is another option but the capital cost is very high and therefore it may not be suitable for a developing country. At least several small-scale incinerators are essential to destroy toxic and hazardous waste.

Noise pollution has a very close relationship with occupational safety. In most cases industries are responsible for high noise pollution. Recent studies show that there is direct relationship with high levels of noise and mental health. Noise management can be achieved at the point of its origin and along the noise pathway and at the point of reception. There are several noise management techniques available at present. Shock absorbing techniques, use of non-metal parts to reduce the noise generated, use of acoustic guards, installing machinery on adequate mountings, locating machinery away from the residential areas are some of precautionary methods.

In most of the industries a large amount of heat is generated and released in to the atmosphere. This problem of thermal pollution can be alleviated by using artificial cooling ponds or cooling towers. Where possible this high temperature can be utilized for useful work such as generation of electricity.

In order to control pollution, proper and appropriate legislation, emission and effluent standards for industries are essential. Awareness creation among the general public and making the man more environments friendly is an overall approach for environment protection.

6.1.2 Maintenance of Work Equipment

What you must do?

The frequency and nature of maintenance should be determined through risk assessment, taking full account of:

- the manufacturer's recommendations

- the intensity of use

- operating environment (e.g. the effect of temperature, corrosion, weathering)

- user knowledge and experience

- the risk to health and safety from any foreseeable failure or malfunction

Safety-critical parts of work equipment may need a higher and more frequent level of attention than other aspects, which can be reflected within any maintenance programme. Breakdown maintenance, undertaken only after faults or failures have occurred, will not be suitable where significant risk will arise from the continued use of the work equipment.

The manufacturer's instructions should describe what maintenance is required to keep the equipment safe and how this can be done safely. These instructions should always be followed, unless there are justifiable reasons for not doing so (e.g. where more frequent maintenance is necessary, due to intense use, adverse environmental conditions or when other experience shows this need). Maintenance on a less frequent basis than the manufacturer's recommendation should be subject to careful risk assessment and the reasons for doing so should be reviewed at appropriate intervals. For example, where there is already an inspection regime, perhaps for lightly used equipment, less frequent maintenance may be justified because of the condition monitoring already provided by the inspection programme.

There is no requirement for you to keep a maintenance log, although it is recommended for high-risk equipment. Maintenance logs can provide useful information for the future planning of maintenance, as well as informing maintenance personnel of previous action taken. However, if you have a maintenance log, you must keep it up to date.

Undertaking maintenance safely

Steps should be taken to manage any risks arising from maintenance activity. Manufacturer's instructions should make recommendations on how to safely undertake maintenance of their work equipment and, unless there are good reasons otherwise, these should always be followed.

Where possible, equipment should normally be shut down and any residual / stored energy safely released (For Example, pneumatic pressure dumped, parts with the gravitational / rotational energy stopped or brought to a safe position). For high-risk equipment, positive means of disconnecting the equipment from the energy source may be required (For Example, isolation), along with means to prevent inadvertent reconnection (For Example, by locking off). Formal systems of work, such as a permit to work, are required in some cases to safely manage high-risk maintenance operations.

In some cases, it may not be possible to avoid particular significant hazards during the maintenance of work equipment so appropriate measures should be taken to protect people and minimize the risk. These may include:

- physical measures, For Example, providing temporary guarding, slow speed hold-to-run control devices, safe means of accesses, etc

- management issues, including safe systems of work, supervision, monitoring

- personnel competence (training, skill, awareness and knowledge of risk)

It is important that these situations are properly assessed. Staff undertaking maintenance may need to undertake significant on-the-job risk assessment (essentially considering what could go wrong and how to avoid injury), as the situation may develop and change in ways that could not be foreseen at the outset.

Who can undertake maintenance of work equipment?

Maintenance work should only be undertaken by those who are competent to do the work, who have been provided with sufficient information, instruction and training. With high-risk or complex equipment, these demands may be significant and, in some cases, may be best undertaken by the manufacturer or specialist contractors. But, in many cases, maintenance can be done in-house by suitably trained, competent staff.

6.1.3 Workplace Housekeeping

You must be able to:

Clean the work environment

1. Clean the work environment consistent with any agreed specifications and at time agreed by those concerned, causing less disruption.

2. Use the correct protective clothing, cleaning equipment and materials in accordance with manufacturers' guidelines in a manner which minimizes risk to all individuals.

3. Dilute any materials correctly at an appropriate temperature and use them according to the manufacturers' instructions.

4. Leave working areas visibly free of dust, dirt and debris and in a state which is not likely to endanger the health and safety of others.

5. Return cleaning equipment and materials in good working order and condition to the appropriate storage area after use.

6. Dispose of waste in a safe manner and place.

7. Identify when problems arise during cleaning and take appropriate action.

8. Record information accurately, legibly and completely about any problems which arise during the cleaning and take the appropriate action

Clean and maintain work equipment

1. Carry out cleaning and maintenance of equipment according to agreed specifications and at a suitable time for those concerned, causing less disruption.

2. Comply with cleaning frequency that is consistent with organizational policy.

3. Select and use the protective clothing, tools and materials for cleaning in accordance with manufacturers' guidelines in a

Fig.6.1.3: workplace Housekeeping

manner which minimizes the risk to all individuals.

4. Report wear and tear accurately to the appropriate person as soon as possible.

5. Report to the appropriate person with minimum delay any equipment liable to cause injury.

6. Store materials and equipment safely after use.

You need to know and understand:

Clean the work environment

1. What are the potential hazards in the work environment and the ways that they can be minimised?

2. The materials and equipment that should be used for cleaning work areas and what protective clothing should be worn?

3. The risks when using and storing, cleaning materials and equipment, and the ways in which these risks can be minimized.

4. The effects of not reporting problems found during cleaning activities.

5. The cleaning materials used for particular fabrics, surfaces and equipment, it is required to ensure there correct dilution and the possible effects of not doing so.

6. Why cleaning should minimise disruption to other staff and to animals?

7. How and where waste should be disposed of, and what special precautions need to be taken regarding potentially hazardous waste (e.g. faeces, blood)?

8. Why it is important to leave the working environment clean and dry?

9. The effect of legal and organisational policies and practices on cleaning (e.g. Control of Substances Hazardous to Health)

10. The contribution that good housekeeping practices have on customer relations and the image of the organisation.

Clean and maintain work equipment

11. Which materials, equipment and cleaning methods should be used for cleaning the different types of equipment and what protective clothing should be worn?

12. Which equipment should be sterilised, when, why, and the potential risks if this is not done correctly?

13. The frequency with which different items of equipment should be cleaned (such as which should clean every time they are used, which should be cleaned daily and which less frequently)

14. The frequency with which different items of equipment should be maintained (such as which should maintain every time they are used, which should be maintained every time they are cleaned)

15. How to recognise potentially hazardous equipment and the potential effects of not reporting it?

16. The potential risks when using and storing cleaning materials and equipment and the ways in which these risks can be minimised.

17. Why cleaning agents should be correctly diluted and the possible effects of not doing this?

18. The effect of legal and organisational policies and practices on cleaning.
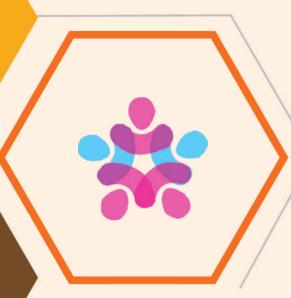
Activity 7

1. Write down the list of dry and wet waste which you would come across in the process of packing incense.

7. Safety at Workplace

Unit 7.1 – Safety at Workplace

HCS/N 9913

Key Learning Outcomes ⏻

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

1. Comply with health and safety related instructions applicable to the workplace

2. Use and maintain personal protective equipment as per protocol

3. Carry out own activities in line with approved guidelines and procedures

4. Maintain a healthy lifestyle and guard against dependency on intoxicants

5. Follow environment management system related procedures

6. Store materials and tools in line with manufacturer's and organisational requirements

UNIT 7.1: Safety at Workplace

Unit Objectives 🎯

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

1. Comply with health and safety related instructions applicable to the workplace
2. Use and maintain personal protective equipment as per protocol
3. Carry out own activities in line with approved guidelines and procedures
4. Maintain a healthy lifestyle and guard against dependency on intoxicants
5. Follow environment management system related procedures
6. Store materials and tools in line with manufacturer's and organisational requirements

7.1.1 Various Potential Hazards

SAFETY HAZARDS: These are the most common and will be present in most workplaces at one time or another. They include unsafe conditions that can cause injury, illness and death. Safety Hazards include:

Fig.7.1.1: Various potential hazards

- Spills on floors or tripping hazards, such as blocked aisles or cords running across the floor
- Working from heights, including ladders, scaffolds, roofs, or any raised work area
- Unguarded machinery and moving machinery parts; guards removed or moving parts that a worker can accidentally touch
- Electrical hazards like frayed cords, missing ground pins, improper wiring
- Confined spaces
- Machinery-related hazards (lockout/tag out, boiler safety, forklifts, etc.)

Biological hazards: Associated with working with animals, people, or infectious plant materials. Work in schools, day care facilities, colleges and universities, hospitals, laboratories, emergency response, nursing homes, outdoor occupations, etc. may expose you to biological hazards. Types of things you may be exposed to include:

- Blood and other body fluids
- Fungi/mold
- Bacteria and viruses
- Plants
- Insect bites
- Animal and bird droppings

Physical hazards: Are factors within the environment that can harm the body without necessarily touching it. Physical Hazards include:

- Radiation: including ionizing, no ionizing (EMF's, microwaves, radio waves, etc.)

- High exposure to sunlight/ultraviolet rays

- Temperature extremes – hot and cold

- Constant loud noise

Ergonomic hazards: Occur when the type of work, body positions and working conditions put strain on your body. They are the hardest to spot since you don't always immediately notice the strain on your body or the harm that these hazards pose. Short-term exposure may result in "sore muscles" the next day or in the days following exposure, but long-term exposure can result in serious long-term illnesses. Ergonomic Hazards include:

- Improperly adjusted workstations and chairs

- Frequent lifting

- Poor posture

- Awkward movements, especially if they are repetitive

- Repeating the same movements over and over

- Having to use too much force, especially if you have to do it frequently

- Vibration

Chemical hazards: Are present when a worker is exposed to any chemical preparation in the workplace in any form (solid, liquid or gas). Some are safer than others, but to some workers who are more sensitive to chemicals, even common solutions can cause illness, skin irritation, or breathing problems. Beware of:

- Liquids like cleaning products, paints, acids, solvents – ESPECIALLY if chemicals are in an unlabeled container

- Vapors and fumes that come from welding or exposure to solvents

- Gases like acetylene, propane, carbon monoxide and helium

- Flammable materials like gasoline, solvents, and explosive chemicals.

- Pesticides

Work organization hazards: Hazards or stressors that cause stress (short-term effects) and strain (long-term effects). These are the hazards associated with workplace issues such as workload, lack of control and/or respect, etc. Examples of work organization hazards include:

- Workload demands

- Workplace violence

- Intensity and/or pace

- Respect (or lack of)

- Flexibility

- Control or say about things

- Social support/relations

- Sexual harassment

Fig.7.1.2: Work organization hazards

7.1.2 Importance of PPE (Personal Protective Equipment)

Personal protective equipment (PPE) refers to protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards, and airborne particulate matter. Various types of PPEs are as follows:

- **Respirators**

Respirators serve to protect the user from breathing in contaminants in the air, thus preserving the health of one's respiratory tract. There are two main types of respirators. One type of respirator functions by filtering out chemicals and gases, or airborne particles, from the air breathed by the user. The filtration may be either passive or active (powered). Gas masks and particulate respirators are examples

Fig.7.1.3: Respirators

of this type of respirator. A second type of respirator protects users by providing clean, irrespirable air from another source. This type includes airline respirators and self-contained breathing apparatus (SCBA). In work environments, respirators are relied upon when adequate ventilation is not available or other engineering control systems are not feasible or inadequate.

Fig.7.1.4: Skin protection

- **Skin protection**

Occupational skin diseases such as contact dermatitis, skin cancers, and other skin injuries and infections are the second most common type of occupational disease and can be very costly. Skin hazards, which lead to occupational skin disease, can be classified into four groups. Chemical agents can come into contact with the skin through direct contact with contaminated surfaces, deposition of aerosols, immersion or splashes. Physical agents such as extreme temperatures and ultraviolet or solar radiation can be damaging to the skin over prolonged exposure. Mechanical trauma occurs in the form of friction, pressure, abrasions, lacerations and contusions. Biological agents such as parasites, microorganisms, plants and animals can have varied effects when exposed to the skin.

Any form of PPE that acts as a barrier between the skin and the agent of exposure can be considered skin protection. Because a lot of work is done with the hands, gloves are an essential item in providing skin protection. Some examples of gloves commonly used as PPE include rubber gloves, cut-resistant gloves, chainsaw gloves and heat-resistant gloves. For sports and other recreational activities, many different gloves are used for protection, generally against mechanical trauma.

Other than gloves, any other article of clothing or protection worn for a purpose serves to protect the skin. Lab coats for example, are worn to protect against potential splashes of chemicals. Face shields serve to protect one's face from potential impact hazards, chemical splashes or possible infectious fluid.

- **Eye protection**

Eye injuries can happen through a variety of means. Most eye injuries occur when solid particles such as metal slivers, wood chips, sand or cement chips get into the eye. Smaller particles in smokes and larger particles, such as broken glass also account for particulate matter causing eye injuries. Blunt force trauma can occur to the eye when excessive force comes into contact with the eye. Chemical burns, biological agents, and thermal agents, from sources such as welding

Fig.7.1.5: Eye protection

torches and UV light also contribute to occupational eye injury.

While the required eye protection varies by occupation, the safety provided can be generalized. Safety glasses provide protection from external debris, and should provide side protection via a wrap-around design or side shields.

Goggles provide better protection than safety glasses, and are effective in preventing eye injury from chemical splashes, impact, dusty environments and welding. Goggles with high air flow should be used to prevent fogging.

Face shields provide additional protection and are worn over the standard eyewear, they also provide protection from impact, chemical, and blood-borne hazards.

Full-face piece respirators are considered the best form of eye protection when respiratory protection is needed as well, but may be less effective against potential impact hazards to the eye.

Eye protection for welding is shaded to different degrees, depending on the specific operation.

- **Hearing protection**

Industrial noise is often overlooked as an occupational hazard, as it is not visible to the eye. Occupational hearing loss accounted for 14% of all occupational illnesses in 2007, with about 23,000 cases significant enough to cause permanent hearing impairment. About 82% of occupational hearing loss cases occurred to workers in the manufacturing sector. The Occupational Safety and Health Administration establish occupational noise exposure standards. PPE for hearing protection consists of earplugs and earmuffs.

- **Protective clothing and ensembles**

This form of PPE is all-encompassing and refers to the various suits and uniforms worn to protect the user from harm. Lab coats worn by scientists and ballistic vests worn by law enforcement officials, who are worn on a regular basis, would fall into this category. Entire sets of PPE, worn together in a combined suit, would also fall into this category.

7.1.3 Workplace Hygiene

All workplace environments need to be hygienic and safe for employees and visitors, even those which aren't involved in the production and handling of food and personal products. Implementing a workplace hygiene policy is an effective way to ensure that all parties follow the same standards. The policy provides guidelines that managers and business owners can use in various situations.

Personal Hygiene

Personal hygiene refers to the cleanliness, appearance and habits of employees, which can occasionally be a sensitive issue for managers and business owners, particularly in multi-cultural environments. An official policy helps to ease any awkwardness by establishing precisely what is expected from employees. Criteria may include taking daily baths or showers, using deodorant or perfume, hair-washing and avoiding offensive personal habits such as spitting and passing gas. Hand washing and the use of hand sanitizers has gained importance as a protection against the spread of illnesses.

Office Cleanliness

Workplace hygiene policies often make provision for each employee to clean and maintain his own workstation. This includes emptying the trash bin regularly and washing it out if it is used for loose food or other products that may decompose and cause an odour. In public areas such as the front office or reception, the hygiene policy could include regular washing of floors and working surfaces with disinfectant to reduce the risk of bacterial contamination. Policies typically also include keeping the area tidy and free of clutter. A survey of U.S. employees

showed that 60 percent judge their co-workers partially on how clean they keep their workstation areas.

Restroom Facilities

The Occupational Safety and Health Administration's workplace hygiene requirements provide for restrooms for all employees to be equipped with hot and cold running water or tepid water, hand soap, toilet paper and hand drying towels or equipment. This is to ensure that workers have the opportunity to practice personal hygiene after using the facilities. A company might hire an employee cleaning staff to attend to the restrooms. If employees are required to maintain the facilities themselves, however, the workplace hygiene policy could include details such as the frequency of cleaning and the type of products to use for cleaning the floor, toilet bowls and sinks.

Kitchen

Hygiene policies for the kitchen area in a workplace environment need to cover regular cleaning and maintenance of utensils and equipment. Companies often have dedicated cleaning staff for this purpose, or include responsibility for the kitchen in the job description of certain employees. This allocates accountability for the task of cleaning and helps to ensure that it gets done. Employees who are unhappy about the levels of workplace hygiene can file a complaint with OSHA if they believe the standards of cleanliness are poor enough to constitute a health risk.

7.1.4 Personal Hygiene
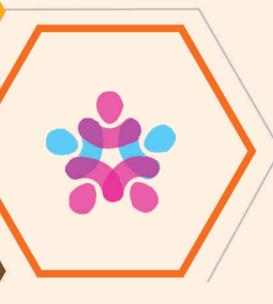
- Washing the body often. If possible, everybody should have a shower or a bath every day. However, there may be times when this is not possible, for example, when people are out camping or there is a shortage of water.

- If this happens, a swim or a wash all over the body with a wet sponge or cloth will do.

- Cleaning the teeth at least once a day. Brushing the teeth after each meal is the best way of making sure that gum disease and tooth decay are avoided. It is very important to clean teeth after breakfast and immediately before going to bed.

- Washing the hair with soap or shampoo at least once a week.

- Washing hands with soap after going to the toilet.

- Washing hands with soap before preparing and/or eating food. During normal daily activities, such as working and playing, disease causing germs may get onto the hands and under the nails. If the germs are not washed off before preparing food or eating, they may get onto the food.

- Changing into clean clothes. Dirty clothes should be washed with laundry soap before wearing them again.

- Hanging clothes in the sun to dry. The sun's rays will kill some disease-causing germs and parasites.

- Turning away from other people and covering the nose and mouth with a tissue or the hand when coughing or sneezing. If this is not done, droplets of liquid containing germs from the nose and mouth will be spread in the air and other people can breathe them in, or the droplets can get onto food.

8. Soft Skills and Communication Skills

Key Learning Outcomes

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

1. Understand Art of Effective Communication.

2. Able to handle effective Communication with co-workers and their Family.

3. Able to handle effective Communication with Peers/ colleagues using medical terminology in communication.

4. Learn basic reading and writing skills.

UNIT 8.1: Introduction to the Soft Skills

Unit Objectives

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

1. Understand the basic meaning of Soft Skills, their components and their benefits.

2. Understand Work Readiness and its significance.

8.1.1 What is a Soft Skill?

Soft skills are skills that cannot be seen but it makes or break your image. These are personal characteristics that describe an individual's ability to interact with people and situations around. Sift skills can be the group of personality traits, social graces, communication language, personal habits, sociability and optimism that characterise relationship with other people. Soft Skills complement hard skills which are occupational requirements of a job and many other activities. They are related to feelings, emotions, insight. Soft skills have to do with who we are than what we know. Soft skills compasses, the character traits that decide how well one interact with others and are usually a definite part of one's personality.

For instance – the soft skills required for doctor would be empathy, understanding, active listening and a good bedside manner.

Fig.8.1.1: Soft skills

According to a survey the long term success in job is 75 % due to soft skills and 25 % due to technical knowhow. Soft skills also determine how satisfied and happy one remains in professional and personal situations.

8.1.2 Components of Soft Skills

- **Adaptability:** It is the ability of an individual to manage change. It's about how fast and smoothly a person is able to blend in and be productive in a changed environment.

- **Emotional Strength:** This involves managing mood and having control over it. An emotionally strong person succeeds in directing his moods and emotions such as anger frustration and excitement.

- **Leadership Quality:** How one manages conflict in personal and professional situation and convinces people reflects upon his leadership quality.

- **Team Playing Ability:** It is the ability to manage different types of people and make them work harmoniously with each other.

- **Decision Making:** This reflects upon how one manages his time and other resources in efficient and productive manner.

- **Interpersonal Communication:** This is an individual's ability to effective communication with other and in the process creating a positive image of him.
- **Negotiation Skills:** This is how one negotiates with others and reduces the level of stress in work, professional and personal environment.

8.1.3 Benefits of Soft Skills

Some of the benefits of Soft Skills are as:

- Increased credibility with customers.
- Increased customer satisfaction.
- More productive employees.
- Out service the competition.
- Recognition from the industry, employer and peers.
- New employment opportunities.
- Increased ability to perform on the job.

8.1.4 Work Readiness

Work readiness involves you having what employers call "the right attitude". At the most basic level you should have:

- A positive attitude to spend some days at workplace
- The capacity to function in a mature environment without the support of other co-workers
- An enthusiastic attitude to the employer
- A clear interest at work to be done
- Realistic expectations of the work that an entry-level student will be able to do in a workplace with commercial goals to achieve
- The willingness to be supervised, follow instructions and wear safety gear as directed
- The confidence to ask questions to clarify instructions
- Pride in appropriate personal presentation
- The ability to communicate appropriately in an adult working environment
- The capacity to acknowledge customers and provide the assistance recommended by the employer
- A commitment to maintaining their reliability and punctuality for the whole of the period spent in the workplace
- Completed a preparation for workplace learning program which includes OH&S practices, acceptable behaviour in the workplace (including child protection issues) and emergency contact procedures.

Fig.6.1.2: Work readiness

UNIT 8.2: Effective Communication

Unit Objectives ⊙

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

1. Do public speaking.

2. Describe his /her likes and dislikes for five minutes in the classroom.

3. Basic etiquette during a conversation with another person, overcome shyness etc.

8.2.1 Introduction

I are living in an information age where communication is an integral part of our lives. We have to send, receive and process huge number of messages every day. But effective communication is more than just passing information to each other. An effective communication is about understanding the emotion behind the information. Effective communication can develop relationship at home, work, and in social situations by excavating our connections to others and improving teamwork, problem solving and decision making.

Effective communication skill is a learned skill, it is more effective when it's spontaneous than formula.

8.2.2 The Communication Process

The process of conveying information through the exchange of thoughts, ideas, feelings, intentions, attitude by speech, gesture, writing etc. is known as communication. It is the meaningful exchange of information between two or more participants.
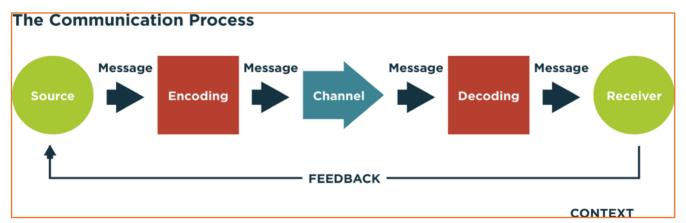
Fig.8.2.2: The Communication Process

Communication requires a sender, a message, a medium and a recipient. Communication process is not complete if a receiver does not understand the sender's message.

Communication with other involves three steps:

1. **Message:** First of all the information exists in sender's mind. It could be a concept, an idea, a formation or a feeling.

2. **Encoding:** A message is sent to the receiver in words or other symbols.

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

8.2.3 Verbal and Non-Verbal Communication

There are three main types of communication. These are:

1. **Verbal Communication:** It means you listen to a person to understand what message the person is trying to convey. The speaker have the advantage of immediate feedback. This type of communication is best for conveying emotions and can involve storytelling and critical conversations.

2. **Written Communication:** Letters, books, newspapers are few of the examples of written communication. Printed media, emails can also be categorised into this communication. They are asynchronous, can reach many readers and are best for conveying information.

3. **Nonverbal Communication:** A nonverbal communication can also be called Body language because this communication does not involved any verbal interaction but mere observation of the people involved in the communication. Both verbal and written communications convey nonverbal communication and are also supported by body language, eye contact, facial expression, posture, touch and space.
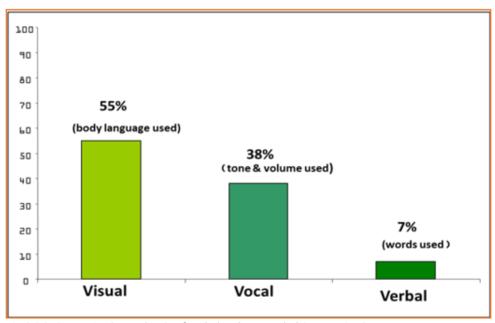
Fig.8.2.3: Categorization and ratio of Verbal and Non-Verbal Communication

According to a study only seven-membered of a receiver's comprehension of a message relies on sender's actual words, 38th relies on paralinguistic communication (tone, pace and volume of speech) and 55th relies on nonverbal cues.

Research shows that once people are lying they're more doubtless to blink more frequently, shift their weight and shrug.

8.2.4 Communicating Effectively Identifying Barriers

There are various reasons why communication is not effective and successful. These failures are because of the barriers in communication which occurs at any stage in the communication process. Barriers may lead to one's message becoming misleading and therefore at risk of wasting both time and money by causing confusion and misunderstanding. Effective communication involves overcoming these barriers and conveying a flawless and concise message.
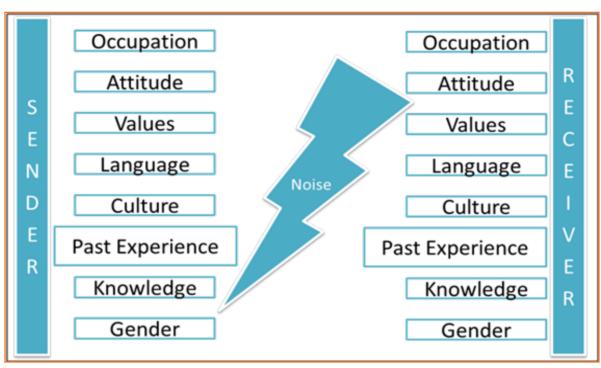
Fig.8.2.3: Barriers in Communication

A skilled person should remember these barriers and try to reduce their impact by regularly checking understanding or by giving correct feedback.

Dealing with Barriers

- Use simple, easily understood word. Over complicating makes things confusing

- While speaking in other language always prepare beforehand

- Always give or take feedback to ensure the effectiveness of communication

- Be alert to cues

- Listen, listen, listen …

- Test your understanding

- Share opinions, perceptions

8.2.5 Effective Communication-Practice

Active Listening

Listening is one of the most significant skills one can have. To become a better listener, it is important that you practice active listening at all time of verbal communication.

8.2.5.1 Some tips for active listening

- **STEP 1:** Concentrate what the person is talking about and not on noise or other external distractions.

- **STEP 2:** Understand his emotions and you get it all right. Is the speaker angry, happy or plainly inquisitive?

- **STEP 3:** When the speaker is saying or telling something, don't break the chain of his thoughts.

- **STEP 4:** Don't avoid completing sentences of the speaker. Let them speak and speak only after they finish.

- **STEP 5:** It's alright if you haven't understood at first chance. Request to repeat the information.

- **STEP 6:** Practice makes a man perfect. Listen intently, focus and ignore other noises. Listen more and talk when required.

It takes lots of concentration and determination to be active listener. Previous habits are arduous to break and if your listening habits are not good then you have to break those. Start listening deliberately and prompt yourself frequently that your goal is to hear truly what the other person is saying.

UNIT 8.3: Grooming and Hygiene

Unit Objectives ◎

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

1. Maintain cleanliness and hygiene.

2. Keep their dress clean and tidy.

3. Maintain positive body language while speaking.

4. Enable to perform more of the do's than the don'ts.

5. Learn about good eating habit and their impact on health.

6. Avoiding bad things such as gutkha and alcohol.

7. Learn about AIDS and its prevention.

8.3.1 Personal Grooming

An art of keeping your body and mind clean is Personal Grooming. It is very important that everyone should take care of their hygiene n cleanliness. Due to this, one would not just look good but feel healthy to. Taking care of your body appearance is imperative. Once you enter your store/department you need to be dressed in full uniform as per company standards, and also properly groom yourself as per the service ethics.

Fig.8.3.1: Personal Grooming

Personal grooming not only makes us presentable but also makes us feel confident about ourselves. Good personal hygiene is essential for good health. Habits that are considered personal grooming include, bathing, dressing, applying makeup, hair removal and taking care of one's teeth, nails and skin.

Appearance

- The front line person/team is the brand ambassador of the company, just like the face is to your body. The customers visiting the stores are greeted by this team and lend their assistance. Hence they are expected to present a neat & clean looks.

- When in store premises, even during off-duty hours, a well-dressed appearance needs to be maintained. They are expected to be in uniforms (including shirt, trousers, shoes & socks) which must be worn clean & ironed.

- We should take care about no stains, broken buttons, or loose thread present on the uniform.

- You should always clean & polish your shoes. Sandals/slippers/sports shoes and white socks should not to be worn during on duty.

- Nails must be trimmed and clean.

- Hair should be neatly combed before commencing duty. For female members hair should be tied up if longer than shoulder length. Display ID cards when on duty is a must since accountability is important for the customers.

8.3.2 Specific Uniform Guidelines

Sr. No.	Specifically for Men	Specifically for Women
1	Uniform prescribed should be clean and pressed.	Women having long hair should tie it with rubber band or hair clips and not keep it loose. She should apply much oil in hair.
2	Shoes should be clean and polished.	They should avoid bright color nail polish and long nails as they'll be a cause to distract customers or harm the merchandise on display.
3	Hair must be short, clean & tidy.	Minimum, non-flashy jewellery should be worn.
4	One is expected to have a clean shaven look.	Dangling earrings, noisy anklets & bangles must not be worn on the floor
5	In case of beards/moustaches, must be trimmed, neat & tidy.	Only very light make-up to be applied (lip- stick of very light shades only)
6	Nails should be cut or trimmed neatly at regular intervals.	Any type of earrings studs & bracelets are not to be worn on the floor during official hours.

Fig.8.3.2: Specific Uniform Guidelines

8.3.3 Body Posture

- Staff needs to keep their hands clean at all times as they mostly will be handling merchandise or in contact with customers.

- Avoid biting nails on the floor.

- Manage body odour & bad breath to be under control as they are offensive to the customer.

- Maintain straight & upright posture on the shop floor.

- Slouching on the floor, hands in pockets, hands on the hips are not courteous to the customer & hence should be avoided.

It just takes a few seconds for people to assess others when they meet for the first time. The other person creates an opinion based on appearance, body language, mannerisms and how one is dressed. For creating a first positive good impression always follow these things:

- Be on time

- Be yourself and be at ease

- Present yourself appropriately

- Always smile

- Be courteous and attentive

- Be positive

8.3.4 Positive Body Language

While meeting someone for the first time always remember that not only you should talk positively but your body language also needs to be positive. There are some tips for positive body language as:

- Avoid your pockets. Keep your hands out of your pocket. Hand in pocket shows we are uncomfortable and unsure of ourselves. Keeping our hand in open indicates confidence and show that people has nothing to hide.

- Don't Fidget. Fidgeting is a clear sign of nervousness. An individual who can't keep still is an individual who is worried, tense and not confident. Keep your gesture calm and under control.

- Keep your eyes forward. This indicates that you are interested in communication with other.

- Stand up straight with your shoulders back. It communicates confidence.

- Take wide steps. It makes you seem purposeful and suggest a personal tranquility and denotes confidence.

- Firm handshake. Grip other persons hand firmly and confidently instead of getting a palm full of dead fish. Firmness adds warmth and enthusiasm to the handshake. But make sure that you don't crush the other person's hand and don't hold on too long.

- Don't cross your arms when meeting other persons. This is a protective posture.

- Use contact to show appreciation.

8.3.5 Personal Hygiene

What is Personal Hygiene?

Personal Hygiene is the set of practices to follow to preserve one's health. Maintaining a high level of personal hygiene will help to increase self-esteem while minimizing the chances of developing infections. Poor personal hygiene can have significant implications on the success of job applications or chances of the promotion.
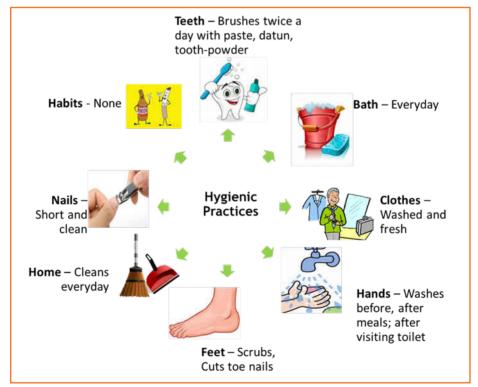
Fig.8.3.3: Personal Hygiene

Why to brush teeth?

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Brush your teeth in the morning and before going to bed with paste, datun or tooth powder

Fig.8.3.4: Brush teeth

Fig.8.3.4: Take bath

Why to take bath?

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Why to wear clean clothes?

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Fig.8.3.5: Clean clothes

Fig.8.3.6: Cut nails

Why cut nails?

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Why wash hands?

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Fig.8.3.7: Wash hands

8.3.6 Physical Fitness

Apart from following these hygienic practices, one should also be physically fit. Physical fitness is an outcome of regular exercise. Exercise may be of many different forms. Jogging, morning-walk, weight-lifting, gym, swimming, cycling, yoga and many more.

Advantages of Physical Fitness

- It maintains optimal body weight.

- It reduces risk of diseases.

- It boosts confidence and self esteem.

- It reduces stress, anxiety and depression.

Fig.8.3.8: Physical Fitness

Healthy Eating

We can follow hygienic practices and exercise regularly, but what we eat has the biggest impact on our health. To be healthy, one has to eat healthy. But what do we mean by eating healthy?

Eating a healthy, balanced diet provides nutrients to our body. These nutrients give us energy; keep our brain active and our muscles working.

Fig.8.3.9: To eat

Fig.8.3.10: Not to eat

What are healthy eating habits?

- Always try to eat home-made food

- Avoid oily food

- Always cook and eat fresh food

- Avoid junk food like burgers, carbonated drinks etc.

- Eat fruits regularly

- Drink lot of water

Things to be avoided

There are certain habits that have severe ill-effects on one's health. Such habits should be avoided for a healthy life.

Alcoholism

It's the tendency during which one consumes alcohol to manage difficulties or to avoid feeling unhealthy.

Alcohol has the potential to interrupt almost every organ in the body as well as the brain. Uncontrolled consumption of alcohol not only affects a drinker's health but also human relationship and social standings.

It's effects:

- Health increase risk of heart diseases, cancer, impaired immune system, liver infection (Cirrhosis) etc.

- Reduced work focus and drop in performance

- Degradation in social and economic status

- Withdrawal symptoms like anxiety, trembling, fatigue, headache and depression etc.

Fig.8.3.11: Effects of alcohol

Tobacco

Tobacco is the second largest cause of death in the world. It claims one death in every six seconds.

Smoking is a practice of burning a substance and inhaling the smoke coming out of it. Common smoking implements include cigarette, bidi, hookas and pipes. According to a report every year 4.9 million people die worldwide as a result of smoking. Smoking is prime cause of lung cancer. According to a study male smoker lose an average of 13.2 years of life while a female smoker lose 14.5 years of their life. Smoking increases 50 % chances of heart diseases than a non smoker.
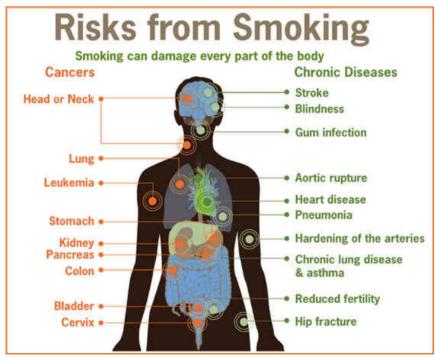
Fig.8.3.11: Risks from smoking

Chewing tobacco is a product consumed by placing a portion of it between the cheek and upper gum or upper lip teeth and chewing. Having tobacco increases the risk of oral cancer.

It's effects:

- It is the biggest reason for oral cancer which effects mouth, tongue, cheek, gums and lips

- Chewing tobacco lessens a person's sense of taste and ability to smell

- Smokers face a greater risk of suffering from lung cancer

Gutkha

Gutkha is extremely habit-forming and a acknowledged substance. Excessive use of gutkha can cause loss of appetite; promote uncommon sleeping pattern and loss of concentration beside different tobacco related issues. A gutkha user may be simply illustrious by prominently stained teeth ranging from dirty yellow orange to scarlet black. The stains are powerful to remove by normal brushing sometimes want the attention of dentist. According to a world adult tobacco survey 53.5% of Indians use tobacco products. Gutkha's each sachet contains 4000 chemicals, including 50 that cause cancer, Betel nut, Tobacco, Flavouring.

Impact of Gutkha on health:

- Loss of sensation in tongue

- Disfigured mouth

- Increased sensitivity to heat, spices, cold and spices

- Inability to open the mouth

- Swelling, lumps, rough spots on gums or in other places inside the mouth

- Unexplained bleeding in mouth

- Difficulty in swallowing and finally Mouth Cancer

Fig.8.3.12: Oral Cancer

8.3.7 AIDS/HIV Awareness

The full form of AIDS is Acquired Immunodeficiency Syndrome. AIDS is caused by HIV (Human immunodeficiency Virus). It is the last stage of the HIV infection, if a person is HIV positive, he/she is suffering from AIDS.

According to a survey number of AIDS patients in India is between 2 to 3.1 million almost 50 % of total patients of AIDS. More men are HIV positive than women. A total of population of 0.29% females are suffering from AIDS while 0.43 % males are suffering.

AIDS is transmitted by:

- Unprotected sexual relationships

- Contaminated blood transfusion

- Hypodermic Needles

- From infected mother to child

Fig.8.3.13: NACO Logo

As per studies in India HIV/AIDS is largely due to unsafe sex worker interactions. About 86 % HIV incidents in the country is from unprotected sex. Migrant workers, truck drivers and majority of men who have sex with men pose greater risk of infecting their spouse and unborn children. People between 18-29 age groups accounts for 31 % of AIDS burden.
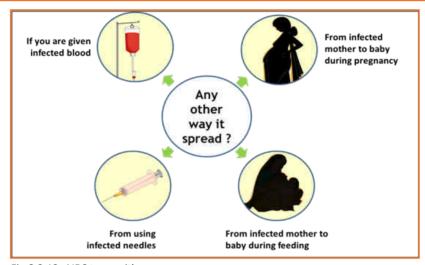
Fig.8.3.13: AIDS transmition

There are no medicines or vaccines for AIDS so far. The treatment and medicines which are available in the market are expensive and have side effects.
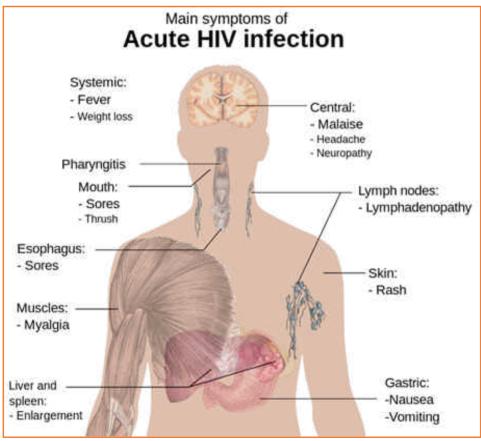
Fig.8.3.14: Acute HIV Infection

AIDS is not a disease like cancer or malaria, but is a condition that weakens a person's ability to fight diseases (immune system).AIDS not only affects you, but also has severe impact on family and friends. Even one mistake is enough to get HIV positive.
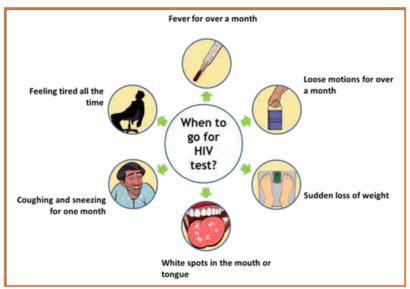
Fig.8.3.15: AIDS non-nispersing Deseases

Stay faithful

- In India large number of people move around for work, mostly men.

- Are you one of them?

- Take care. See that you don't catch any infection from AIDS.

- Even one visit to a sex worker may result in HIV infection.

- So it is advisable to avoid multiple sex-partners and always use protection (condoms/nirodh) during intercourse.

Fig.8.3.16: Condoms

AIDS does NOT spread through

- Sitting close

- Working together

- Hugging

- Touching hands

- Mosquito bite

- Saliva or cough

- Taking care

- Sharing clothes

- Eating together or sharing utensils

8.3.8 Case Study

Gautam is a plumber. His family lives in a village. He travels from place to place. Once he visited a sex worker. After one month he fell ill. He went for a checkup and found he had AIDS. Gautam did not know it, but that sex worker had AIDS. He was infected from that one visit.

Share four things that you know or learnt about AIDS.

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Always remember:

- AIDS has no cure but can be prevented, therefore be cautious of it not afraid of it.

- Be faithful to your partner and always use condom while making any sexual contact.

- Take blood only after checking proper medical certificates.

- Do not discriminate HIV positive people.

UNIT 8.4: Interpersonal Skill Development

Unit Objectives

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

1. Develop a positive attitude and behaviour.

2. Understanding Goal Setting.

3. Motivated for team participation at work.

4. Learn how to manage relations.

5. Learn about Stress and anger management skills.

6. Learn to develop leadership qualities.

8.4.1 Introduction

Interpersonal skill development is the blend of different traits of day to day life that play an important role in creating our impression in other's mind. It starts from inside. The role of interpersonal skill development is to help us understand how to make choices about our attitudes and actions. It enables us to understand:

- Where are we now?

- How change and growth occur successfully?

- How we can change our attitude to get results we want and to be more effective in work and personal life?

One can learn to control over many aspects of our job and their environment by making appropriate choices and responses.

These include various traits like:

- Positive Attitude

- Motivation

- Goal Setting

- Team Work

- Managing Relations

- Etiquette

- Stress and Anger Management

- Conflict Resolution

8.4.2 Positive Attitude

What is attitude?

- Our approach...

- Our outlook towards situations and others...

- The emotions we express towards others.

- Our attitude must be positive and hopeful.

Remember:

- Luck favors those who help themselves

- Don't wait for things to happen make them happen

- Stay away from negative influences

- Start your day with something positive

- Learn to like the things that need to be done

Positive attitude shows in the following ways:

- Positive thinking

- Constructive things

- Creative thinking

- Optimism

- The motivation and energy to accomplish goals.

- An approach of happiness

Fig.8.4.1: Positive Attitude

Positive attitude results in happiness as well as success. Positivity not only affects you and the way you look at the world, but it also affects work environment and people around you.

8.4.2.1 Story of Carrot, Egg and Coffee Beans

Raju works as a Supervisor in a factory. He is not happy with his job. One day he spoke about his dejection to his elderly friend, Prashant, who runs a small canteen for the factory workers.

"Prashant I am not satisfied with my job. There are so many problems in the factory. If I solve one, another one crops up. The problems seem to be never ending. I am quite fed up and wish to quit."

Prashant said nothing. He quietly put three pots with water on the stove. He put some carrots into one pot, some eggs into another and coffee beans into the third pot. The water in the pots began to boil.

Raju wondered what was going on! "Oh, here I am with my tale of woes, and this illiterate cook goes about his business!"

After some time, Prashant switched off the stove and put
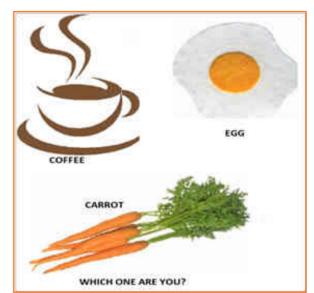
Fig.6.4.2: Story of Carrot, Egg and Coffee Beans

the carrots, eggs and the beans in different bowls. He then said, "My friend, what do you see here?" "Carrots, eggs and coffee", said Raju irritably. "Of course! Now come and feel them one by one", said Prashant. "Oh God! What do you want to prove?" asked Raju controlling his anger. "The carrots have turned soft. The egg is hard boiled beneath its shell and the coffee is stronger in aroma". "Exactly" said Prashant "Each of them faced the

same degree of heat, but each reacted differently. The carrots that were so hard before became soft and weak. The egg was fragile with its thin outer shell, but after boiling it became hardened and the inner liquid portion became hard boiled. But the coffee beans are unique. After boiling in water, they became stronger and richer. So my friend, tell me, are you the carrot, the egg or the coffee bean? How do you respond to difficult situations? Are you like the carrot that is hard to look at but with the slightest difficulty becomes weak and soft? Are you the egg born with a soft heart but became tough and stiff after a difficult or a bitter experience? Or are you like the coffee bean that gets stronger and tougher and reaches its peak in extreme adversity or difficulty?

When things get worse, you get better.

"Thank you Prashant. You've opened my eyes. I shall strive and do my best."

What have you learnt from the story?

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8.4.2.2 Some Successful People

Dirubhai Ambani - Founder of the Reliance brand

Born in Junagadh in a middle class family, son of a school teacher. His mother who had difficulty meeting the ends with his father's income, nagged him to begin earning some money. He snapped at her "Phadia, phadia su karo chho ...paisa no to dhanglo karees ..." Just to show that that he was serious, he once bought a tin of groundnut oil on credit from a local whole seller and sold the oil in retail sitting on the roadside, earning a profit of a few rupees that he gave to his mother.

Fig.8.4.3: Dirubhai Ambani - Founder of Reliance

Next, he began setting up onion and potato fries stalls at village fairs during weekends when his school was closed. When he grew up, he came to Mumbai with very little money and lived in a two room chawl with his family. But dreamt big and worked towards his dreams.
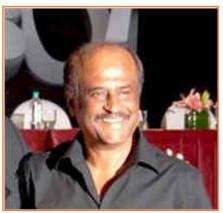
Fig.8.4.4: Rajnikanth: Super star of Tamil cinema

Rajnikanth: Super star of Tamil cinema

- *Hero and demi-God for many thousands*
- *Original name Shivaji Rao Gaekwad*
- *From bus conductor to super star*

Early life:

- *Driven by poverty, went through extreme struggle*
- *No education; Worked as a bus conductor*
- *Entertained passengers in the bus*
- *Got a break in Tamil cinema*
- *Worked with a single mind to become a super hero*

What have you learnt from these two people?

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8.4.3 Goal Setting

Goal setting is a powerful method for considering your ideal future. The method of setting goals helps you to decide on where you wish to go in life.

Goal setting consists of establishment of specific, measurable, achievable, realistic and time targeted aim. Goal setting helps individuals work towards their own objectives. Goals are a kind of motivation that sets the standard for self-satisfaction with performance. Achieving the goal one has for oneself is a measure of success and having the ability to satisfy job challenges is a way one measures success in the workplace. Set SMART goals:

- S : Specific

- M: Measurable

- A: Attainment

- R: Relevant

- T: Time bound

Identify

- What you want to achieve,

- Where you have to concentrate your efforts

- Also spot the distractions that can, lead you astray.

First create your "big picture" (the next 10 years)

- Identify the large-scale goals that you just wish to achieve.

Fig.8.4.5: Goal setting

- Then break these down into the smaller targets that you simply should hit to succeed in your life goals.

- Once you have your plan, you begin working on it to achieve these goals.

Setting goal is important for an individual because:

- Goals narrow attention and direct efforts to goal related activities.

- Goals lead to more effort.

- One works through setbacks if he is pursuing a goal.

- It develops and changes individuals behaviour.

Categorization of Goals

To give a broad balanced coverage of all important areas in your life set goals in all the important categories of your life such as:

- **Career:** What level do you want to reach in your career or where you want to reach?
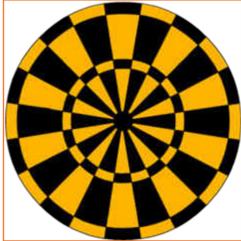
- **Financial:** How much you want to earn, by what stage? How it is related to your career goals?
- **Education:** Is there any specific knowledge you want to acquire in life? What information and skills you need to acquire in order to achieve your goals?
- **Family:** How you want to be seen by your spouse and family members?
- **Health:** Do you want to stay healthy in your old age? What are you planning to achieve this?
- **Public Service:** If you want to make the world a better place, what will you do?
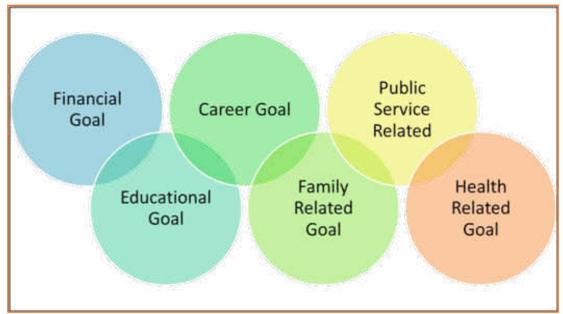
Fig.8.4.6: Categorization of Goals

Write down your two financil goals.

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Write down your two career goals.

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Write down your two educational goals.

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Write down your family related two goals.

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Write down your health related two goals.

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Write down your public service related two goals.

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8.4.4 Team Dynamics

A team is made up of a group of people associated to a common purpose. Teams are especially made to conduct complex works. A team is an example where a people share a goal. This creates a dynamic bond amongst the team members as they are dependent on one another for success. For example a sports team wins or loses as a whole.

Fig.8.4.7: A teamwork

Team members need to learn:

- How to assist each other

- Realize their true potential

- Prepare the atmosphere that is familiar with each member to work beyond their streangth.

Factors of Team Dynamics

- Tolerance and Cooperation

- Set aside feelings of caste, creed, profession

- Put up with each other

- Identify strengths of each

- Who can do what

In a team, there is no room for personal gains and definitely not betrayals. In a team:

- A single person cannot achieve a big task single handedly.

- Big and difficult tasks can be accomplished only through collective effort, through teams.

- In a team, the team members stand by each other during good and bad times alike.

- Work together towards a common goal.

- Divide the task and share the burden.

- Help and accept help from others.

8.4.4.1 Story : Small Fishes and Big Fish

Once there was a shoal of tiny red fish living in the sea. One among them was a little different. His name was Swimmy and he was black in colour. Swimmy was the fastest swimmer in the shoal. The fish would swim around in the sea looking for food. One day when they were busy searching for lunch, Swimmy who was far ahead of the others saw a big fish coming in their direction. The big fish was also looking for his lunch---smaller fish. Swimmy was scared! If the big fish would spot his shoal, all of them would be eaten up. Swimmy thought hard of a way out and quickly came up with a plan. He quickly swam back to his shoal and told all the fish about the big fish and also explained his plan to escape from being eaten.
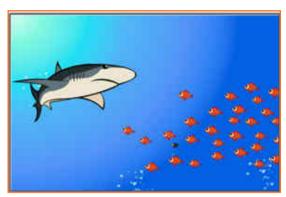

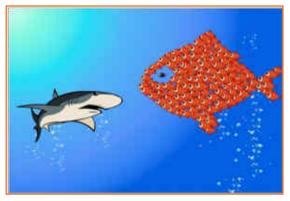*Fig.8.4.8(a): Small Fishes and Big Fish*

When the big fish came closer he was shocked to see an even bigger fish swimming in his direction with its huge jaws wide open. Frightened that he would get eaten up, the big fish swam away. If he had looked carefully, he would have realised that the huge fish was actually all the tiny red fish swimming very closely together in such a way that they looked like one big fish. And little black Swimmy, being different, became the eye of the 'huge' fish!

Fig.8.4.8(b): Small Fishes and Big Fish

What have you learnt from the story?

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8.4.5 Managing Relations

We all have different personalities, different desires and wishes, and different ways of showing our emotions that affects people around us.

70% of the workplace learning is informal, once people discuss with each other at work they really are learning to do their job better. Friendlier staff are effective communicators, more productive and trustworthy more by employers and colleagues.

Tips for improving relations with people around us:

- Observe how you react to people such as do you reach to a conclusion

Fig.6.4.9: Managing Relations

before you know all the facts.

- Look honestly how you think and interact with other people.

- Look at work environment. Do you seek attention for accomplishments or give chance to others.

- Accept your weaknesses courageously and work on them.

- Take responsibility for your actions.

- If you think someone is hurted by you, apologise directly.

8.4.6 Etiquette

Etiquette are nithing but rules operating behaviour regarded as good and acceptable in personal and professional life. Etiquette includes:

Making Positive Impression

- Stand straight, make eye contact and turn towards people when they are speaking and genuinely smile at people.

- Follow the dress code prescribed by the organization.

- When meeting someone for the first time always shake hands with a gentle firmness.

- Always arrive early to work each day.

How you treat with people

- Think how you treat your supervisors and colleagues.

- Don't make value judgments on people's importance at workplace. Respect every individual equally.

- Respect people's personal space at workplace.

Communicating at Workspace

- Keep workspace professional and neat.

- Don't interrupt other people on the workplace.

- Limit personal calls especially when you are working in a manufacturing unit.

- Eat and smoke to the designated areas only otherwise it may disturb other people.

Work etiquette tells the individual a way to behave when handling situations in an exceedingly working environment however the trivial situation is. It also applies to co-worker interaction and communication with colleagues.

Work Ethics

Work ethics is a value based on hard work and attentiveness. Work ethics include:

- **Discipline:** It takes a certain level of commitment to finish your tasks every day. Only with discipline one can stay fixed on goals and determined to complete his assignment.

- **Commitment to work:** A strong sense of commitment to work affects how an individual work and the amount of work he does. When a worker is committed to work he turns up on time, puts in his best efforts and completes the projects to the best of his ability.

- **Punctuality:** It shows that you are dedicated to your work, interested in the work and capable of handling responsibility. Being punctual shows your professionalism and commitment to work.

- **Ownership and responsibility:** Ownership and responsibility stretches in all aspects of an employee's job. Co-workers value the employees' ability to give honest feedback. Supervisors rely on the high moral standards trusting him not create problems and being responsible.

- **Striving to excel:** Keep yourself updated with new developments and knowledge of your field. Learn new skills, techniques, methods required to uplift your career.

Workers exhibiting a good work ethic are usually selected for higher positions, increased responsibility as well as promotion. Workers who don not exhibit good work ethic can be regarded as incompetent and failing to provide a fair value to the employer for the salary.

8.4.7 Stress and Anger Management

Anger is a normal and a healthy emotion. Anger management may be critical for people who find it difficult to keep it under control. There are many health issues related to a unresolved anger like heart attack, high blood pressure, anxiety, depression, colds and flu/fever and digestive problems.

If your heart beats faster and you breathe quickly, tension in your shoulder or clinching your fists beware your body may be showing sign of anger, take steps to calm yourself down. Once you will be able to recognize the signs of anger you can calm yourself down.

Always remember:

- Avoid unnecessary stress, learn to say no and take control of your environment.

- Express your feelings instead of boiling them up.

- Accept the things you can't change.

- Learn to forgive.

- ANGER is only one letter away from DANGER.

- Anger can destroy lives, destroy relationships.

- Put yourself in other's shoes.

- Don't react immediately.

- Post pone for a few seconds whatever you wish to say or do.

- Take a deep breath.

- Speak when you have calmed down.

Fig.8.4.11: Stress Management

Fig.8.4.12: Anger Management

8.4.8 Conflict Resolution

What is a Conflict?

A problem or a situation that may be difficult to understand or to deal with.

Why do we need to resolve conflicts?

- If a problem is not solved or addressed at the right time it may blow out of proportion
- An unsolved problem can be like Cancer which spreads and translates itself into all other areas in life
- Unsolved problems may lead to increased levels of bitterness and frustration
- It may foster bad habits like back-biting, gossiping, etc.
- Persons involved in conflict may lose focus and target each other's character instead of the specific behavior to be modified.

How to work out Conflicts?

1. STOP . . .

   before you loose your temper and make the conflict worse.

2. SAY . . .

   what you feel is the issue. What is the reason of disagreement? What do you like?

3. LISTEN . . .

   to others ideas and feelings.

4. THINK . . .

   of solutions that satisfy both the parties.

If you still can't agree, ask someone else to help you work it out.

8.4.9 Leadership Skills

The ability to lead effectively depends on variety of key skills. These skills are extremely sought after by employers as they involve managing a number of individuals in such a way on inspire, enthuse and build respect. Some of the qualities that every good leader should possess are:

- **Honesty:** If you make honest and ethical behaviour a key value your team will follow the suit.

- **Ability to delegate:** delegating task to one of the appropriate person is the one of the most important skills that needs to be developed. The key to delegation is to identify the core strengths of the team and capitalizing on them.

- **Good communications skills:** Being able to communicate clearly is quite important.

- **Confidence:** Keeps morale of the team high even in the tough times.

- **Commitment:** If you expect your team to work hard and produce quality content then you should lead by example.

- **Positive Attitude:** Keeping teams motivated towards continued success of the company.

- **Creativity:** During the critical situations it is important to think out of the box solutions than to prefer the set course of action.

- **Be decisive:** Plan for the unexpected and nothing will surprize you. If you have thought of things go wrong in a particular task you will be able to make confident decisions on corrective actions when necessary.

- **Focus on the big picture:** Plan future strategies for your department and communicate them to supervisors and staff members. Set realistic and measurable individual and team goals and communicate your expectations within the context of massive picture.

How to become a leader:

- Use initiative to act on opportunities. Become a frontrunner before other people view you together.

- Take responsibility of own objectives, set priorities.

- Attempt to solve the matter instead of to pass on to others.

- Go the extra mile when asked to do tasks. go beyond your job description.

- Show enthusiasm.

- Take ownership of the issues. Anticipate potential issues, take pre-emptive action and act quickly to resolve the issues.

- Introduce enhancements to the ways in which things are done.

- Develop innovative practices. Value innovative thinking.

- Learn new skills that may enhance capability.

UNIT 8.5: Social Interaction

Unit Objectives

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

1. Understand what is social interaction and what are social interaction behaviour.
2. Give a brief description about himself/herself in public.
3. Follow daily duties.
4. Cooperate with peers, family and other members in society.

8.5.1 Social Interaction

Social interaction is a process through which we respond to people talking with us. It includes acts where people perform toward each other and responses they give in return. Social interaction has a number of behaviours. Some of them are:

Fig.8.5.1: Social interaction

- **Exchange:** Exchange is the most elementary kind of social interaction. It's a human process by that social behaviour is exchanged for some kind of reward for equal or greater value.

- **Competition:** It's a process by which two or more individuals plan to accomplish a goal that just one can attain. It will lead to psychological stress, a lack of cooperation in social relationship, difference and even conflict.

- **Cooperation:** It's a process in which people work together to achieve shared goals. Task can not be completed without their cooperation.

- **Conflict:** Social conflict is the struggle for agency or power among a society to achieve control of scarce resources. It happens when two or more individuals oppose each other in social interaction to achieve incompatible goals.

- **Coercion:** People or teams are forced to provide in to the desire of other people or teams.

8.5.2 Self- Introduction

We all, in our lifetime, have to introduce ourselves to the others. The introduction usually lasts for around 2 minutes to 3 minutes. It is very important that it gives the first impression to other about us. It has a great impact on your self-esteem and self-confidence. It's helpful in:

- Feeling better about yourself
- Boosting your confidence
- Building your self esteem
- Making friends

Fig.8.5.2: Self- Introduction

- Feeling in control

Points for Self Introduction

Following are some self-introduction points:

- **Wishes:** It is the first thing that we need to do before addressing a gathering. At this point we need to make effort to grab the attention of audience. You have to wish depending on the time either, Good Morning, Good Afternoon or Good Evening.

  » Good Morning! My dear friends.

  » Respected Sir! Good morning.

  » Special or lovely or cool morning to you all.

- **Purpose:** We have to tell the purpose of coming in front of the audience. We can say I have come here to tell you about myself.

- **Name:** Here you tell about your name….. . To grab the eye of the audience, you have got to present your name differently. If you know you can tell the meaning of your name or nay famous celebrity along with your name.

- **Father's Name:** Here you have to say concerning your father's name. begin your father name as Mr. or Prof. or Dr.

- **Family:** It's a good chance to inform about your family, therefore tell the small print what you want to tell about them.

- **Profession:** Tell about your profession what you're doing at the moment.

- **Location:** Tell about your present location, wherever you're staying and if you would like you can also tell with whom you're living.

You can also tell about your native place. It is better to describe about or tell about your place which is famous for.

- **Hobbies/Habits:** Hobbies means what you like in your leisure and habit means your regular activities. This part tells about your nature and your life style, be careful while telling this.

- **Life Aim:** Tell about what is your aim in life, it will be good if your aim is high. You have to think high and reach high.

- **Achievements:** Tell about what you achieve up to now, minimum it is good to tell about three achievements and maximum five. Though achievements are small, tell them it shows your confidence but don't say I don't have any achievements.

- **Favourite Person's or Ideal:** It is good to say about your ideal persons.

- **Favourite movies, things, colour, places etc.:** if you want to tell your favourites, which tell about your tastes and preferences to others.

- **Your Strengths and Weakness:** You can tell about your strengths and weaknesses. Make sure your weakness should not be absurd or incorrigible.

- **People you like and dislike**: You have to tell what kind people you like or what kind of people you dislike.

- Any turning point in your life

- How are you different from others

- **Conclusion:** In conclusion offer a memorable answer on the question the listeners probably will have when they have listen to your public speaking speech. Tell how this aspect of your life makes you what you are and who you are. It will be perfect ending to your self –introduction.

- Finally say thank you.

You will have to maintain your speech according to the time, generally 3 minutes and you have to make the speech depending on the section of people you are giving the speech and what you want to reveal about yourself.

Improving self-introduction

There are a few things that you can do that helps in making your self-introduction better:

- **Listen to what you are saying to yourself:** Notice what your inner voice is saying. Take some time to listen and even write down what you are thinking.

- **Monitor your self-talk:** Analyse that your self-talk is more positive than negative.

- **Change your introduction:** counter your negative thoughts with positive ones. Avoid speaking negative and try to look for things that might add a better spin to a tough situation.

8.5.3 Our Duties and Responsibilities

There are certain duties which are laid by the Constitution of India. These duties are very to be fulfilled by every citizen of India. These are as follows:

- To bear by the Constitution and respect its ideals and establishments, the national flag and also the national anthem.

- To encourage and respect the noble ideals that galvanized our national struggle for freedom.

- To uphold and protect the sovereignty, unity and integrity of Republic of India.

- To defend the country and render national service once called upon to do so.

- To promote harmony and also the spirit of respect amongst all the people of the Republic of India transcending religious, linguistic and regional diversities.

- To forbid practices derogative to the dignity of ladies.

- To preserve the rich and diversified heritage of our culture.

- To conserve the natural surroundings like forests, lakes, rivers and wild life, and to have compassion for living creatures.

- To develop the scientific temper, humanism and the spirit of inquiry and reform.

- To safeguard public property and to retract violence.

- To try towards excellence altogether spheres of individual and collective activity so that the nation perpetually rises to higher levels of endeavour and accomplishment.

These need to be followed by every citizen of India for development of the country.

8.5.4 Cooperation

The process of groups of organisms working or acting together for their mutual benefit is called cooperation. Cooperation among family members, friends and peers is very common and healthy. It is the backbone of any society.

Family cooperation provides an avenue for a family to come closer. It increases coping skills and decision making. Some steps to promote family cooperation are:

Fig.8.5.3: Cooperation

- **Plan things together:** It calls for negotiation and compromise and teaches everyone to be more tolerant and considerable to other's viewpoint.

- **Share responsibilities:** Diving up necessary household responsibilities can be a good exercise in family cooperation.

Peer support occurs once individuals give knowledge, experience, and emotional, social or sensible help to each other. It's a distinct state of social support in this the source of support may be a peer an individual who is analogous in ways to the recipient of the support.

The effective peer support can be in form of:

- **Social Support:** In form of positive psychological interactions with others with whom there is mutual trust and concern.

- **Experiential Knowledge:** contributes to solve problems and improve quality of life.

- **Emotional support :** Esteem, attachment and reassurance

- **Instrumental Support:** Product and services.

How to be a cooperative person: For being a cooperative person following things needs to be done:

- Listen carefully to others and make sure you perceive what they're expressing.

- Share when you have something that others would really like to have.

- Take Turns once there's something that no-one desires to do, or when more than one person desires to do a similar factor.

- Compromise when you have a significant conflict.

- Do your part the very best that you just probably can. this can inspire others to do the same.

- Show appreciation to people for what they contribute.

- Encourage people to do their best.

- Make people needed. working together may be a lot more fun that manner.

- Don't isolate or exclude anyone. everyone has something valuable to offer, and nobody likes being omitted.

UNIT 8.6: Group Interaction

Unit Objectives ◎

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

1. Participate in group discussions in the class.

2. Give speech in the public.

3. Understand the importance of team building and team work.

8.6.1 Group Interaction

Every day we tend to meet with teams of individuals socially and professionally. However we interact to play a big role in the impressions we tend to produce. Interaction that happens whereas a group completes a cooperative task describes how the group works. For a successful and positive group interaction these steps needs to be followed:

Fig.8.6.1: Group Interaction

- Put your mobile phone away or place in silent mode.

- Greet everyone.

- Be friendly with everyone in the group.

- Show an interest in others by paying someone a compliment and listen carefully to what is being discussed.

- Be proactive and introduce yourself to others in the group.

- Sit up straight. Poor body posture is an indication of low self-esteem.

- Focus your attention on the person talking.

- Don't discount anyone's comment. Remember everyone is different and have different the ability to think.

- Think before you speak. Don't be too quick to jump into the conversation.

- Be a respect listener and observer.

- Include everyone when talking. Be sure to share eye contact with each person in the group.

- Unless there is a clear indication don't change the topic. Otherwise it will make people feel you are not interested in the topic.

- Don't start or participate in a side conversation. Don't allow their mistake to prevent you from being a good listener.

- Make sure to smile shake hands and embrace and use each person's name when conversation and the person's name when the discussion is over.

Everything you are doing in a group setting makes an effect on everybody in the group. Don't ever suppose something doesn't matter. Everything matters. Take every chance to take part in informal and formal group interactions. Begin by creating small contributions to discussion, prepare an issue to raise or accept as true with another person's remark. ask for other persons opinion.

8.6.2 Importance of Group Interactions

As a participant group interactions is important as:

- It helps you to get a subject more deeply.
- It improves your streangth to think positively.
- It helps in solving a serious issue.
- It helps the team to go on a final decision.
- It provides you the chance to listen to others' ideas.
- It improves your listening skills.
- It increases your confidence in communications.
- It can change your behaviour.

As a moderator a group interaction helps in:

- Understanding a member interpersonal skills.
- Identifying if a member is able to work in a team.
- Understanding ones behaviour.
- Selecting a perspective member in a perspective methodology.

Dos and Don'ts of Group Interaction

Do's	Don't
• Speak pleasantly and in a well mannered way to the group. • Respect the contribution of each speaker. • Remember that a discussion isn't AN argument. Learn to disagree in a well mannered way. • Think about your contribution before you speak. How best can you answer the question/ contribute to the topic? • Try to follow the discussion topic. do not introduce tangential information. • Be aware of your visual communication when you are speaking. • Agree with and acknowledge what you find fascinating.	• Lose your temper. A discussion isn't an argument. • Shout. Use a moderate tone and medium pitch. • Use too several gestures when you speak. Gestures like finger pointing and table thumping will appear aggressive. • Dominate the discussion. Confident speakers ought to enable quieter students an opportunity to contribute. • Draw too much on personal experience or anecdote. Although some tutors encourage students to reflect on their own expertise, keep in mind to not generalize an excessive amount of. • Interrupt. Wait for a speaker to complete before you speak.

Fig.8.6.2: Dos and Don'ts of Group Interaction

8.6.3 Team Work

Team work is a critical part of professional life. They can have a big impact on:

- The profitability of an organisation.

- People enjoy their work.
- Staff retention rates.
- Team and individual performance.
- Company reputation.

Importance of Team Building

Team building activities not only boost morale of the team members, but it can also increase the success rate of the teams. Team building is an important activity as it:

Fig.8.6.3: Team work

- **Facilitates better communication:** Activities that create discussion results in open communication among the employees, and among employees and management. This improves office environment also the quality of work.

- **Motivates employees:** The more comfortable team members are to share their ideas and opinions, the more confident they will be. This motivates them to take on new projects or challenges .

- **Promotes creativity:** Working closely with other team members increase creativity and promotes new ideas.

- **Develops problem-solving skills:** Team building activities that require team members to work closely to solve problems improves the ability to think rationally and logically. Teams that determine when a problem arises and knows the solution can work better when a real problem occurs.

- **Breaks the barrier:** Team building increases trust among workers.

Do and Don'ts of working in a Team

- **Don't argue in public:** if you have a disagreement with someone in the team find a neutral place to discuss the situation.

- **Do encourage each other:** when things get tough the tough gets going. Contribute to the team in trying situation.

- **Don't talk behind the backs: i**f you have trouble with some team member don't share with others. Go directly to the person in a kind and compassionate manner and share what is in your mind.

- **Do lend a hand:** if a team members is asking for help don't hesitate in helping him.

- **Don't be the weakest link:** Live up to your responsibilities, meet team expectations and communicate effectively in the team.

- **Give and receive feedback:** As a part of growing team give and receive feedback respectfully and graciously.

UNIT 8.7: Time Management

Unit Objectives

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

1. Understand the importance of time management.
2. Develop time management skills.
3. Learn about effective time planning.

8.7.1 Time Management

Time management is the process of planning and practicing control over the time given to a specific task, especially to increase effectiveness, efficiency and productivity. It is an activity with the goal to increase the overall advantage of a set of activities within the limited condition of a limited time.

Some effective time management

- Delegate tasks.
- Identify time wasters.
- Combine activities – Plan for them.
- Break down big tasks down to the smallest task possible.
- Accomplish them one by one.
- At the end of the day conduct a simple analysis to see which activity took time.

Fig.8.8.1: Time management

8.7.2 Time Robbers

Time robbers are those activities which create interruption at the workplace. These activities create a deviation from the objectives which needs to be achieved. Time Robbers could be:

- Poor personal planning and scheduling.
- Interruptions by people without appointments.
- Poor delegation.
- Poor use of the media: Telephone, Mobile, e-mail, and fax, etc.
- Reading junk mail.
- Lack of concern for god time management.
- Lack of clear priorities

The Time Robbers can be avoided by:

- Be active all the time.

- Develop and maintain an organized personal activity schedule.

- Set your priorities.

- Proper delegation.

- Utilize modern technical media.

8.7.3 Pareto Analysis

- According to this 80% of the tasks can be completed in 20% of the time. The remaining 20 % of the tasks take 80 % of your time. And the task which should fall in first category should be given a higher priority.

- Time also depends on the type of method adopted to process the task. Methods should always be simpler and easier to complete the task. If we use difficult ways, it shall be result the waste of time. One should always try to find out alternate ways to complete a task.

Urgent Important Matrix

1.The Urgent and Important Tasks	2. The Non Urgent but Important Tasks
DO NOW • Emergencies, complaints and crisis issues • Superiors desire • Planned tasks or project work now due • Meetings with superiors/colleagues	PLAN TO DO THEM • Planning, preparation • Scheduling • Designing, testing • Thinking, creating, modeling the data
3. The Non Important but Urgent Tasks	**4. The Non Important and non-Urgent Tasks**
REJECT AND EXPLAIN • Small requests from others • Ostensible emergencies • Misunderstandings rising in work • Pointless routines or activities	RESIST AND CEASE • Comfort' activities, computer • Games, net surfing, excessive • Cigarette breaks • Chat, gossip, social • Communications • Reading irrelevant and useless material

Fig.7.8.2: Urgent Important Matrix

This matrix helps you understand:

- What should be done

- What should be planned

- What should be resisted

- What should be rejected

The simplest method of managing time is to create a general to do list. Prioritize the task list:

- A daily list of things to do, numbered in the order of their priority
- Start with the most unpleasant and difficult task first latter will completed easily and quickly.
- Map out everything while making a task list
- Learn to say "No" to unimportant things
- Strikeout the things completed so that you are familiar what have been completed and what needs to be completed.

List down the routine activities that you perform in a day.

....

....

....

....

Prioritize the above mentioned activities in the following heads.

Important Tasks	Unimportant Tasks	Urgent Tasks	Not Urgent Tasks

UNIT 8.8: Resume Preparation

Unit Objectives ⊚

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

1. Understand the importance of resume.
2. Learn how to prepare a resume.

8.8.1 Introduction

A resume is a self-declaration which once done properly shows how an individual's skills, experience and achievements matches the need of the work that they wish to get. The sole purpose of a resume is one to win an interview. It convinces the future employer what he wants from the prospective employee in new career or position.

It also establishes an individual as a professional person with high standards and excellent writing skills based on the fact that his resume is written well. It also helps you clarify your direction, qualifications and strengths, boost your confidence or to start out the process of committing to a job or a career modification.

Fig.8.8.1: A resume

One must know about a resume that:

- Your resume is an instrument to get you an interview but not a job
- Employer will be screen your resume for just 15-20 seconds. That's the time your resume will make an impact on employer.

There are different sections on the resume in the same order as mentioned under:

Section	What is the employer looking for
Header	Your identity and to contact you
Objective	To check if their requirement and your objective match
Education	To check if you have the basic qualification for the job/internship you are applying for
Practical Experience/Projects	To see if you have done anything that reflects your potential capability. Also to see how different you are from your peers.
Skills	How equipped you are in terms of your personality traits as well as occupational skills
Interests	Professional aspects apart, how meaningful is your life?
Other	Is there anything else significant and relevant you want to showcase, that will add value to your resume.

Fig.8.8.2: Different sections on the resume

Preparation work and important tips

Before you start preparing your resume make sure to follow the checklist:

- Educational documents from class ten onwards to calculate scores

- Make list of all things that you need to add to your resume. Like internships, projects, part time jobs, extracurricular activities, sports, training, skills, interests etc. the list doesn't need to be complete, you'll always add to the list as you go.

Before preparing resume always remember:

- Every point in your resume should be specific and must be supported be supported by a number of factual information.

- Use action verbs in all your points. They catch attention immediately and make your sentences clear.

- Use bullets not paragraphs.

- Do not mention your responsibilities mention what you have accomplished.

- A common mistake we make while constructing the resume is to copy the format from our friends resume and built it based on that.

8.8.1.1 Resume Header

Purpose: You have to provide some information about yourself, so that the employer can reach you.

Mandatory fields include: Name, current address, email id, phone number, date of birth. Your name should be written in bigger font.

Do Not:

- Include your photo.

- Write RESUME as heading to the file.

- Give details like family information, marital status, etc.

- Add these details to the bottom of your resume or occupy more space to fill up these details.

8.8.1.2 Framing the Objective

Purpose: To convey the employer what goals you have. The focus should be towards getting a particular position in a specific industry.

Always remember:

Your objective should include the following:

- Position wanted

- Functional area

- Industry wanted

- Be specific and restrict it to minimum words.

- You objective should be different to each role you apply to

- While writing the objective, keep the employers requirement in mind. The objective is not what you desire from the company, it's about company's need.

8.8.1.3 Education

The next session in your resume is to highlight your educational qualifications.

Purpose: For the employer to know whether you have basic qualification for the job for which you are applying or not.

Always Remember:

- To write all educational qualifications from class 10 to highest education.

- For class 10 and 12 – include school/college name, Board, Stream/Specialization (If any), year of study, Marks.

- For undergraduate – include College name, University name, Degree and Specialization, year of study.

- Write all your qualifications in reverse chronological order, i.e. the latest qualification on top.

- You may write the educational qualifications in a tabular format or in a simple one after the other order.

8.8.1.4 Projects and Internships

The next part of your resume includes the hands on work that you have done, like projects, internships, in-plant training, part time jobs, volunteering, starting up a company and other initiatives. The number and the nature of initiatives taken defines whether to keep one heading or detail them under different headings.

Purpose: This is a mandatory part of a resume, as your hands on work and the initiatives you have taken apart from your curriculum in what will reflect your real streangth as well as saperate your resume from your peers.

Remember:

- The heading should be – title / project name, role, company/organisation name, -2 lines description about the specific time period.

- Time period is must.

- The entries under each heading must be in reverse chronological order.

- Be very specific on what you have accomplished. Add numbers and facts wherever possible.

Do Not:

- Do not write simple statements. It does not give employer a clear picture of the work you have done. Thus the employer can assume that you have done an internship for the certificate.

8.8.1.5 Skills

Heading: You can have multiple headings under skills. Common heading can include:

- **Soft Skills:** must include, they showcase your personality traits.
- **Core occupational skills:** Optional include if you possess any core skills. These are skills you possess relevant to the role you are applying for.
- **IT Skills:** Optional, suggestive to include if you are applying for IT/software related roles.

Remember:

- List your skill and add a point which supports your skill the best.
- Make specific points. Add numbers and facts wherever possible.
- Pick only three to four soft skills that describes you the best.
- Dig your past to discover the best of these skills you possess and the best example you can quote to support it.

8.8.1.6 Interests

In this section of your resume carefully choose which of interests you want to showcase on your resume so that they can make your life seem meaningful.

The interests you showcase talk about your character. These interests frequently come up as a subject of discussions during the interviews, therefore sagely choose what to show.

Remember:

- List interests which are meaningful and display some learning.
- Support the interest you have listed
- Make points specific and add supporting fact to it.
- Do not just list random cluster of interests like: adventure, guitar, reading, environment
- Never include interests like partying, watching movies etc. they create wrong impression.

8.8.1.7 References

Give References

The very last thing on your resume ought to be a list of 2-4 professional references. These are all those who you're not related to, but whom you have handled in a professional manner. you would possibly think about previous leader, faculty member or volunteer coordinator to include on your reference page.

- Include the name of the reference, their relationship to you, mailing address, e mail and telephone number.
- The place you're applying to could contact these people, therefore always call them in advance to allow them to understand that you are using them for a reference and are presently applying for a job.

8.8.1.8 Points to Remember

- Make sure that the length of your resume doesn't exceed a pair of pages.

- Do a thorough recheck and confirm there are fully no errors in your resume. No grammatical errors, no spelling mistakes, no punctuation errors.

- Run through your resume time and again for to create enhancements and phrasing sentences better.

- Choose a professional font in a size eleven or twelve. You can use multiple fonts for different elements of resume, but try to limit it most of two fonts. Instead changing between fonts, strive creating specific sections bold or italicized instead.

- The font size of your header and the introduction to a part may be a size fourteen or sixteen.

- Your text should be printed in solid black ink. Ensure to deactivate any hyperlinks so that they don't print in blue or other contrastive colour.

- Your page ought to have one inch margin all the way around with 1.5 or 2 point line spacing. The body of your resume ought to align left and your header should be centred at the top of the page.

UNIT 8.9: Interview Preparation

Unit Objectives

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

1. Understand the procedure of interview.
2. Go thorough mock interviews.
3. Understand how to present themselves during an interview.
4. Motivated to work after the training period is over.

8.9.1 Interview

An interview is a conversation between two or more individuals (the interviewer(s) and the interviewee) wherever queries are asked by the interviewer to get information from the interviewee. An interview is the first and last hurdle you need to cross in order to get employment.

Fig.8.9.1: Interview

Common Types of Interview

1. **Traditional HR Interview:** Most of the interviews are face to face interviews. The most traditional is a one-to-one conversation with the Human Resources Executive where the candidate's focus should be on the person asking question. You are advised to maintain good eye contact, listen keenly and answer promptly.

2. **Panel Interview:** In this situation, there is more than one interviewer. A panel ranging from two to ten members may conduct this part of the selection process. This is an ideal chance for you to display group management and group presentation skills.

3. **Technical interview:** The objective of this interview is to basically evaluate technical knowledge. Majority of the questions will be based on the skills sets mentioned in the candidate's resume.

4. **Telephonic Interview:** Telephonic interviews are used for initial screening of candidates who live far away from the job site.

Before going for an interview, it is important to have clarity of the role you are applying for. It's also important that for you to know where you are applying and whom will you be talking to. Your answers should tell the employer that you are the match they are looking for.

This requires you to do a small research on the following fields:

- Company & Field

- Job Description

- Yourself (Skills, Values & Interests)

- Resume (Experience)

If you were an employer, you would have chosen a person who is sure of himself, calm and confident. So it's important that you are:

- Confident

- Relaxed

- Sure of yourself

- Prepared

- Before, during and after the interview, it is important for you to be prepared.

- Dress Professionally

It is important that you dress professionally. It is a proven fact that the way we dress makes a huge difference in the way we are perceived. 90% of the way you communicate with other people is through body language (gestures, expressions, etc.) and the first Impression we make. It is very simple to make a great first impression.

For a good first impression it is important those we:

- Smell good

- Have a professional appearance

- Pay attention to your grooming

- Make eye contact

- Know what and how you speak

- Our overall personality contributes to our complete perception.

How to dress for Interview

Men	Women
Long-sleeved buttoned shirt (clean and pressed)	**Conservative pump, no stilettos**
Dark shoes (cleaned and polished) and dark socks	Jewellery -One set of earrings (preferably knobs)
Get a haircut (short hair is always best)	No bangles
No Jewellery (chains, earrings, piercing)	Minimal use of makeup
No beards or Tattoos	

Fig.8.9.2: Dress for Interview

8.9.2 The Do's and Don'ts in an Interview

Some of you might have faced an interview and some of you might not have. However, by now, you definitely have a better understanding what are the accepted standards of a professional behaviour. Read the sentences given and mark them as do's or don'ts, in relation to an interview:

Sentence	Do's	Don'ts
Be yourself		
Burp while talking!!!		
Just out from a 'powder factory' (worn too much make-up)		
Reach just about the right time for the interview		
Just barge in the cabin/ office		
Forget to greet the receptionist/ don't respond		
Think before you speak		
Do your homework- Visit the company website		
Take time to think (TTTT)		
Wear bright colour clothes on the D-day		
Emphasis on your strengths		
Argue/ Debate with the interviewer		
Chew gum during the interview.		
Review your educational and work experiences		
See your documents flying out of the file (Being clumsy)		
Thank the interviewer		
Have the 'they need me' attitude		
Maintain eye contact and good body language		
Only give monosyllabic answers(depends on the kind of questions asked...in-between)		
Carry a copy of your resume		

Fig.8.9.3: Do's and Don'ts in an Interview

8.9.3 During the Interview

- Be confident, not arrogant

- Sell yourself - Keep your energy up

- Maintain your posture

- Be positive, don't complain

- Know your resume and accomplishments.

It isn't sufficient to have ideas. They have to be expressed effectively in the interview. The parameters that the candidates are assessed on during the interview are very simple. These are the parameters that this training program has prepared you for.
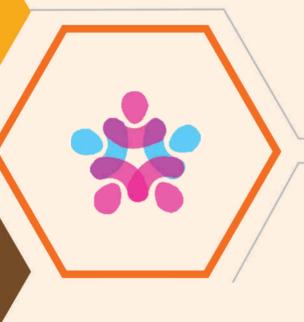
8.9.4 Active Listening

- Clarity on ideas and expressions
- Correct language
- Good body language
- Fluency
- Ideas should be expressed fluently in the right tone, right voice, and right articulation

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9. IT Skills

Key Learning Outcomes 💡

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

1. Familiarise with computers
2. Identify and use basic uses of a computer
3. Familiarise with a computer motherboard
4. Familiarise with a computer operating system
5. Use Microsoft Word, Excel and Powerpoint
6. Familiarise with Internet and use e-mails

UNIT 9.1: Introduction to Computer

Unit Objectives

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

- wifferentiate the advantages and disadvantages of computer.

9.1.1 What are Computers?

Computer is the greatest technology of all times. An innovative electronic device that takes raw data as input from the user and processes these data under the control of set of instructions which is called program, to give the result the output. The first fully electronic computers, announced in the 1940s, were huge machines. The computer of today's time is thousands of times faster and in any size you want. They can fit on your desk, on your lap, or even in your pocket. Computers work through an interface of hardware and software.

Computers work through an interaction of hardware and software.

- **Hardware = Internal Devices + Peripheral Devices:** All concrete parts of the computer (or everything that we can touch) are known as hardware. The most significant piece of hardware is a tiny quadrangular chip inside the computer called the central processing unit (CPU), or microprocessor. It's the "brain" of the computer— the part that interprets instructions and performs calculations. Hardware items such as your monitor, keyboard, printer, mouse and other components are often called hardware devices.

- **Software = Programs:** Software provides "intelligence" to the computer. Software refers to the instructions, or programs, that tell the hardware what to do. A word-processing program that you can use to write letters on your computer is a type of software. The operating system (OS) is software that manages your computer and the devices linked to it. Windows is a well-known operating system.

9.1.2 Advantages of Computers

Compared to conventional systems, computers offer many notable benefits. The main benefits offered by computers are as follows:

- High Accuracy
- Superior Speed of Operation
- Large Storage Capacity
- User-friendly Features
- Portability
- Platform independence
- Economical in the long term

Exercise ✎

1. When was the first fully electronic computer introduced?

   a) 1930s

   b) 1940s

   c) 1950s

   d) None of these

2. Give 3 examples of the hardware components of computers?

   ....

   ....

3. What is an Operating System (OS)?

   ....

   ....

4. Mention 3 advantages of computers

   ....

   ....

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UNIT 9.2: Basic Computer Knowledge

Unit Objectives

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

- Use computer.

- Explain the web, email services.

What can you do with computers?

In the workstation, many people use computers to keep chronicles, records, analyze data, do research, and manage projects. At home, you can use computers to find information, track finances, store pictures and music, play games, and connect with others—and those are just a few of the opportunities. You can also use your computer to link to the Internet, a network that associates computers around the world. With Internet access, you can interconnect with people all over the world, communicate with them and find a vast amount of information. Some of the most prevalent things we can do with computers are cited in this chapter.

9.2.1 The Web

The World Wide Web is an enormous warehouse of information. The web is the most prevalent part of the Internet, partly because it exhibits most information in a visually pleasing format. Headlines, text, and images can be combined on a single webpage—along with sounds and animation. A website is a collection of interconnected webpages. The web contains millions of websites and billions of webpages.

Surfing the web means reconnoitring or exploring it. You can find information on the web about almost any topic possible. For example, you can read news stories and movie reviews, check airline schedules, book a hotel, find places to dine, see street maps, search the route to reach a place, get the weather forecast for your city, or research a health condition.

Fig.9.2.1: A Microsoft Web Plateform

9.2.2 E-mail

Who writes letters these days? Email which is a short form for electronic mail, is the most appropriate way to communicate with others to date. When you send an e mail message, it arrives almost instantly in the receiver's email inbox. You can send email to many people at the same time and you can save, print, and forward email to others. You can send almost any type of file in an email message, including documents, pictures, and music files.

Fig.9.2.2: Email Link (Exampple)

9.2.3 Instant Messaging

Instant messaging is like having a real-time conversation with another person or a group of people. When you type and send an instant message, the message is instantly visible to all participants. Unlike an email, all participants have to be online (connected to the Internet) and in front of their computers at the same time. Interaction by means of instant messaging is called chatting.

Fig.9.2.3: Instant Messaging

9.2.4 Pictures, Music and Movies

If you have a digital camera, you can move your images from the camera to your computer. Then you can print them, create slide shows, or share them with others by e mail or by posting them on a website. You can also listen to music and watch movies on your computer. Computer has become a prominent source of entertainment.

Fig.9.2.4: Media Resources Icons

Exercise

1. Give 3 examples of how you can use computers?

....

....

2. All participants have to be online and in front of the computers for instant messaging to work?

   a) True

   b) False

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UNIT 9.3: Components of Computer

Unit Objectives ◎

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

• Know the different parts and components of computer.

9.3.1 Motherboard

The motherboard is the main element inside the case. It is a large rectangular board with combined circuitry this connects the several parts of the computer as the CPU, RAM, Disk drives (CD, DVD, Hard disk or any others) as well as any other peripherals linked via the ports or the expansion slots. Components directly attached to the motherboard include the following.

The central processing unit (CPU)

The central processing unit (CPU) performs most of the calculations that allow a computer to function and is sometimes referred to as the "brain" of the computer. It is usually cooled by a heat sink and fan.
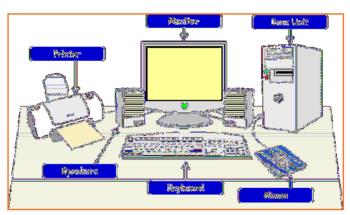
Fig.9.3.1: Different parts of a Computer

The chip set

The chip set aids communication between the CPU and the other components of the system, including main memory.

RAM (Random Access Memory)

RAM (Random Access Memory) stores all running processes (applications) and the current running OS.

The BIOS

The BIOS includes boot firmware and power management. The Basic Input Output System tasks are handled by operating system drivers.

Internal Buses

Internal Buses connect the CPU to various internal components and to expansion cards for graphics and sound.

Exercise

1. What is the full form of CPU?

   ....

   ....

2. What does the Chip Set do?

   ....

   ....

3. What is the full form of BIOS?

   ....

   ....

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UNIT 9.4: Concept of Operating System

Unit Objectives ◎

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

• Familiarise with the concept of operating system.

• Work on Windows 8 and 8.1.

• Add or Remove desktop icons, make or delete a folder etc.

9.4.1 Windows XP

Windows XP is a personal computer operating system created by Microsoft as part of the Windows NT family of operating systems. Basically it lets you use different types of applications or software on the operating system For example, it allows you to use a word processing application to write a letter and a spread-sheet application to track your financial information. Windows XP is a graphical user interface (GUI).

Learn more about Windows XP by exploring it

There are various versions of Windows, when you install any version of Windows on your operating system it is called 'upgrade´ your system. Below are the images of different versions of windows for your more clarity.

Desktop: The desktop is your work surface in place of a physical workspace at home or work. It is the screen you see once your computer has finished booting up and you are ready to get started.

Wallpaper (Desktop Background): The image on your desktop is called Wallpaper or Desktop Background

Fig.9.4.1(a): Different versions of windows

9.4.2 Tools and Parts of an Operating System

Icons: The small pictures are shortcuts to programs called icons. Double-click icons to start a program. Clicking the Start button also shows a list of programs and other options on the computer.

Taskbar: The blue bar across the bottom of the screen is called the Task Bar.
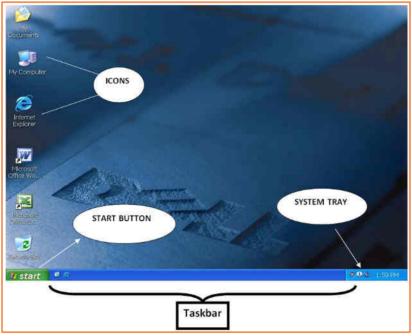
Fig.9.4.1(b): Windows XP Desktop

System Tray: It is an area where you can access programs that are running in the background. The more programs you have in this area, the longer it takes for the computer to boot up. The system tray of a desktop area has icons as shown in the image to indicate which programs are currently running in the background. Once you single click on the left-facing arrow button you would be able to open and see what else is there.

Volume Controls: The speaker icon will open the volume controls. Once you do the single click on an icon you can make a quick volume change. Click and drag on the bar to raise or lower the overall volume, or click in the check box to mute all sound as shown in the picture.

Fig.9.4.2(a): Volume Controler

To view sound settings, right click on the sound icon in task bar and left click on open volume control or double click on the sound icon. To change the volume settings, click and move the volume bars up and down in specific categories. To set volume balance, click and move balance bars right and left. To mute, click the check box below the volume categories.
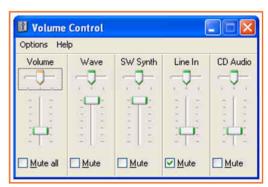
Fig.9.4.2(b): Volume Controler

External Hardware: You might run across this icon on your operating system frequently. This appears every time any piece of external hardware is plugged in. for e.g. USBs like pen drives, digital cameras, external hard drives, etc.
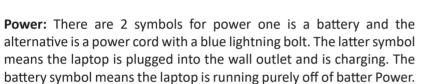
Fig.9.4.3: Removing External Drives

Fig.9.4.4: Message shown AfterRemoving External Drives

Windows Updates: A yellow shield with an exclamation mark on it will appear, if the computer has any updates from Microsoft to be downloaded. Make a single click on the icon to identify what needs to be done as shown in the picture, once you single click, your computer will walk you through the steps.
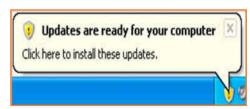
Fig.9.4.5: Message Windows Update

Power: There are 2 symbols for power one is a battery and the alternative is a power cord with a blue lightning bolt. The latter symbol means the laptop is plugged into the wall outlet and is charging. The battery symbol means the laptop is running purely off of batter Power.
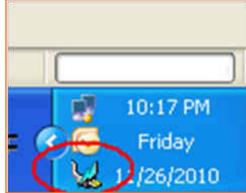
Fig.9.4.6: Icon Showing Charging on Laptop

Wireless: Laptop computers are capable of connecting to a wireless network to achieve access to the web. to connect to a network, right click on the wireless icon and select.

Fig.9.4.8: Network Selection Dialog

Fig.9.4.7: Wireless Network Icon

View Available Wireless Networks: In the Window that appears, select the network from the list that you just need to connect to and click on on the Connectbutton that may appear within the lower right corner.

9.4.3 Add or Remove Desktop Icons

You can add or delete Icons or Desktop Shortcuts from the Desktop area.

To add an Icon:

- **Step 1:** Click on the *Start* button.

- **Step 2:** Put your mouse over *All Programs*. A menu will appeat with all of your programs.

- **Step 3:** Go to the program that you want to create a shortcut for and *Right-click* on it. A menu will appear.

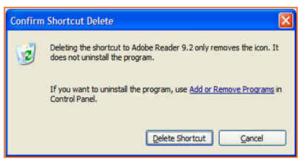- **Step 4:** Point to *Send To.*

- **Step 5:** Left click on *Desktop (create shortcut)*.

Fig.9.4.9: Delete Shortcut

To remove an icon:

- Left click on the icon.

- Hit the *Delete* button on your keyboard.

- When your computer asks if you are sure you would like to delete this program, click on the *Delete Shortcut* button. The window that popped up is called a Dialog Box.

Dialogue box: A dialog box is window that appears once your pc encompasses a question for you. Generally a dialog box appears just to tell you something. You must click on the OK button to acknowledge that you simply have scan the message before you'll be able to continue. For example:

- **Step 1:** Double click on the *My Documents* folder on the desktop.

- **Step 2:** Locate the folder titled *Travel Class*, and right click on it.

- **Step 3:** Left click on *Rename*.

- **Step 4:** Type *eBay* and press the enter key on the keyboard.

- **Step 5:** A dialog box will appear to inform you that you cannot rename the folder to "eBay" because an item by that name already exists.
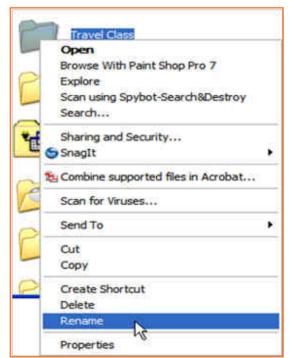
Fig.9.4.10: Rename File or Folder

9.4.4 Create a Folder

Some individuals wish to keep folders on their desktop to keeping vital files in. (You might also use the My Documents folder for this purpose.)

- **Step 1:** Find an empty area on your desktop with no icons or windows in the way.

- **Step 2:** Right click on the empty space.

- **Step 3:** Point to *New*. (You do not need to click.)

- **Step 4:** In the menu that pops out, left click on *Folder.*

- **Step 5:** Your new folder has been created and is waiting for a name. *Don't click!* Just start typing to give the folder a name.

- **Step 6:** When finished, hit the enter key on the keyboard or click beside the folder. Your new folder is ready to receive files.
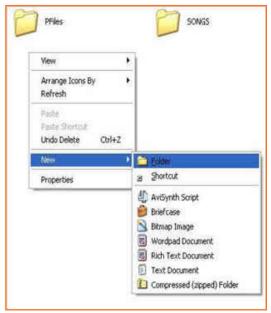
Fig.9.4.11: Create New Folder

9.4.5 Place Your Favorite Webpage as a Desktop Icon

You can create a shortcut of your favorite web page directly on your Desktop:

- **Step 1:** To create the shortcut, you must first open your Internet browser. (Double click on the Internet Explorer icon.).

- **Step 2:** Type in the web address of the page you want to view and hit the enter key on your keyboard.

Fig.9.4.12: I E Icon

- **Step 3:** Once the website is open, restore down the windows to that you can view the Desktop space partially behind the opened webpage.

- **Step 4:** Either, point your mouse at the icon to the left of the web address in the address bar as shown below. Hold down your left mouse button and drag the small icon onto empty space of your Desktop. Let go and a shortcut of your webpage will be created on your Desktop.

9.4.6 Managing Multiple Windows

Your taskbar area shows that windows are open, if you open a lot of windows from the same program, they're going to begin to stack up. Let's open a lot of windows and see what happens.

- **Step 1:** In Internet Explorer, click on the *File* menu and then on *New Window*.

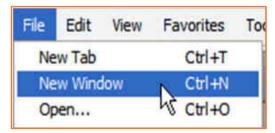- **Step 2:** In the *address bar* type Yahoo.com and hit the *enter key* on the keyboard.

Fig.9.4.13: Create New Folder

- **Step 3:** Repeat the first two steps at least 5 times and go to different websites such as *Google.com, abc.com, nbc.com, msnbc.com, pbs.org, fox8.com, andwews.com*. Your taskbar will start to get full. Once you have seven windows open, they will all group together under one item.

Fig.6.5.14: Application Icons on Taskbar

Normally, if your things aren't grouped along, you would be able to select one item from the taskbar to navigate to that window. After they are all stacked, you have to click on the group and go from there.

- Left click on the group of stacked Internet Explorer windows in the taskbar to open the list.

Fig.9.4.14: Multiple Windows of Application

9.4.7 The Keyboard

A computer keyboard is same as a typewriter keyboard with some extra keys.

Fig.9.4.15: A Simple Keyboard

The ESC key in the upper left corner will close any menus or dialogs you have opened but do not want to select an item from. (Try to open the Start menu and then click on the Esc key.)

The Function keys along the top of the keyboard each key has its special utilisation, often in conjunction with the ALT, CTRL or a combination of both keys, depending on the application you are using. F1 generally opens the program's Help options. It is different for every application.

Fig.9.4.16: Esc Key on Keyboard

Fig.9.4.17: Function Keys on Keyboard

In the bottom left corner are three keys unique to the keyboard – CTRL, Windows, and ALT:

- **The CTRL key** is used in conjunction with other keys to perform various functions. (i.e. CTRL+P will open the print window when in Microsoft Word.)

- **The Windows key** works like pressing the Start button on the screen.

- **The ALT key** is another helper key used in conjunction with other keys.

- **The Caps Lock key** is used in typing. Pressing this key once will make all letters you type CAPITALIZED. Press the Caps Lock key again to turn typing into small letters.

- **The Shift key** is used in typing to make one capital letter. To capitalize a letter, press the Shift key and hold it down, then press the letter you want capitalized. Release the Shift key and continue to type.

- **Page Up** and **Page Down** move the cursor through a document page by page, either up or down.

- **The Arrow keys** help you move the cursor around the screen (when using a program like Microsoft Word) or across a line of text when typing in a text box.

- **The Insert key** is used when typing to replace words you have already typed.

- **The Delete key** removes text you have typed that is to the right of the cursor or to send selected items to the Recycle Bin.

- Pressing the **Home key** sends your cursor to the beginning of a line of text. Pressing the End key sends the cursor to the end of a line.

- To the right of the spacebar you see another **Alt key, Windows key, and Ctrl key**. Notice the new Application key. Pressing this key is the same as pressing the right mouse button (right clicking).

- **The Backspace** key removes text you have typed that is to the left of the cursor.

- **The Enter key** gives a new line (like a carriage return) when you are typing. At other times the Enter key works like a left mouse click.

9.4.8 Common Windows Commands

One feature of Windows is that there are usually some ways to perform an action. This table shows the Windows Command, with the Menu, Keyboard and Toolbar ways to inform the computer to perform that action.

Table: Common Window Commands

Key	Description
Alt + F	File menu options in current program
Alt + E	Edit options in current program
Alt + Tab	Switch between open programs
F1	Universal Help in almost every Windows program
F2	Rename a selected file
F5	Refresh the current program window
Ctrl + N	Create a new, blank document in some software programs
Ctrl + O	Open a file in current software program
Ctrl + A	Select all text
Ctrl + B	Change selected text to be Bold
Ctrl + I	Change selected text to be in Italics
Ctrl + U	Change selected text to be Underlined
Ctrl + F	Open find window for current document or window

Ctrl + S	Save current document file
Ctrl + X	Cut selected item
Shift + Del	Cut selected item
Ctrl + C	Copy selected item
Ctrl + Ins	Copy selected item
Ctrl + V	Paste
Shift + Ins	Paste
Ctrl + K	Insert hyperlink for selected text
Ctrl + P	Print the current page or document
Home	Goes to beginning of current line
Ctrl + Home	Goes to beginning of document
End	Goes to end of current line
Ctrl + End	Goes to end of document
Shift + Home	Highlights from current position to beginning of line
Shift + End	Highlights from current position to end of line
Ctrl + Left arrow	Moves one word to the left at a time
Ctrl + Right arrow	Moves one word to the right at a time
Ctrl + Esc	Opens the START menu
Ctrl + Shift + Esc	Opens Windows Task Manager
Alt + F4	Close the currently active program
Alt + Enter	Open the Properties for the selected item (file, folder, shortcut, etc.)

Fig.9.4.18: Some Important Keys and Their Uses

Exercise

1. Where is the taskbar located on your screen?

   ....

   ....

2. System Tray is an area where you can access programs that are running in the background?

   a) True

   b) False

3. To view sound settings, right click on the sound icon in task bar and left click on open volume control or double click on the sound icon.

   a) True

   b) False

4. When does the image appear on your screen?

   a) When any external hardware is inserted into the computer

   b) When any external hardware is removed from the computer

5. Laptop computers are capable of connecting to a wireless network to gain access to the Internet.

    a) True

    b) False

6. You can add or delete Icons or Desktop Shortcuts from the Desktop area.

    a) True

    b) False

7. What is a dialogue box?

    ....

    ....

8. The ESC key in the upper right corner of your keyboard will

    a) Close any menu you don't need

    b) Open the start menu

    c) Shut down your laptop

9. The CTRL key is used in conjunction with other keys to perform various functions.

    a) True

    b) False

10. What happens if you press the Caps Lock key?

    a) All letters get capitalised

    b) All letter become small

    c) The first letter is capitalised

11. The Delete key is used to remove text you have typed that is to the right of the cursor or to send selected items to the Recycle Bin.

    a) True

    b) False

12. Which is the command to select 'all the text'

    a) Ctrl + C

    b) Ctrl + D

    c) Ctrl + A

    d) Ctrl + X

UNIT 9.5: MS Word

Unit Objectives

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

* Learn the concept of and practice MS-Word.

* Format a document.

* Print a document etc.

Concepts of word processing - MS Word

Most people who use a computer daily use word processing skills. word processing skills enable us to prepare text documents like letters, memos, and different correspondence. most up-to-date word processing software package permits us to create text documents that embody photos and drawings.

Fig.9.5.1: MS Word Icon

9.5.1 Creating a Word Document

Once the document that has opened, type a short paragraph of why you are taking this mini- session. for example, are you new to Microsoft Word 2007 or are you up your software your skills? keep in mind to purposely misspell some words. Later in the session you'll use this paragraph to learn the way to spell check and use basic Word 2007 functions.
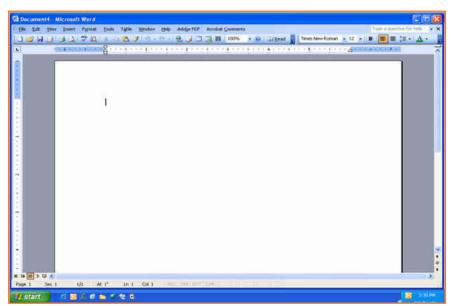
Fig.9.5.2: MS Word Window

The above image shows components of the Word window, that also contains a document in the window. This view displays rulers at the top and along the left aspect that indicate the size of the page.
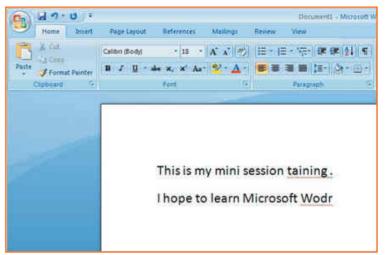
Fig.9.5.3: Writing Text in MS Word

9.5.2 Saving a Document

A Command is used for a first-time save or if you have created revisions to a document and want to replace the previous version with the new revised document. Use the 'Save as' command to save a revised document to a new name, so keeping the original as it was before revisions or to save a copy of a document in a different folder.

- **Step 1:** Save your document in the "My Documents" folder.

- **Step 2:** In the '*File Name*' box enter the document name.

- **Step 3:** Check to make sure in the '*Save As Type*' box the word document is (*.docx.)*.

Fig.9.5.4: Saving a Document

9.5.3 Change Font Type and Size

As shown within the image below, the document that you have just created, you are currently going to format the font size and type different fonts and sizes can offer character to words in your document i.e. once you are creating your resume, you use bold as an 'eye-catcher' also, font size affects word characteristics.

1. **Step 1:** Highlight the text you wish to change the font and size for; in this practice highlight your name.

2. **Step 2:** Click on the font menu, select Theme font for e.g. Arial Black and then select the size of the font (let's say 16) as shown in the image below.
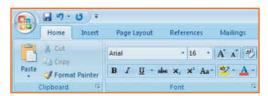
Fig.9.5.5: Change Font Type and Size

3. **Step 3:** Now click on SAVE in the Quick Access Toolbar to save your document (Refer to the second picture below, for saving your document).

9.5.4 Create Headers and Footers by Inserting Texts

Headers and Footers in the word document are needed to insert information like text, page numbers and date. Information on either header or footer can appear in all current document pages by default, you don't have to re-type in the header or the footer column once you add a new page to your current document. The header information appears at the top of the page whereas the footer information appears at the bottom of the page.

Follow to the simple steps and refer to the image below to make it work:

- **Step 1:** Click on the option 'insert' right next to 'Home' from the bar above the word page and select 'Header'.

- **Step 2:** Choose a style you like, (for now use blank).

- **Step 3:** Let's use your last name to fill it; now hit enter.

- **Step 4:** Add today's date and then highlight your last name and date.

- **Step 5:** Click on the Home tab from the menu.

- **Step 6:** Now select 'Home' from the bar and then click on 'left justification button'.

- **Step 7:** finally click 'close Header and Footer'.

NOTE: *the Header Menu will close and return you to your document to continue typing.*
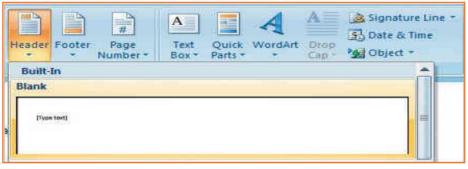
Fig.9.5.6: Headers and footers

Fig.9.5.7: Formatting

9.5.5 Indents and Spacing

Spacing your word document in a right way!

To prepare project reports which needs paragraphs in double line spacing so it is very important to understand how you would be able to change the space between lines and paragraphs by doing the following:

1. **Step 1:** Select the paragraph or paragraphs you wish to change.

2. **Step 2:** Click on the Home Tab then click 'Paragraph' Dialog Box.

3. **Step 3:** Click the 'indents and spacing' Tab.

4. **Step 4:** In the 'Line Spacing' section, adjust your spacing accordingly.

5. **Step 5:** The image below shows visual version of how your page would like.
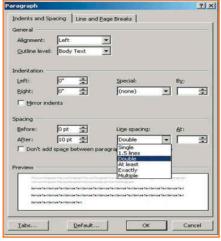
Fig.9.5.8: Indents and Spacing

9.5.6 Modifying Margins

MS-Word 2007 allows you to preview how your paper will look if the margins are modified. The page margins can be modified through the following steps:

- **Step 1:** Click the 'page layout' tab from the bar.

- **Step 2:** Now select 'Margins' from there.

- **Step 3:** Click a default margin Or,

- **Step 4:** Click custom margins and complete the dialog box.

NOTE: *As you roll over each Margin preset, it will show you how the document will look when it is modified.*
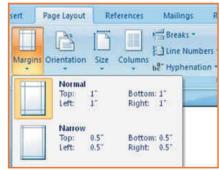
Fig.9.5.9: Modifying Margins

9.5.7 Lists

Lists enable you to format and organize text with numbers, bullets, or in an outline. instead of using numbers for steps, an outline list is used to show an example of a type of number lists.

9.5.7.1 Bulleted and Numbered Lists

Bulleted lists have bullet points, numbered lists have numbers, and outline lists combine numbers and letters depending on the organization of the list.

How to add list to the existing text?

1. **Step 1:** Select the text you wish to make a list.

2. **Step 2:** Click a bulleted or numbered lists button from the paragraph tab on the home tab.

Now, to create a new list in your document, place your cursor where you want the list to begin. Click a bulleted or numbered lists button and start typing.
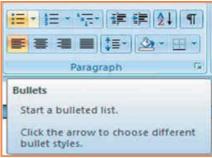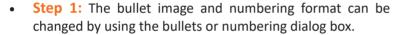
Fig.9.5.10: Bulleted and Numbered Lists

9.5.7.2 Formatting Lists

- **Step 1:** The bullet image and numbering format can be changed by using the bullets or numbering dialog box.

- **Step 2:** Select the entire list to change all the bullets or numbers, or place the cursor on one line within the list to change a single bullet.

- **Step 3:** Right click once.

- **Step 4:** Click the arrow next to the bulleted or numbered list.

- **Step 5:** Now, select a bullet or numbering style.
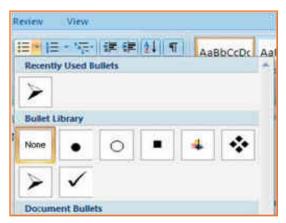
Fig.9.5.11: Formatting Lists

9.5.8 Spelling and Grammar

There are many features in Ms-Word 2007 to help you proof-read your document these features include:

- Spelling and Grammar
- Thesaurus
- AutoCorrect
- Default Dictionary
- Word Count

Fig.9.5.12(a): Spelling and Grammar
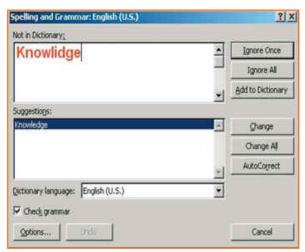
Fig.9.5.12(b): Spelling and Grammar

The most common feature used is the spelling and grammar checker tool. To check the spelling and grammar of your document:

1. **Step 1:** Place the cursor at the beginning of the document or the beginning of the section that you want to check.

2. **Step 2:** Click the 'Review' Tab on the Ribbon.

3. **Step 3:** Click 'Spelling & Grammar' on the Proofing Group.

Note: *Any errors will display a dialog box that permits you to choose a additional appropriate spelling or phrasing. Go through the spelling and grammar checker to correct any spelling errors you may have created in your document. Once the spelling and grammar checker has completed, you will see a dialog box that notifies you 'The spelling and grammar check is completed'.*

9.5.8.1 Word Count

To count words in one selection, you can select the words you want to count. The status bar displays the number of words in the section for e.g. 50/1,200 means that the section accounts for 50 words out of the total number of 1200 in the document.

Note: To select the sections of text that are not next to each other, select the first section and press hold down CRTL (from the keyboard) and select the additional section.
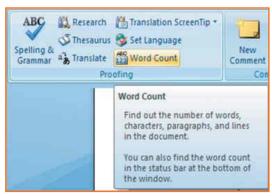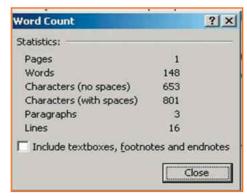

Fig.9.5.13(a): Word Count

Fig.9.5.13(b): Word Count

9.5.9 Different Editing Modes in Word

Insert mode and an overtype mode. when insert mode (default) is active, the data you can type is inserted at the insertion point where as when over-type mode is active the information is active it isn't inserted however; t replaces text as you sort. to modify between the two modes double click o the OVR letters on the standing bar.
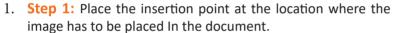
Another interesting fact about the word document is that it's not just a document to write things however you can add expression to your document by inserting pictures with the document, currently let's see however this will be done. invariably bear in mind to not use any copyright image if you are using any pictures from the internet.

The insert picture method supports graphics that may be are too large to fit on the clipboard. The default setting for inserting or pasting pictures is "In Line With Text." The Advanced Word options, located in the office Button Commands Gallery, allow you to change the default settings to any of the available text wrapping styles.

Fig.9.5.14: Sample Image

9.5.10 Inserting an Image and Table

1. **Step 1:** Place the insertion point at the location where the image has to be placed In the document.

2. **Step 2:** Select Insert tab>> illustrations gallery.

3. **Step 3:** Now select *Insert picture.*

4. **Step 4:** Navigate to the appropriate location where the image is stored.

5. **Step 5:** Now select the appropriate image which you want to insert in the document by doing a double click on the image.

Fig.9.5.15 Inserting an Image

Similarly, now let's see how to insert a table in a word document

The table feature can be used to organize data into rows and columns without having to set tabs. Tables can even be used to produce forms and side by side paragraphs. A table consists of vertical columns and horizontal rows, the inter-section of these rows and columns produce cells. A cell is every individual square in which you'll be able to enter text. The tab key advances the pointer to next cell (Shift + tab) it moves the pointer backward within a table.

Fig.9.5.16(a): Inserting an Table

Steps below would make it much easier for you to understand how to create a table:

1. **Step 1:** Place the insertion point at the desired location on your word document.

2. **Step 2:** From the bar select Insert tab>>tables gallery.

3. **Step 3:** Now select insert table.

4. **Step 4:** Enter desired no. of columns and rows at insert table dialog box.

5. **Step 5:** Now select AutoFit behavior.

6. **Step 6:** Click OK.

Fig.9.5.16(b): Inserting an Table

9.5.11 Inserting a Blank Page

The blank page command permits you to manually insert a blank page at the required location. When you fill a page with text or graphics, Microsoft office Word inserts an automatic page break and starts a new page. However, you'll manually add pages or delete pages by adding page breaks or deleting page breaks. refer to the image below.
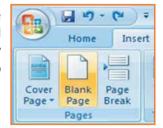
Fig.9.5.17: Inserting New Page

9.5.12 Inserting a Page Break

You can insert a page break anywhere in the document, or you can specify wherever Microsoft Word positions automatic page breaks. If you insert manual page breaks in documents that are quite many pages in length, you might have to frequently re-break pages as you edit the document. To avoid the difficult of manually re-breaking pages, you can set choices to control where word positions automatic page breaks. Refer to the image below.
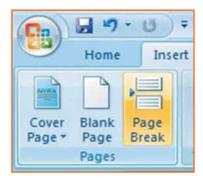
Fig.9.5.18: Inserting Page Break

9.5.13 Inserting a Cover Page

- **Step 1:** From the insert Tab, select Cover Page, the cover page drop down menu will be displayed.

- **Step 2:** Select from the pre-formatted options under Cover Page.

- **Step 3:** To insert a blank page or a page break, position your insertion point at a desired location.

- **Step 4:** Now, from the insert tab, select blank page or page break as shown in the image below.

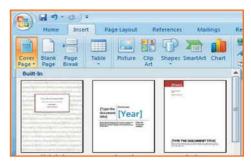Now, once the document is ready let's focusing on learning how to get the document in a hardcopy.

Fig.9.5.19: Inserting Cover Page

9.5.14 Printing the Word Document

1. **Step 1:** Click the 'Home' key, select 'Print', and then 'Print' again.

2. **Step 2:** Choose the printer you will be printing from (Black & White, or Color printer).

3. **Step 3:** Once you have selected the printer of your choice, reassure to check if you have selected the right and the complete document for printing.

4. **Step 4:** Once all above steps are performed, select 'OK' to print your work.

5. **Step 5:** Now that your document is ready and has been printed as well, let's see how can we close and exit this word document completely.
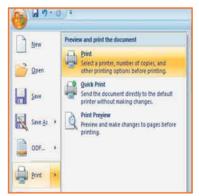

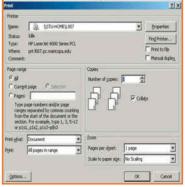*Fig.9.5.20: Printing the Word Document*

Fig.9.5.21: Print Dialog Box

9.5.15 Closing and Exiting Microsoft Word

It's always good to reassure that your word file has been saved before closing or exiting the word.

Note: *Closing word would only close the current document however the word would remain open.*

Exiting word would exit the program completely. (You may not have to follow this, it basically depends on what MS word you are having in the system).

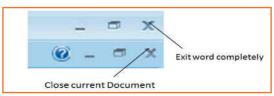*Fig.9.5.22(a): Closing and Exiting Microsoft Word*

Fig.9.5.22(b): Closing and Exiting Microsoft Word

Exercise

1. What are things that MS word helps us with?

   ....

   ....

2. Give any two features to proof read a document?

   ....

   ....

3. You can insert a page break anywhere in the document, or you can specify where Microsoft Word positions automatic page breaks.

   a) True

   b) False

Notes

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UNIT 9.6: MS PowerPoint

Unit Objectives

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

- Practice MS-Powerpoint.
- Make a new presentation.
- Format a slide as well

PowerPoint is the presentation graphics software in the Microsoft Office suite. PowerPoint has predefined layouts, themes, and templates to create dynamic and professional presentations.

9.6.1 Opening PowerPoint

To open PowerPoint in Windows, click on the:

Step 1: Start button --> Programs --> Microsoft PowerPoint. *OR*

Step 2: Double-click on the PowerPoint icon on the desktop.

When PowerPoint is opened, by default a blank Title slide appears as the first slide in your new presentation. However, to change the layout of an open slide, click on the Layout button in the Home tab.
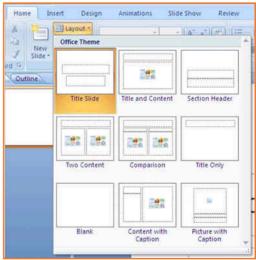

Fig.9.6.1: PowerPoint Icon

Fig.9.6.2: Layouts in PowerPoint

If the PowerPoint is already open, to begin a new presentation, click on the office button on the top left corner of the screen and choose New.

Fig.9.6.3: New Document in PowerPoint

The New Presentation window can appear. Blank presentation is chosen by default. you wish to click create and a new presentation can open in the PowerPoint window.
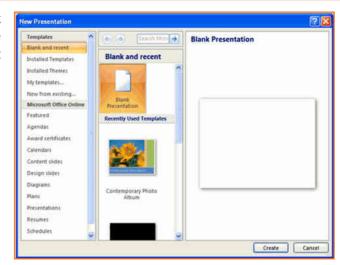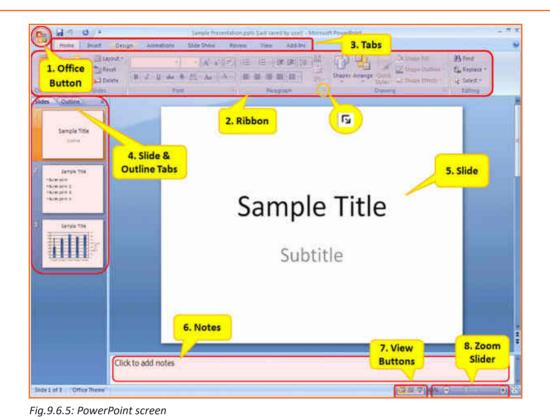

Fig.9.6.4: Create new PowerPoint

9.6.2 PowerPoint – Understanding the screen

- **Office Button:** It contains the main File Functions: New, Open, Save, Save as, Print, Print Preview, etc.

- **Ribbon Tabs:** Each Ribbon Tab displays a Ribbon that provides a set of Tool Groups. Click on the arrow to open a dialogue box with more options.

- **Command Tabs:** Office 2007 applications automatically open to the Home command tab, which contains formatting options needed to create a basic document. Specialized features can be accessed from other command tabs.

- **Slide and Outline Tabs:** The Slides tab shows thumbnail images of your slides, allowing you to rearrange, add, delete, hide slides and view set transitions as you work. The Outline tab shows the content of your slides, making it easy to rearrange your text.

- **Slide:** In this area you enter the content of your slides. Slides contain placeholders (enclosed by dotted borders) containing text, pictures, and charts.

- Notes Panel: This is where you can enter notes. If you wish to enter longer notes, you can go to the View tab and select Notes Page.

- **View Buttons:** These three buttons include:

  » Normal View - shown here.

  » Slide Sorter - This allows you to shuffle your slides.

  » Slide Show - This shows the slides as viewed during presentation.

- **Zoom Slider:** This allows you to zoom in and out on the Slide Panel.

Fig.9.6.5: PowerPoint screen

9.6.3 Saving a PowerPoint

- Click the *Save* button on the *Quick Access toolbar*.

OR

- Click the *Microsoft Office Button* , and then click *Save As*.

In the File name box, enter a new name for the presentation, or do nothing to accept the suggested file name.

In the Save as type list, select the file format that you want, and then click Save.
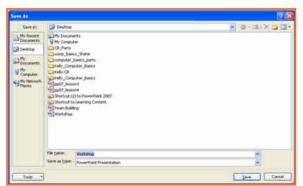

Fig.9.6.6: Save Icon

Fig.9.6.7: Save As Option

Fig.9.6.8: Save As Dialog Box

9.6.4 Working with Slides

Insert a New Slide

- **Step 1:** Click the New Slide command in the Slides group on the Home tab. A blank slide will be inserted after your active slide.

- **Step 2:** If you wish to choose the layout while creating your new slide, click the ▼ on the New Slide button and choose a theme.
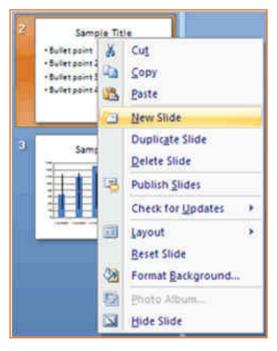

Fig.9.6.8: Insert new slide in PowerPoint

To insert a new slide using the Quick Menu, in the Slides panel right click the slide after which you want a new slide inserted and select New Slide.

Fig.9.6.9: Insert new slide in PowerPoint

Copy and paste a slide

- **Step 1:** Select the slide you want to copy.

- **Step 2:** Click the Copy command on the Home tab.

- **Step 3:** Click inside the Slides tab on the left task pane. A horizontal insertion point will appear.

- **Step 4:** Move the insertion point to the location where you want the copy of the slide to appear.

- **Step 5:** Click the Paste command on the Home tab. The copied slide will appear.

- **Step 6:** You can use the keyboard shortcut Ctrl+C to copy the slide and Ctrl+V to paste it.

Fig.9.6.10: Copy paste of slide

Delete a slide

- **Step 1:** Select the slide you want to delete and click the Delete command in the Slides group on the Home tab.

Move a slide

- **Step 1:** On the Slides tab in the left task pane, select the slide you want to move.

- **Step 2:** Click and drag the slide to a new location. The insertion point will appear.

- **Step 3:** Release the mouse button.

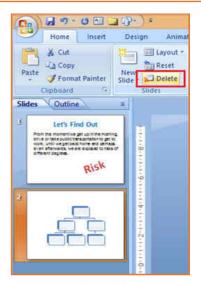- **Step 4:** The slide will appear in the new location.

Fig.9.6.11: Delete a slide

9.6.5 View Tabs

Different views allow you to manage different aspects of your presentation.

- **Step 1:** Normal View is the default view. It splits the window into Slide Frame, Notes, and the left frame where you can choose either Slides Thumbnails or Outline.

- **Step 2:** Slide Sorter is thumbnails view of all the slides in the presentation. The slides are displayed horizontally and lets you see the big picture.

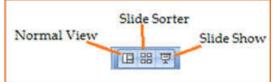- **Step 3:** Slide Show plays the presentation from the beginning with animation.

Fig.9.6.12: View Tabs

9.6.6 Animating Text and Images

In PowerPoint, you can add animation to text and objects to draw the audience's attention an add flair to your presentation.

- **Step 1:** Select the object or text box you wish to animate.

- **Step 2:** In the Animations tab under the Animations group, select an option from the Animate drop-down menu. As you hover your mouse over each choice PowerPoint will preview the effect on your slide.

NOTE: *Remember that animations are applied only to the article or the text box selected . For adding animation across many slides you may need to add them to every.*
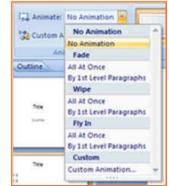

Fig.9.6.13: Animating Text and Images

To apply a custom animation effect:

- **Step 1:** After you select the text or object on the slide you want to animate, select the Animations tab.

- **Step 2:** Click Custom Animation in the Animations group. The Custom Animation task pane will appear on the right.

Fig.9.6.14: Adding Animation in PowerPoint

- **Step 3:** Click Add Effect in the task pane to add an animation effect to the selected text or object.

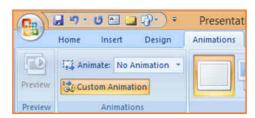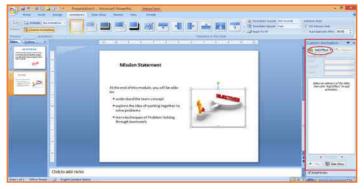*Fig.9.6.15: Animation in PowerPoint*

- **Step 4:** Select Entrance, Emphasis, Exit, or Motion Path to display a submenu of animation effects for the category.

- **Step 5:** To customize the speed, properties and timing of your animation, on the Custom Animation Pane click on the effect you wish to modify.

- **Step 6:** To modify an animation, use the options in the Modify: [Effect] section of the Custom Animation Pane. These options will change depending on the effect selected.

Hint: If the button on the Custom Animation Pane says "Change" instead of "Add Effect" click outside the object to deselect it and then click on it again.

9.6.7 Removing Animations

There are two methods:

1. Animations group (remove all at once):

   » Select the slide and then the object with the animation you would like to remove.

   » In the Animations tab under the Animations group click on the Animate pull-down menu and select No Animation.

2. Custom Animation Pane (remove one by one):

   » Select the slide with the animation you would like to remove.

   » If the Custom Animations pane is not visible, click on the Custom Animation button in the Animations group on the Animations tab.

   » In the Modify: [Effect] list select the animation to be removed.

   » Click Remove.

9.6.8 Working with Charts

A chart is a tool you can use to communicate your data graphically.

Chart elements

Let's familiarize with different chart element:

- **Titles:** There are two types of titles:
  » Chart Title placed above the chart (default).
  » Axes Titles placed besides the axes (The vertical axis is referred to as the Y axis, while the horizontal axis is referred to as the X axis.)
- **Legend:** The chart key, which displays captions (and/or color coding) to the series on the chart.
- **Data:** This is the range of cells (displayed in excel) that make up a chart. The chart is updated automatically whenever the information in these cells changes.

Inserting Charts

- **Step 1:** Select the Insert tab.
- **Step 2:** Click the Insert Chart command to open the Insert Chart dialog box.
- **Step 3:** Click a chart to select it.
- **Step 4:** The chart will appear on your slide, and Excel will open as a split screen with dummy data already filled in.
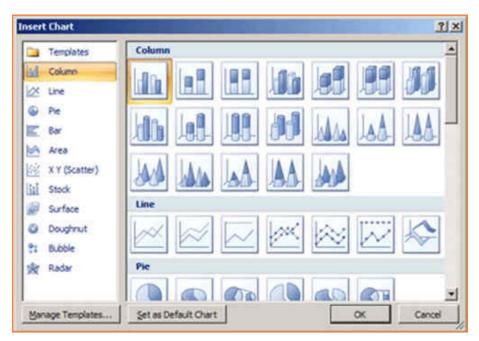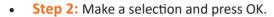- **Step 5:** You add your data and labels to the Excel spreadsheet and the chart will be automatically updated on your slide.

Fig.9.6.16: Inserting Charts

- **Step 6:** When finished, click the Close Window in the upper right hand corner of Excel to close the worksheet.

Changing To a Different Chart

- **Step 1:** You can change your present chart to a different format by right-click on the cha████ect Change Series Chart Type. This opens the Change Chart Type dialog.

- **Step 2:** Make a selection and press OK.

Edit source data

- **Step 1:** Select the chart.

- **Step 2:** Select the Design tab.

- **Step 3:** Click the Edit Data command. An Excel spreadsheet with the current source data will appear.

- **Step 4:** After you edit the data in the spreadsheet, the changes will appear on the slide.

- **Step 5:** Close Excel without saving the spreadsheet.

Fig.9.6.17: Edit source data

Modifying the chart layout

- **Step 1:** Select the chart.

- **Step 2:** Click on the Design tab.

- **Step 3:** Scroll through the options in the Chart Layout group, or click the More drop-down arrow to see all available chart layout options.

- **Step 4:** Select a chart layout by clicking on it. The chart layout will change on the slide.

Fig.9.6.18: Change Chart Type

Modify specific areas of the chart layout

- **Step 1:** Select the chart.
- **Step 2:** Select the Layout tab.
- **Step 3:** Locate the Labels group.

  » Chart Title: Add, remove, or re-position the chart title.

  » Axis Titles: Add, remove, or re-position the text used to label each axis.

  » Legend: Add, remove, or re-position the chart legend.

  » Data Labels: Click this command to display or hide data values n

  » Data Table: Adds a table summarizing your data to the chart.

Fig.9.6.19: Chart Layouts

Fig.9.6.20: Modify Chart

Exercise

1. What does the office button in Power Point contain?

   ....

   ....

2. What is the Notes Panel?

   a) It's a new slide

   b) It's where you can enter notes on the slide

3. What are the three kind of 'view buttons'?

   ....

   ....

4. You can change your present chart to a different format by right-click on the chart and select Change Series Chart Type.

   a) True

   b) False

Notes

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UNIT 9.7: MS Excel

Unit Objectives 🎯

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

- Work on MS-Excel
- Format cells and cell content
- Use formulas
- Make Charts and Pivot Table.

MS surpass stands for - Microsoft excel is one of the foremost common electronic spreadsheet applications supported by both mack and computer platforms. as with a paper spreadsheet, you'll be able to use excel to prepare your data into rows and columns and to perform mathematical calculations.

MS Excel helps in:

- Managing data online
- Creating visually persuasive charts, and thought-provoking graphs.
- Creating and expense reports.
- Building formulas and editing them.
- Balancing a checkbook.

Fig.9.7.1: MS Excel Icon

Thia tutorial teaches you how to create an Excel spreadsheet.

Before you start making spreadsheets in excel, you will need to line up your excel setting and become familiar with many key tasks and options like a way to minimize and maximize the Ribbon, configure the quick Access toolbar, switch page views, and access your excel choices.

9.7.1 Exploring the Excel Environment

The tabbed Ribbon menu system is however you navigate through excel and access the assorted excel commands. If you have used previous versions of excel, the Ribbon system replaces the traditional menus. on top of the Ribbon in the upper-left corner is the Microsoft office Button. From here, you'll access important options like New, Save, Save As, and Print. By default, the short Access Toolbar is pinned next to the Microsoft office Button and includes commands like Undo and Redo.

At the bottom-left space of the spreadsheet, you will notice worksheet tabs. By default, 3 worksheet tabs appear each time you create a new book. On the bottom-right space of the spreadsheet you will find page view commands, the zoom tool and the horizontal scrolling bar.
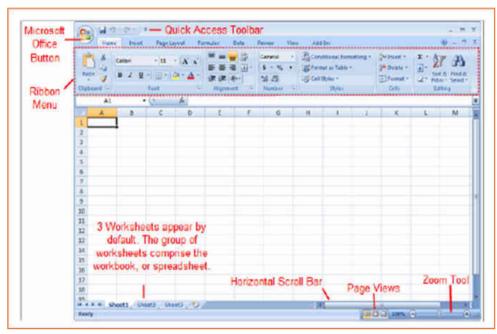
Fig.9.7.2: Excel screen

9.7.2 Zoom In and Out

- **Step 1:** Locate the zoom bar in the bottom-right corner.

- **Step 2:** Left-click the slider and drag it to the left to zoom out and right to zoom in.

To Scroll Horizontally in a Worksheet:

- **Step 1:** Locate the horizontal scroll bar in the bottom-right corner.

- **Step 2:** Left-click the bar and move it from left to right.

Fig.9.7.3: Zoom In and Out

9.7.3 Page Views

- **Step 1:** Locate the Page View options in the bottom-right corner. The Page View options are Normal, Page Layout, and Page Break.

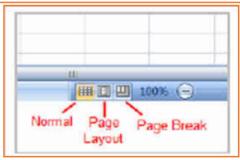- **Step 2:** Left-click an option to select it.

Fig.9.7.4: Page Views

9.7.4 Add Commands to the Quick Access Toolbar

- **Step 1:** Click the arrow to the right of the Quick Access toolbar.

- **Step 2:** Select the command you wish to add from the drop-down list. It will appear in the Quick Access toolbar.

The Save, Undo, and Redo commands appear by default in the Quick Access toolbar.
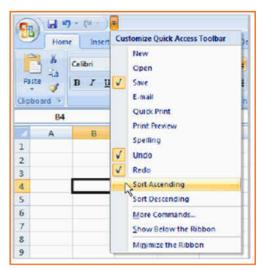

Fig.9.7.6: The Microsoft Office Button

Fig.9.7.5: Quick Access Toolbar

The Microsoft Office Button

The Microsoft office Button appears at the top of the stand out window. once you   left-click the button, a menu appears. From this menu, you'll be able to produce a new spreadsheet, open existing files, save files in a type of ways and print. you'll be able to also add security features, send, publish and close files.

9.7.5 Change the Default Excel Options
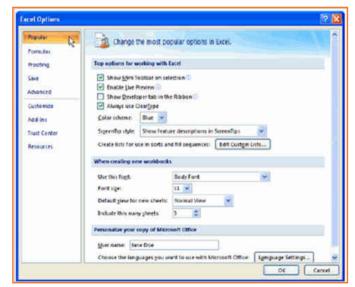
Fig.9.7.7: Default Excel Options

- **Step 1:** Click the Excel Options button. A dialog box will appear.

- **Step 2:** Select a category on the left to access different Excel options.

- **Step 3:** Modify any of the default settings.

- **Step 4:** Click OK.

You will have to be compelled to skills to insert text and numbers into excel workbooks to be ready to use it to calculate, analyze, and organize data. during this lesson, you will learn how to create a new workbook, insert and delete text, navigate a worksheet and save an excel workbook.

9.7.6 Create a New Blank Workbook

- **Step 1:** Left-click the *Microsoft Office Button*.

- **Step 2:** Select *New*. The New Workbook dialog box opens, and Blank Workbook is highlighted by default.

- **Step 3:** Click *Create*. A new, blank workbook appears in the window.

Fig.9.7.8: New Blank Workbook

9.7.7 Insert Text

- **Step 1:** Left-click a cell to select it. Each rectangle in the worksheet is called a cell. As you select a cell, the cell address appears in the Name Box.

- **Step 2:** Enter text into the cell using your keyboard. The text appears in the cell and in the formula bar.

Fig.9.7.9(b): Different Areas on Worksheet

Fig.9.7.9(a): Different Areas on Worksheet

9.7.8 Cell Addresses

Each cell contains a name, or a cell address, based on the column and row it is in. for example, this cell is C3 since it is wherever column C and row 3 intersect.

You can also select multiple cells at the same time. a group of cells is known as a cell range. instead of a single cell address, you will refer to a cell range using the cell addresses of the first and last cells in the cell range, separated by a colon. as an example, a cell range that included cells A1, A2, A3, A4, and A5 would be written as A1:A5.
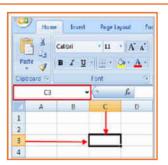
Fig.9.7.10: Cell Address

Edit or Delete Text

- **Step 1:** Select the cell.

- **Step 2:** Press the Backspace key on your keyboard to delete text and make a correction.

- **Step 3:** Press the Delete key to delete the entire contents of a cell.

You can also make changes to and delete text from the formula bar. Just select the cell and place your insertion point in the formula bar.

9.7.9 Move across a Worksheet Using the Keyboard

- **Step 1:** Press the Tab key to move to the right of the selected cell.

- **Step 2:** Press the Shift key and then the Tab key to move to the left of the selected cell.

- **Step 3:** Use the Page Up and Page Down keys to navigate the worksheet.

- **Step 4:** Use the arrow keys.

To Save the Workbook:

- **Step 1:** Left-click the Microsoft Office Button.

- **Step 2:** Select Save or Save As.

- **Step 3:** Save As allows you to name the file and choose a location to save the spreadsheet. Choose Save As if you'd like to save the file for the first time or if you'd like to save the file as a different name.

- Select Save if the file has already been named.

You can save a workbook in many ways, but the two commonest are as an excel workbook, that saves it with a 2007 file extension, and as an excel 97-2003 workbook, that saves the file in a compatible format therefore those who have earlier versions of excel can open the file.

When you open a new, blank workbook, the cells, columns, and rows are set to a default size. you do have the ability to alter the size of each, further as to insert new columns, rows, and cells as needed.

To Modify Column Width:

- **Step 1:** Position the cursor over the column line in the column heading and a double arrow will appear.

- **Step 2:** Left-click the mouse and drag the cursor to the right to increase the column width or to the left to decrease the column width.
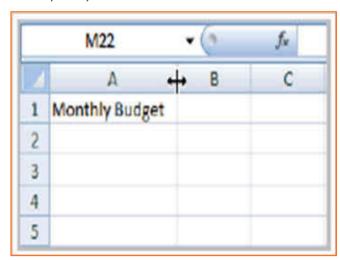
- **Step 3:** Release the mouse button.

Fig.9.7.11: Modify Column Width

To Modify the Row Height:

- **Step 1:** Position the cursor over the row line you want to modify, and a double arrow will appear.

- **Step 2:** Left-click the mouse and drag the cursor upward to decrease the row height or downward to increase the row height.

- **Step 3:** Release the mouse button.

To Insert Rows:

- **Step 1:** Select the row below where you want the new row to appear.

- **Step 2:** Click the Insert command in the Cells group on the Home tab. The row will appear.

- **Step 3:** The new row always appears above the selected row.

Make sure that you} choose the complete row below where you wish the new row to appear and not just the cell. If you select simply the cell and then click Insert, only a new cell can appear.

To Insert Columns:

- **Step 1:** Select the column to the right of where you want the column to appear.

- **Step 2:** Click the Insert command in the Cells group on the Home tab. The column will appear.

The new column continually appears to the left of the selected column. for example, if you wish to insert a column between september and october, choose the october column and click on the Insert command.

Make sure that you select the complete column to the right of where you want the new column to appear and not just the cell. If you choose simply the cell and then click Insert, only a new cell can appear.

To Delete Rows and Columns:

- **Step 1:** Select the row or column you'd like to delete.

- **Step 2:** Click the Delete command in the Cells group on the Home tab.

Fig.9.7.12: Modify the Row Height
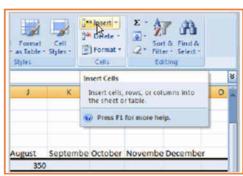
Fig.9.7.13: Insert Rows

Fig.9.7.14: Insert Columns

9.7.10 Formatting

Once you have entered information into a spreadsheet, you will need to be able to format it.

To Format Text in Bold or Italics:

- **Step 1:** Left-click a cell to select it or drag your cursor over the text in the formula bar to select it.

- **Step 2:** Click the Bold or Italics command.

You can select entire columns and rows, or specific cells. to select the entire column, simply left-click the column heading, and the entire column can appear as selected. to select specific cells, simply left-click a cell and drag your mouse to select the opposite cells. Then, release the mouse button.
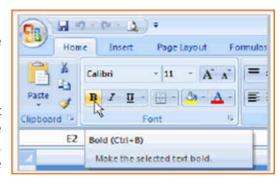
Fig.9.7.15: Format Text in Bold or Italics

To Format Text as Underlined:

- **Step 1:** Select the cell or cells you want to format.

- **Step 2:** Click the drop-down arrow next to the Underline command.

- **Step 3:** Select the Single Underline or Double Underline option.

Fig.9.7.16: Format Text as Underlined

To Change the Font Style:

- **Step 1:** Select the cell or cells you want to format.

- **Step 2:** Left-click the drop-down arrow next to the Font Style box on the Home tab.

- **Step 3:** Select a font style from the list.
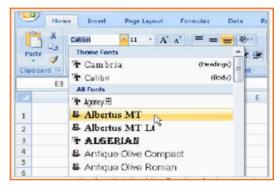
Fig.9.7.17: Change the Font Style

To Change the Font Size:

- **Step 1:** Select the cell or cells you want to format.

- **Step 2:** Left-click the drop-down arrow next to the Font Size box on the Home tab.

- **Step 3:** Select a font size from the list.
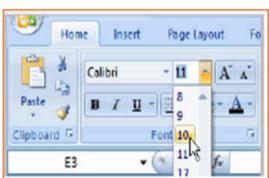
Fig.9.7.18: Change the Font Size

To Change the Text Color:

- **Step 1:** Select the cell or cells you want to format.

- **Step 2:** Left-click the drop-down arrow next to the Text Color command. A color palette will appear.

- **Step 3:** Select a color from the palette.

OR

- **Step 1:** Select More Colors. A dialog box will appear.

- **Step 2:** Select a color.

- **Step 3:** Click OK.

Fig.9.7.19: Change the Text Color

To Add a Border:

- **Step 1:** Select the cell or cells you want to format.

- **Step 2:** Click the drop-down arrow next to the Borders command on the Home tab. A menu will appear with border options.

- **Step 3:** Left-click an option from the list to select it.

You can change the line style and color of the border.

Fig.9.7.20: Add a Border

To Add a Fill Color:

- **Step 1:** Select the cell or cells you want to format.

- **Step 2:** Click the Fill command. A color palette will appear.

- **Step 3:** Select a color.

OR

- **Step 1:** Select More Colors. A dialog box will appear.

- **Step 2:** Select a color.

- **Step 3:** Click OK.

You can use the fill color feature to format columns and rows, and format a worksheet so that it is easier to read.

Fig.9.7.21: Add a Fill Color

To Format Numbers and Dates:

- **Step 1:** Select the cell or cells you want to format.

- **Step 2:** Left-click the drop-down arrow next to the Number Format box.

- **Step 3:** Select one of the options for formatting numbers.

By default, the numbers appear in the General category, which means there is no special formatting.

Fig.9.7.22: Format Numbers and Dates

9.7.11 Calculations and Analysis

Excel could be used to calculate and analyze numerical data; however, you need to know how to write formulas to maximize Excel's streangth. A formula is an equation perform a calculation using cell values in the worksheet.

To Create a Simple Formula that Adds Two Numbers:

- **Step 1:** Click the cell where the formula will be defined (C5, for example).

- **Step 2:** Type the equals sign (=) to let Excel know a formula is being defined.

- **Step 3:** Type the first number to be added (e.g., 1500).

- **Step 4:** Type the addition sign (+) to let Excel know that an add operation is to be performed.

- **Step 5:** Type the second number to be added (e.g., 200).

- **Step 6:** Press Enter or click the Enter button on the Formula bar to complete the formula.

Fig.9.7.23(a): Creating Formulas

To Create a Simple Formula that Adds the Contents of Two Cells:

- **Step 1:** Click the cell where the answer will appear (C5, for example).

- **Step 2:** Type the equals sign (=) to let Excel know a formula is being defined.

- **Step 3:** Type the cell number that contains the first number to be added (C3, for example).

- **Step 4:** Type the addition sign (+) to let Excel know that an add operation is to be performed.

- **Step 5:** Type the cell address that contains the second number to be added (C4, for example).

- **Step 6:** Press Enter or click the Enter button on the Formula bar to complete the formula.
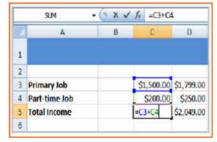
Fig.9.7.23(b): Creating Formulas   *Fig.9.7.23(c): Creating Formulas*
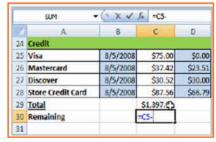
To Copy and Paste Cell Contents:

- **Step 1:** Select the cell or cells you wish to copy.

- **Step 2:** Click the Copy command in the Clipboard group on the Home tab. The border of the selected cells will change appearance.

- **Step 3:** Select the cell or cells where you want to paste the information.

- **Step 4:** Click the Paste command. The copied information will now appear in the new cells.

To select more than one adjoining cell, left-click one of the cells, drag the cursor until all the cells are selected, and release the mouse button.

The copied cell will stay selected until you perform your next task, or you can double-click the cell to deselect it.

To Cut and Paste Cell Contents:

- **Step 1:** Select the cell or cells you wish to cut.

- **Step 2:** Click the Cut command in the Clipboard group on the Home tab. The border of the selected cells will change appearance.

- **Step 3:** Select the cell or cells where you want to paste the information.

- **Step 4:** Click the Paste command. The cut information will be removed from the original cells and now appear in the new cells.
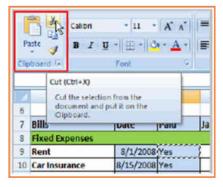
Fig.9.7.24(a): Cut and Paste Cell Contents
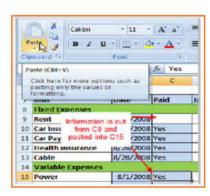
Fig.9.7.24(b): Cut and Paste Cell Contents

To View the Spreadsheet in Print Preview:

- **Step 1:** Left-click the Microsoft Office Button.

- **Step 2:** Select Print.

- **Step 3:** Select Print Preview. The spreadsheet will appear in Print Preview view.

Click the Close Print Preview button to return to the Normal View.
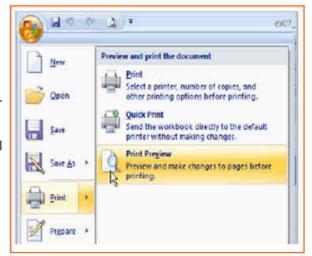
Fig.9.7.25(a): Print Preview Option

Exploring Print Preview:

If you are in Print Preview, you can use many of the same features that you can from the Ribbon; however, in Print Preview you can see how the spreadsheet will appear in hard form.

To Modify Margins, Column Width, or Row Height While in Print Preview:

- **Step 1:** Click the Print Preview command on the Quick Access toolbar, or select Print Preview from the Microsoft Office Button menu. The spreadsheet opens in print preview mode.

- **Step 2:** However your cursor over one of the black margin markers until a double arrow appears.

- **Step 3:** Left-click and drag the marker to the desired location. The change will be reflected in the spreadsheet.

To Modify Margins:

- **Step 1:** Select the Page Layout tab.

- **Step 2:** Left-click the Margins command.

- **Step 3:** Choose one of the predefined settings or enter custom margins.
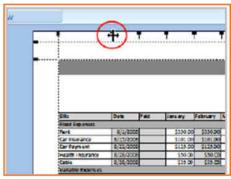
Fig.9.7.25(b): Print Preview Option
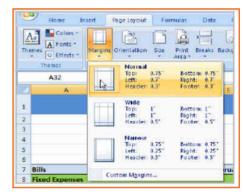
Fig.9.7.26: Modify Margins

9.7.12 Change Page Orientation

- **Step 1:** Select the Page Layout tab.

- **Step 2:** Left-click the Orientation command.

- **Step 3:** Select either Portrait or Landscape.

Portrait gets the page oriented vertically, while Landscape orients the page horizontally.

Fig.9.7.27: Page Orientation

To Change the Paper Size:

- **Step 1:** Select the Page Layout tab.

- **Step 2:** Click the Size command.

- **Step 3:** Select a size option from the list.

To Print from the Microsoft Office Button:

- Left-click the Microsoft Office Button.

- Select Print. The Print dialog box appears.

- Select a printer if you wish to use a printer other than the default setting.

- Click Properties to change any necessary settings.

- Choose if you want to print specific pages, the whole worksheet, a selection, the active sheet or the complete workbook.

- Select the number of copies you'd like to print.

- Click OK.
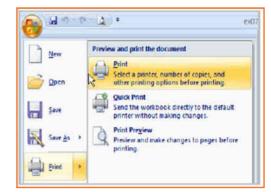
Fig.9.7.28: Print from the Microsoft Office Button

9.7.13 Excel's Different Functions

There are many different functions in Excel 2007. Some of the more common functions include:

Statistical Functions:

- SUM - Used to add a range of cells together.

- AVERAGE - This formula can calculate the average of a range of cells.

- COUNT - Used to count the number of chosen data in a range of cells.

- MAX - We can identify the largest number in a range of cells with it.

- MIN - Used to identify the smallest number in a range of cells.

Financial Functions:

- Interest Rates

- Loan Payments

- Depreciation Amounts

Date and Time functions:

- DATE - Converts a serial number to a day of the month.

- Day of Week.

- DAYS360.

- TIME - Returns the particular time.

- HOUR - Converts value to an hour.

- MINUTE - Converts value to a minute.

- TODAY - Returns value to today's date.

- MONTH - Converts value to a month.

- YEAR - Converts value to a year.

You don't have to memorize the functions but should have an idea of what each can do for you.

To Calculate the Sum of a Range of Data Using AutoSum:

- **Step 1:** Select the Formulas tab.

- **Step 2:** Locate the Function Library group. From here, you can access all the available functions.

- **Step 3:** Select the cell where you want the function to appear. In this example, select G42.

- **Step 4:** Select the drop-down arrow next to the AutoSum command.

- **Step 5:** Select Sum. A formula will appear in the selected cell, G42.

- **Step 6:** This formula, =SUM(G2:G41), is called a function. AutoSum command automatically selects the range of cells from G2 to G41, based on where you inserted the function. You can alter the cell range, if necessary.

- **Step 7:** Press the Enter key or Enter button on the formula bar. The total will appear.

Fig.9.7.29: Using AutoSum

To Edit a Function:

- **Step 1:** Select the cell where the function is defined.

- **Step 2:** Insert the cursor in the formula bar.

- **Step 3:** Edit the range by deleting and changing necessary cell numbers.

- **Step 4:** Click the Enter icon.
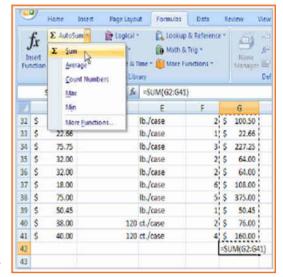
Fig.9.7.30: Edit a Function
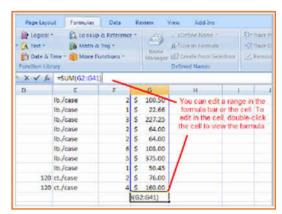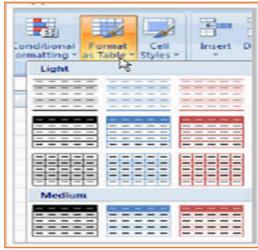
Fig.9.7.31: Format Information

To Format Information as a Table:

- **Step 1:** Select any cell that contains information.

- **Step 2:** Click the Format as Table command in the Styles group on the Home tab. A list of predefined tables will appear.

- **Step 3:** Left-click a table style to select it.

- **Step 4:** A dialog box will appear. Excel has automatically selected the cells for your table. The cells will appear selected in the spreadsheet, and the range will appear in the dialog box.

- **Step 5:** Change the range listed in the field, if necessary.

- **Step 6:** Verify the box is selected to indicate your table has headings, if it does. De-select this box if your table does not have column headings.

- **Step 7:** Click OK. The table will appear formatted in the style you chose.
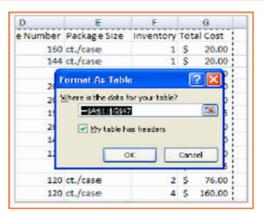
Fig.9.7.32: Format as Table

9.7.14 Aligning Text

Excel 2007 left-aligns text (labels) and right-aligns numbers (values). This makes data easier to read, but you do not have to use these defaults. Text and numbers can be defined as left-aligned, right-aligned, or centered in Excel.

To Align Text or Numbers in a Cell:

- **Step 1:** Select a cell or range of cells.

- **Step 2:** Click on either the Align Left, Center, or Align Right commands on the Home tab.

- **Step 3:** The text or numbers in the cell(s) take on the selected alignment treatment.

Fig.9.7.33: Align Text or Numbers

Left-click a column label to select the entire column or a row label to select an entire row.

Changing Vertical Cell Alignment:

You can also define vertical alignment of a cell. In Vertical alignment, information in a cell can be located at the top of the cell, middle of the cell, or bottom of the cell. The default is bottom.

To Change Vertical Alignment from the Alignment Group:

- **Step 1:** Select a cell or range of cells.

- **Step 2:** Click the Top Align, Center, or Bottom Align command.

Fig.9.7.34: Vertical Cell Alignment

Changing Text Control:

- **Step 1:** Text Control allows you to control the way Excel 2007 presents information in a cell.

- **Step 2:** There are two common types of Text control: Wrapped Text and Merge Cells.

Fig.9.7.35: Text Control

- **Step 3:** The Wrapped Text wraps the contents of a cell across several lines if it's too large than the column width. It increases the height of the cell as well.

- **Step 4:** Merge Cells can also be applied by using the Merge and Center button on the Home tab.

To Change Text Control:

- **Step 1:** Select a cell or range of cells.

- **Step 2:** Select the Home tab.

- **Step 3:** Click the Wrap Text command or the Merge and Center command.
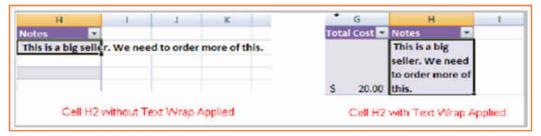
Fig.9.7.36: Text Control

To Name a Worksheet:

Right-click the sheet tab to select it.

- **Step 1:** Choose Rename from the menu that appears. The text is highlighted by a black box.

- **Step 2:** Type a new name for the worksheet.

- **Step 3:** Click off the tab. The worksheet now assumes the descriptive name defined.

Fig.9.7.37: Wrap Text

To Insert a New Worksheet:
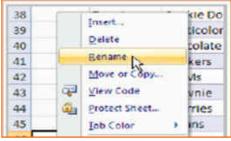
Fig.9.7.38(a): Name a Worksheet

Fig.9.7.38(b): Name a Worksheet

- **Step 1:** Left-click on the Insert Worksheet icon. A new worksheet appears. It will be named Sheet 4, Sheet 5, or whatever the next sequential sheet number may be in the workbook.
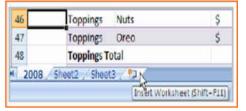
Fig.9.7.39: Insert a New Worksheet

To Delete One or More Worksheets:

- **Step 1:** Click on the sheet(s) you want to delete.
- **Step 2:** Right-click the sheet(s) and a menu appears.
- **Step 3:** Select Delete.
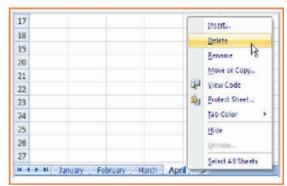
Fig.9.7.40: Delete One or More Worksheets

Exercise

1. What are the things that MS Excel helps in?

   ....

   ....

2. How does one Zoom out in MS Excel?

   ....

   ....

3. The Save, Undo, and Redo commands appear by default in the Quick Access toolbar.

   a) True

   b) False

4. What can the Microsoft Button help with?

   ....

   ....

5. Calculate the average range of cells is a statistical function in MS Excel?

   a) True

   b) False

6. What is a financial function in MS Excel?

   a) Adding the SUM of all cells

   b) Convert a serial number to a minute

   c) Calculate interest rates

UNIT 9.8: Internet Concepts

Unit Objectives

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

- Understand internet concepts.
- Recognise the different types of URLs.
- Use MS-Outlook.

9.8.1 URL Concepts

The full form of url is Uniform Resource Locator. It is the worldwide address of documents and other resources on the world wide web. The URL is divided into two different elements. the primary part of the url is called a protocol identifier as it helps us distinguishing what protocol to use. The second part of the url is called a resource name and it indicates the ip address or the domain name where the resource is located. The protocol identifier and the resource name are separated by a colon and two forward slashes it is more clearly understood by looking in to the following example: the two URLs below purpose two different files at the domain pcwebopedia.com. Here the primary one specifies an executable file that should be fetched using the FTP protocol; the second specifies a web page that should be fetched using the HTTP protocol:

1. ftp://www.pcwebopedia.com/stuff.exe
2. http://www.pcwebopedia.com/index.html

9.8.1.1 Different Kinds of URLs

There is a wide range of URLs, as well as different terms to describe what a URL looks like. Let's have a better understanding of various URLs and their types with an example:

- **Messy:** Such URL has many distorted and jumbled numbers, letters on it that makes slight organizational sense i.e.

  http://www.example.com/woeiruwoei909305820580.

- **Dynamic:** Dynamic URLs are the end result of database queries that provide content output based on the result of that query. The URL ends up looking quite mangled, alias "messy", which usually consist of the characters like: ?, &, %, +, =, $. Dynamic URLs are often found as part of consumer-driven websites: shopping, travel, or anything that requires changing answers for many different user queries.

- **Static:** A static URL is the opposite of a dynamic URL. The URL is "hard-wired" into the Web page's HTML coding. Static URL does not alter or adjust; it cannot be compromised; depending on what the user requests.

- **Obfuscated:** Obfuscated, or hidden, URLs are mostly used in phishing scams. Basically, a familiar URL is distorted in some way to make it seem legitimate. As soon as the user clicks on the obfuscated URL redirected to a malicious website.

There are a lot of clues and information that you can garnered from a simple URL, including:

- What kind of server the Web page is hosted on.

- What kind of organization the Web page belongs to.

- Where the Web page is located in the world.

- The names of the directories on the website.

By carefully looking at the different parts of any Web address, you can quickly determine quite a bit of useful information. In addition, by simply deleting parts of the URL, you can learn more about the website than what might be actually publicly accessible. For example:

- **http://www.widget.com/blog/music/:** This points to a resource online, and the URL tells you that yes, indeed, it does point to an online resource. Let's go further back.

- **http://www.widget.com/blog/:** By moving backwards in the URL from right to left, we can see that we're now at the blog section of this publication.

- **http://www.widget.com:** The home page of the website.

Of course, this is a very simple example. However, by dissecting complex URLs one step at a time, quite a bit of information can be uncovered.

9.8.2 How to create Your E-mail account (Outlook)

You can create a new or additional Outlook account by following the same account creation wizard. You can follow the steps listed below to configure your Microsoft Outlook Express email client to work with your email account:

- **Step 1:** Open Outlook Express and select Tools E-mail Accounts from the main menu. The E-mail Accounts wizard will appear.

- **Step 2:** Click Add a new e-mail account. Click Next.

- **Step 3:** Select the server type. Most ISPs and webmail services use POP3 servers. Click Next.

- **Step 4:** Enter your Name.

- **Step 5:** Enter your E-mail Address.

- **Step 6:** Enter the incoming mail server and outgoing mail server information you obtained from your ISP or webmail service.

- **Step 7:** Enter your user name if it is different from the user name that automatically appears in the wizard form.

- **Step 8:** Enter your password.

- **Step 9:** Click Test Account Settings to test the information you entered in the wizard and confirm that it is valid.

- **Step 10:** Click Next.

- **Step 11:** Click Finish.

Note: If you do not have an Outlook email account, you can select Microsoft Office Outlook from your computer's Start menu. The wizard will open, and you can follow the steps above to create an Outlook account.
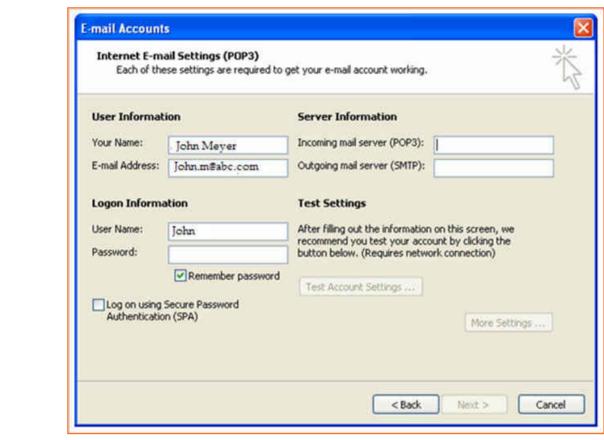
Fig.9.8.1: Creating E-mail Account in Outlook
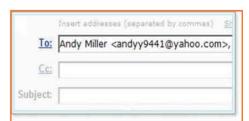
Congratulations you have successfully configured your e-mail account!!

9.8.3 Sending an Email

The following page will make it easy for you to understand how easily and swiftly you can send an E-mail, just follow these simple steps and refer to the each image given below.
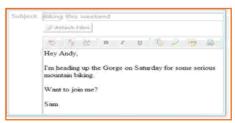
STEP 1: Open Outlook. Now click on Compose button.

STEP 2: As you click on the Compose button, a new page would open.

STEP 3: In the To box, (refer to the image below) type the email address of the person you want to send an e-mail to.

STEP 4: Now, In the Subject box as shown in the image; type the subject of the message, a few words to give the receiver an idea of what the email is all about.

STEP 5: 1. In the large box under the tools, compose the body of an email as shown in the image. Once the writing and addressing your email is done, click the Send button.

Mail has successfully sent your email to your wishing recipient.

9.8.4 Reading Emails

Outlook takes care of all email under mail folders. Initially, all of your incoming emails messages arrive in your Inbox folder (except suspected spam which goes directly into your Spam folder). To read an email message, open a mail folder and then click on email's subject.

- **Step 1:** Select the Inbox in the navigation pane.

- **Step 2:** If you see Inbox is in bold, it indicates that you have unread messages.

- **Step 3:** The number of unread messages is indicated by the number to the right of the word Inbox in parentheses.

- **Step 4:** Click a message in the inbox once, and Outlook will display it in the reading pane (if that feature is turned on).

- **Step 5:** You need to double-click a message, to open the message in a new window.

NOTE: *Unread messages are display in bold text in order to make it easy for a reader to identify how many mails are new or still unread.*

Now, to open and read an email, click on email's subject (bold or not) in the Subject column and you will be able to read your email.

9.8.5 Replying E-mails

Often, it is seen that once the mail is read, viewer looks for the option of reverting to that email to the sender or to add more recipient. Well! This can be done in two separate ways with Outlook i.e. there are two options as given below:

- **Reply:** It allows you to respond to the sender only.

- **Reply all:** Reply all, allows responding to the sender and everyone else who received themessage. This includes all email addresses listed in the To box and the Cc box, except your own email address.

- Now, Open the your email and click the drop down arrow given at the Reply button, then opt for Reply to reply to the sender only or Reply All to reply to all recipients of the email message.
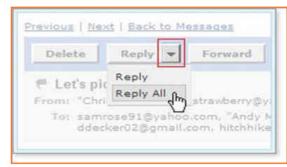
Fig.9.8.2: Replying E-mail

NOTE: *To reply to the sender only, you can also click the Reply button and not the arrow.*

- **Step 1:** Click Reply on the Standard toolbar while viewing the message you want to reply to. Outlook will create a pre-addressed reply form to the email address the original email came from.
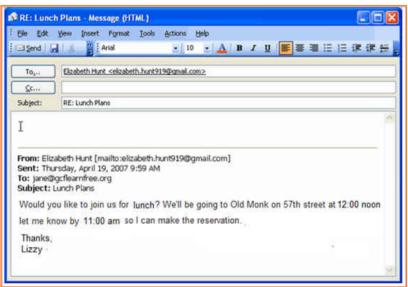
Fig.9.8.3: Composing Mail

- **Step 2:** Enter text into the body of the form.

- **Step 3:** Click the Send button when you're ready to send your email message.

Tip: Original email which you received from the sender will always be included when you are replying to the sender however, this original text, is editable, you can type your reply anywhere in the text box. In fact, some of the information or whole mail can be deleted in the original message. Different colors can be used (if required) to differentiate between your reply followed by the original text in the same image.

9.8.6 Receiving Email Attachments

You know you have received an email with an attachment when you see a paper clip (🖉) next to the email's subject in the mail folder. Open the message to see what type of file is attached.

In a mail folder, click the subject of an email message that includes an attachment (the paper clip icon appears to the left of the subject).

When the message opens, a link to download the attachment appears in the message header, and if the attachment includes images, thumbnails appear at the bottom of the messages.

Fig.9.8.4: Receiving Email Attachments

9.8.7 Opening and Saving Attachments

When you click the link to an attachment, Outlook automatically uses AntiVirus™ installed on your system scan the file for viruses. Virus scanning can often "clean" a file that may have viruses, so that you can safely open and download the file onto your computer.

1. Open the email message with the attachment.

2. Click the file name or thumbnail to allow Outlook to scan the file.

Antivirus scans the attachment and displays the results above the message header.

• If Norton Antivirus detects a virus, you can't download the file.

Fig.9.8.5: Click the file for Virus Scan

• If Antivirus doesn't detect a virus, you can download the file.

Fig.9.8.6: Antivirus Scan Status

- To download a virus-free attachment, click the Download File button.

Fig.9.8.7: Click the Download File button

The File Download window prompts you to open or save the file. (The appearance of this window varies, depending on your operating system and other factors.)
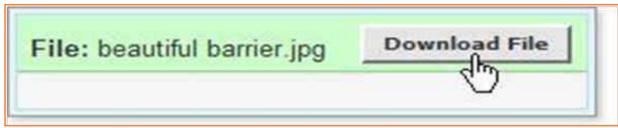
Fig.9.8.8: Click the Download File button

3. You can click the Open button to view the attached file in its original application (such as Microsoft Word or Acrobat Reader), or you can click the Save button to download the file and save it on your computer.

Tip: When you open a file without saving it, your browser automatically downloads it to a temporary location on your computer. When you close the file, your browser deletes the temporary file.

9.8.8 Sending Attachments with Outgoing Email Messages

You can send all types of files as attachments, including word processor or spreadsheet documents, audio files, image files (such as .bmp, .jpg, .gif), and more but not .exe (executable files).

Notes: With Outlook, effective email virus protection is automatic. Anti-virus software in Mail automatically detects and cleans viruses in incoming and outgoing email and attachments.

1. While composing a message, click the Attach Files button (You can attach files at any time before sending the message.). The Attach Files page opens.

2. Click the first Browse button.

   The Choose File or Open File window opens (depending on your operating system).

3. Locate the file you want to attach, select it, and click the Open or OK button.
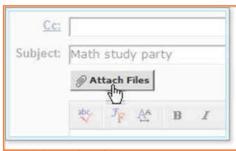
Fig.9.8.9: Attach a File

The selected file and its location appear in the first attachment box.

4. To attach more files, click the next Browse button, and repeat step 4.

Tips:

Fig.9.8.10: Browse a File

- You cannot attach the same file multiple times to the same email message.

- If you need more attachment boxes, click the Attach More Files link. Outlook adds another box.

5. You can attach one or more files up to a total combined size of 10 MB.

6. When all the files you want to send are listed, click the Attach Files button.

Tip: Antivirus™ automatically scans all outgoing email attachments andwill not let you attach an infected file.
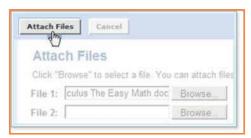
Fig.9.8.11: Attach a File

Progress bars display the process of scanning and attaching each file. When the process is complete, the Compose page opens with the attached file.
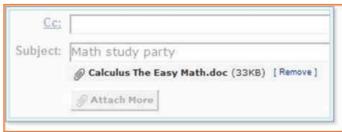
Fig.9.8.12: Attached File

Note: Though Outlook often displays attached photos within the messagesyou receive, it doesn't display the photos you attach while composing your message. Instead, it lists the photos in the attachments area. The photos may appear within the text of the message when your recipients receive it if their email applications support embedded photos.

Exercise

1. What is the full form of URL?

    ....

    ....

2. The second part of the URL is called a resource name and it indicates the IP address or the domain name where the resource is located.

    a) True

    b) False

3. Choose a URL example from the below list
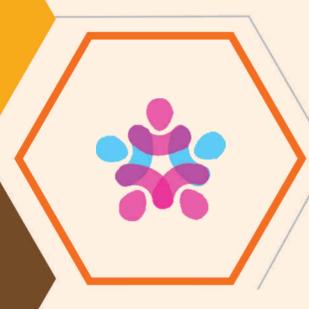
    a) Messy

    b) Straight

    c) Constant

4. Initially all mails arrive in the inbox in outlook?

    a) True

    b) False

5. 'Reply' allows you to reply ONLY to the sender?

    a) True

    b) False

Notes 📋

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10. Employability & Entrepreneurship Skills

Key Learning Outcomes 💡

At the end of the 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 10.1: Personal Strengths & Value Systems

Unit Objectives

At the end of the 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

10.1.1 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

10.1.1.1 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.	☐

10.1.1.2 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!

10.1.1.3 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!

10.1.1.4 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

10.1.1.5 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!

10.1.2 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

10.1.2.1 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

10.1.2.2 Tips

- Be aware of what emergency number to call at the time of a workplace emergency
- Practice evacuation drills regularly to avoid chaotic evacuations

10.1.3 Self Analysis – Attitude, Achievement Motivation

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.

10.1.3.1 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.

10.1.3.2 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.
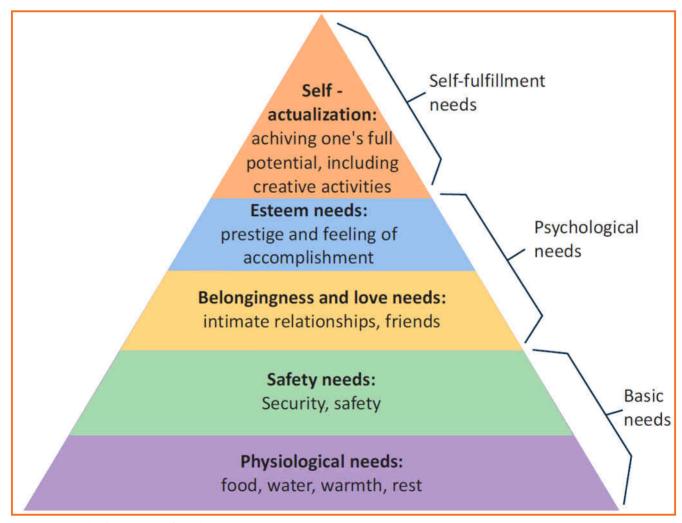
Fig.10.1.1: Maslow's Hierarchy of Needs

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 motived 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.

10.1.3.3 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!

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Characteristics of Entrepreneurs with Achievement Motivation

- Entrepreneurs with achievement motivation can be described as follows:

- Unafraid 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?

10.1.3.4 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

10.1.3.5 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.

10.1.3.6 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

10.1.3.7 Tips

- Achievement motivation can be learned.
- Don't be afraid to make mistakes.
- Train yourself to finish what you start.
- Dream big.

10.1.4 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.

10.1.4.1 Qualities of Honest People

Honest individuals have certain distinct characteristics. Some common qualities among honest people are:

- They don't worry about what others think of them. They believe in being themselves – they don't bother about whether they are liked or disliked for their personalities.

- They stand up for their beliefs. They won't think twice about giving their honest opinion, even if they are aware that their point of view lies with the minority.

- They are think skinned. This means they are not affected by others judging them harshly for their honest opinions.

- They forge trusting, meaningful and healthy friendships. Honest people usually surround themselves with honest friends. They have faith that their friends will be truthful and upfront with them at all times.

They are trusted by their peers. They are seen as people who can be counted on for truthful and objective feedback and advice.

- **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.

10.1.4.2 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.

10.1.4.3 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.

10.1.4.4 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 had work, and sharing the credit for accomplishments.

10.1.4.5 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.

10.1.4.6 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.

10.1.5 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

10.1.5.1 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.

10.1.6 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
- Higher efficiency
- Better professional reputation
- Reduced stress
- Higher chances for career advancement
- Greater opportunities to achieve goals

Not managing time effectively can result in undesirable consequences like:

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

10.1.6.1 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

10.1.6.2 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.

10.1.6.3 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.

10.1.7 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.

10.1.7.1 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:

- Take a deep breath from your diaphragm (don't breathe from your chest)

- Visualize your breath coming up from your stomach

- Keep repeating a calming word like 'relax' or 'take it easy' (remember to keep breathing deeply while repeating the word)

- 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.

10.1.7.2 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.

10.1.8 Stress Management

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

10.1.8.1 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
• Memory problems	• Depression
• Concentration issues	• Agitation
• Lack of judgement	• Irritability
• Pessimism	• Loneliness
• Anxiety	• Anxiety
• Constant worrying	• Anger

Physical Symptoms	Behavioral Symptoms
• Aches and pain	• Increase or decrease in appetite
• Diarrhea or constipation	• Over sleeping or not sleeping enough
• Nausea	• Withdrawing socially
• Dizziness	• Ignoring responsibilities
• Chest pain and/or rapid heartbeat	• Consumption of alcohol or cigarettes
• Frequent cold or flu like feelings	• Nervous habits like nail biting, pacing etc.

10.1.8.2 Tips 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.

UNIT 10.2: Digital Literacy: A Recap

Unit Objectives ⊚

At the end of the 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
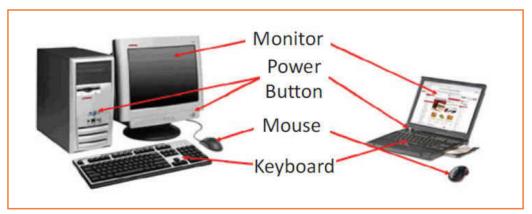
10.2.1 Computer and Internet Basics

Fig.10.2.1: Parts of a computer

Fig.10.2.2: Parts of a Keyboard

10.2.1.1 Basic Parts of a Computer

1. **Central Processing Unit (CPU):** The brain of the computer. It interprets and carries out program instructions.
2. **Hard Drive:** A device that stores large amounts of data.
3. **Monitor:** The device that contains the computer screen where the information is visually displayed.
4. **Desktop:** The first screen displayed after the operating system loads.
5. **Background:** The image that fills the background of the desktop.
6. **Mouse:** A hand-held device used to point to items on the monitor.
7. **Speakers:** Devices that enable you to hear sound from the computer.
8. **Printer:** A device that converts output from a computer into printed paper documents.
9. **Icon:** A small picture or image that visually represents something on your computer.
10. **Cursor:** An arrow which indicates where you are positioned on the screen.
11. **Program Menu:** A list of programs on your computer that can be accessed from the Start menu.
12. **Taskbar:** The horizontal bar at the bottom of the computer screen that lists applications that are currently in use.
13. **Recycle Bin:** A temporary storage for deleted files.

10.2.1.2 Basic Internet Terms

- **The Internet:** Avast, 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.

10.2.1.3 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.

10.2.1.4 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.

10.2.2 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:

1. **Microsoft Word:** Allows users to type text and add images to a document.
2. **Microsoft Excel:** Allows users to enter data into a spreadsheet and create calculations and graphs.
3. **Microsoft PowerPoint:** Allows users to add text, pictures and media and create slideshows and presentations.
4. **Microsoft Outlook:** Allows users to send and receive email.
5. **Microsoft OneNote:** Allows users to make drawings and notes with the feel of a pen on paper.
6. **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.

10.2.2.1 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.

10.2.3 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:

- 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.

10.2.3.1 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

10.2.3.2 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.

10.2.3.3 Tips

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

UNIT 10.3: Money Matters

Unit Objectives 🎯

At the end of the 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

10.3.1 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.

10.3.1.1 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.

10.3.2 Types of Bank Accounts

In India, banks offer four main types of bank accounts. These are:

1. Current Accounts
2. Savings Accounts
3. Recurring Deposit Accounts
4. 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.

10.3.2.1 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!

10.3.2.2 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.

10.3.3 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
Nature	Time related.	Volume related.
Incurred	Incurred irrespective of units being produced.	Incurredonlywhenunitsareproduced.
Unit cost	Inversely proportional to the number of units produced.	Remains the same, per unit.
Examples	Depreciation, rent, salary, insurance, tax etc.	Materialconsumed, wages, commission on sales, packing expenses, etc.

10.3.3.1 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.

10.3.4 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:

1. Life Insurance

2. Non-Life or General Insurance.

Life Insurance Products

The main life insurance products are:

1. **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.

2. **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.

3. **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.

4. **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.

5. **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:

1. **Motor Insurance:** This can be divided into Four Wheeler Insurance and Two Wheeler Insurance.

2. **Health Insurance:** The main types of health insurance are individual health insurance, family floater health insurance, comprehensive health insurance and critical illness insurance.

3. **Travel Insurance:** This can be categorised into Individual Travel Policy, Family Travel Policy, Student Travel Insurance and Senior Citizen Health Insurance.

4. **Home Insurance:** This protects the house and its contents from risk.

5. **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:

1. Direct Taxes

2. 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 is 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.

10.3.4.1 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.

10.3.5 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

- Recipient's name
- Recipient's account number
- 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
- 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:

- Link his mobile number with his respective account
- Receive the MMID from the bank

In order to initiate a money transfer through IMPS, you will need to enter the following information:

- The beneficiary's mobile number
- The beneficiary's MMID
- The transfer amount
- 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.

10.3.5.1 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

Fig.10.3.1: Differences Between NEFT, RTGS & IMPS

10.3.5.2 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.

UNIT 10.4: Preparing for Employment & Self Employment

Unit Objectives ⊚

At the end of the 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

10.4.1 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. Ty 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.

10.4.1.1 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.

10.4.2 Preparing 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:

Example:

- Project title
- Contribution
- Organization
- Description
- Platform used

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

- Gender & marital status

- Nationality

- Languages known

Example:

Personal Details
- Date of birth: 25th May, 1981
- Gender & marital status: Female, Single
- Nationality: Indian
- Languages known: English, Hindi, Tamil, French

10.4.2.1 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.

10.4.3 Interview FAQs

Take a look at some of the most frequently asked interview questions, and some helpful tips on how to answer them.

1. **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.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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.

9. **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.

10. **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.

11. **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.

12. **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.

10.4.3.1 Tips

- Be honest and confident while answering.
- Use examples of your past experiences wherever possible to make your answers more impactful.

10.4.4 Work Readiness – Terms & Terminologies

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.

UNIT 10.5: Understanding Entrepreneurship

Unit Objectives 🎯

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

1. Discuss the concept of entrepreneurship
2. Discuss the importance of entrepreneurship
3. Describe the characteristics of an entrepreneur
4. Describe the different types of enterprises
5. List the qualities of an effective leader
6. Discuss the benefits of effective leadership
7. List the traits of an effective team
8. Discuss the importance of listening effectively
9. Discuss how to listen effectively
10. Discuss the importance of speaking effectively
11. Discuss how to speak effectively
12. Discuss how to solve problems
13. List important problem solving traits
14. Discuss ways to assess problem solving skills
15. Discuss the importance of negotiation
16. Discuss how to negotiate
17. Discuss how to identify new business opportunities
18. Discuss how to identify business opportunities within your business
19. Understand the meaning of entrepreneur
20. Describe the different types of entrepreneurs
21. List the characteristics of entrepreneurs
22. Recall entrepreneur success stories
23. Discuss the entrepreneurial process
24. Describe the entrepreneurship ecosystem
25. Discuss the government's role in the entrepreneurship ecosystem
26. Discuss the current entrepreneurship ecosystem in India
27. Understand the purpose of the Make in India campaign
28. Discuss the relationship between entrepreneurship and risk appetite
29. Discuss the relationship between entrepreneurship and resilience
30. Describe the characteristics of a resilient entrepreneur
31. Discuss how to deal with failure

10.5.1 Concept Introduction

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.

10.5.1.1 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

10.5.1.2 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

10.5.1.3 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)

10.5.1.4 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.

10.5.1.5 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.

10.5.2 Leadership & Teamwork: Leadership and Leaders

Leadership means setting an example for others to follow. Setting a good example means t 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.

10.5.2.1 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.

10.5.2.2 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

10.5.2.3 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.

10.5.2.4 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.

10.5.2.4.1 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

10.5.3 Communication Skills

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.

10.5.3.1 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

10.5.3.2 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.

10.5.3.3 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.

10.5.3.4 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.

10.5.4 Problem Solving & Negotiation skills

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.

10.5.4.1 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

10.5.4.2 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

10.5.4.2 Important Traits for Problem Solving

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:

- **Application forms:** Ask for proof of the candidate's problem solving skills in the application form.

- **Psychometric tests:** Give potential candidates logical reasoning and critical thinking tests and see how they fare.

- **Interviews:** Create hypothetical problematic situations or raise ethical questions and see how the candidates respond.

- **Technical questions:** Give candidates examples of real life problems and evaluate their thought process.

10.5.4.3 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 know 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.

10.5.4.4 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

10.5.5 Business Opportunities Identification

"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:

- Economic trends Changes in funding

- Changing relationships between vendors, partners and suppliers

- 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:

STRENGTH

What are your strengths?

What unique capabilities do you posses?

What do you do better than others?

What do others percieve as your strengths?

WEAKNESSES

What are your weaknesses?

What do your competitors do better than you?

OPPORTUNITIES

What Trends may positively impact you?

What oppprtunities are available to you?

THREATS

Do you have solid financial support?

What trends may negatively impact you?

Fig.10.5.1: SWOT Analysis

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

10.5.5.1 Tips

- Remember, opportunities are situational.
- Look for a proven track record.
- Avoid the latest craze.
- Love your idea.

10.5.6 Entrepreneurship Support Eco-System

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

10.5.6.1 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
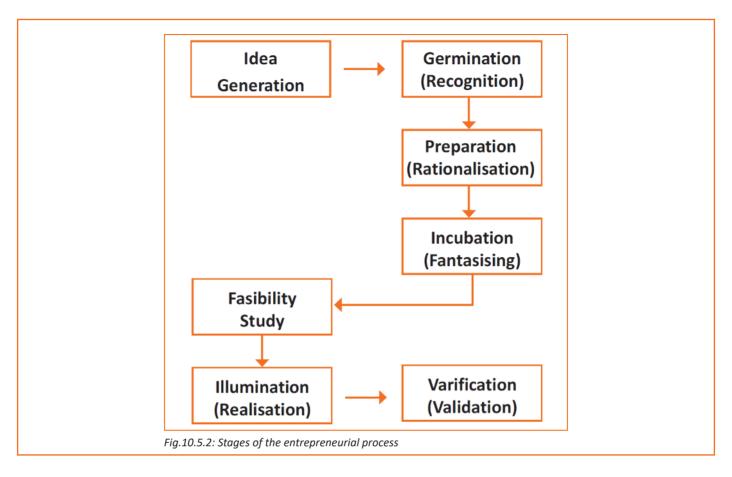
Karsanbhai Patel made detergent powder in the backyard of his house. He sold his product door-to-door and offered a money back guarantee with every pack that was sold. He charged Rs. 3 per kg when the cheapest detergent at that time was Rs.13 per kg. Dr. Patel eventually started Nirma which became a whole new segment in the Indian domestic detergent market.

10.5.6.2 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.

Fig.10.5.2: Stages of the entrepreneurial process

10.5.6.3 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.
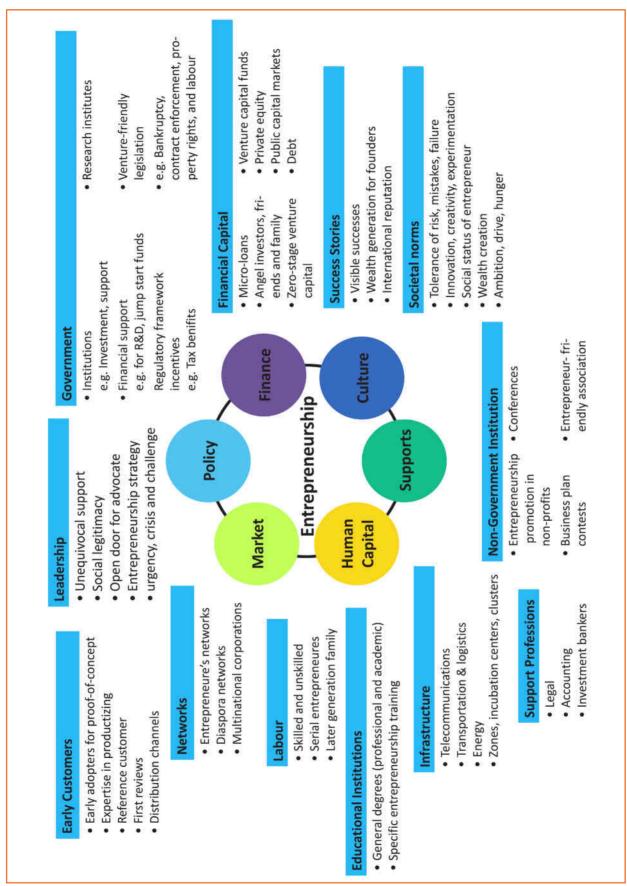
Fig.10.5.4: Entrepreneurship support ecosystem

Early Customers
- Early adopters for proof-of-concept
- Expertise in productizing
- Reference customer
- First reviews
- Distribution channels

Leadership
- Unequivocal support
- Social legitimacy
- Open door for advocate
- Entrepreneurship strategy
- urgency, crisis and challenge

Government
- Institutions
  e.g. Investment, support
- Financial support
  e.g. for R&D, jump start funds
  Regulatory framework
  incentives
  e.g. Tax benifits
- Research institutes
- Venture-friendly legislation
- e.g. Bankruptcy, contract enforcement, property rights, and labour

Financial Capital
- Micro-loans
- Angel investors, friends and family
- Zero-stage venture capital
- Venture capital funds
- Private equity
- Public capital markets
- Debt

Success Stories
- Visible successes
- Wealth generation for founders
- International reputation

Societal norms
- Tolerance of risk, mistakes, failure
- Innovation, creativity, experimentation
- Social status of entrepreneur
- Wealth creation
- Ambition, drive, hunger

Networks
- Entrepreneure's networks
- Diaspora networks
- Multinational corporations

Labour
- Skilled and unskilled
- Serial entrepreneures
- Later generation family

Educational Institutions
- General degrees (professional and academic)
- Specific entrepreneurship training

Infrastructure
- Telecommunications
- Transportation & logistics
- Energy
- Zones, incubation centers, clusters

Non-Government Institution
- Entrepreneurship promotion in non-profits
- Business plan contests
- Conferences
- Entrepreneur- friendly association

Support Professions
- Legal
- Accounting
- Investment bankers

Entrepreneurship

Finance
Culture
Policy
Supports
Market
Human Capital

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.

10.5.6.4 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.

- 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.

- 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.

- 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.

- 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.

10.5.6.5 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.

10.5.6.6 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

10.5.6.6 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.

10.5.7 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:

- A strong internal sense of control
- Strong social connections
- Skill to learn from setbacks
- Ability to look at the bigger picture
- Ability to diversify and expand
- Survivor attitude
- Cash-flow conscious habits
- Attention to detail

10.5.7.1 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 the 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.

10.5.8 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!

10.5.8.1 Tips

- Remember that nothing is impossible.
- Identify your mission and your purpose before you start.
- Plan your next steps – don't make decisions hastily.

UNIT 10.6: Preparing to be an Entrepreneur

Unit Objectives 🎯

At the end of the 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

10.6.1 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.

10.6.1.1 The 4 Ps of Marketing

The 4 Ps of marketing are:

1. Product,
2. Price,
3. Promotion and
4. 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 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.

10.6.1.2 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.

10.6.2 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.

10.6.3 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

6.3.3.1 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

10.6.3.2 Tips

- Use social media interactions to identify needs and gather feedback.

- When networking, ask open-ended questions rather than yes/no type questions.

10.6.4 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.

10.6.4.1 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, distributers 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 ser**vices – 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.

Financial Planning

Before you begin building your enterprise, you need to plan your finances. Take a look at the steps for financial planning:

- **Step 1:** Create a financial plan. This should include your goals, strategies and timelines for accomplishing these goals.

- **Step 2:** Organize all your important financial documents. Maintain a file to hold your investment details, bank statements, tax papers, credit card bills, insurance papers and any other financial records.

- **Step 3:** Calculate your net worth. This means figure out what you own (assets like your house, bank accounts, investments etc.), and then subtract what you owe (liabilities like loans, pending credit card amounts etc.) the amount you are left with is your net worth.

- **Step 4:** Make a spending plan. This means write down in detail where your money will come from, and where it will go.

- **Step 5:** Build an emergency fund. A good emergency fund contains enough money to cover at least 6 months' worth of expenses.

- **Step 6:** Set up your insurance. Insurance provides long term financial security and protects you against risk.

Risk Management

As an entrepreneur, it is critical that you evaluate the risks involved with the type of enterprise that you want to start, before you begin setting up your company. Once you have identified potential risks, you can take steps to reduce them. Some ways to manage risks are:

- Research similar business and find out about their risks and how they were minimized.

- Evaluate current market trends and find out if similar products or services that launched a while ago are still being well received by the public.

- Think about whether you really have the required expertise to launch your product or service.

- Examine your finances and see if you have enough income to start your enterprise.

- Be aware of the current state of the economy, consider how the economy may change over time, and think about how your enterprise will be affected by any of those changes.

- Create a detailed business plan.

10.6.4.2 Tips

- Ensure all the important elements are covered in your plan.

- Scrutinize the numbers thoroughly.

- Be concise and realistic.

- Be conservative in your approach and your projections.

- Use visuals like charts, graphs and images wherever possible.

10.6.5 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.

10.6.5.1 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:

- Balance Sheet

- Profit-and-Loss Account

- Cash-Flow Statement

- Projected Sales and Revenues

- Business Plan

- 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.

10.6.5.2 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.

- Submit your application form and all other required documents to the bank.
- 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.
- The bank will make a decision as to whether or not you should be given funding.

10.6.5.3 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.

10.6.6 Enterprise Management - An Overview

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!

10.6.6.1 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.

10.6.7 Considering Entrepreneurship

Questions to Ask Yourself Before Considering Entrepreneurship

- Why am I starting a business?
- What problem am I solving?

- Have others attempted to solve this problem before? Did they succeed or fail?
- Do I have a mentor1 or industry expert that I can call on?
- Who is my ideal customer2?
- Who are my competitors3?
- What makes my business idea different from other business ideas?
- What are the key features of my product or service?
- Have I done a SWOT4 analysis?
- What is the size of the market that will buy my product or service?
- What would it take to build a minimum viable product5 to test the market?
- How much money do I need to get started?
- Will I need to get a loan?
- How soon will my products or services be available?
- When will I break even6 or make a profit?
- How will those who invest in my idea make a profit?
- How should I set up the legal structure7 of my business?
- What taxes8 will I need to pay?
- What kind of insurance9 will I need?
- Have I reached out to potential customers for feedback

10.6.7.1 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 to 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.

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